



THE EFFECT OF NUTRITIONAL EDUCATION THROUGH PUZZLE GAMES TO CHILDREN'S PERCEPTION ABOUT SNACKS SELECTION IN SD PESAWAHAN SIDOARJO SCHOOL

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ABSTRACT

Keywords

Stages of school-age children have more activity outside the home; this causes children often forget the time to eat, so they buy snacks to delay hunger. By providing balanced nutrition education through puzzle games can change the perception of children so they can choose a healthy snack. The purpose of this research is to prove the influence of balanced nutrition education through puzzle game to children's perception about the selection of snacks in SD PesawahanSidoarjo. This research design uses one group pre-post test design. The population of this study is all 4-6 grade children in SD PesawahanSidoarjo with 54 respondents. The sample of this research is some of grade 4-5 students in SD PesawahanSidoarjo as many as 48 respondents taken with simple random sampling. Measuring tool used a questionnaire to assess perception with 100% valid and reliable test with $\rho = 0.961$. Time of research March 2017. A statistic test using T-Test with $\alpha_{table} = 0,05$. The results showed that respondents who had a positive perception of 25 (52.1%) of respondents increased to 36 (75%) respondents after balanced nutrition education through puzzle game. T-test result $\rho_{count} 0.000 =$ and $\alpha_{table} = 0,05$. This means balanced nutrition education through puzzle games can improve the perception of children about the selection of snacks in SD PesawahanSidoarjo. Learning through puzzle games can foster self-confidence in children and children able to solve problems. This makes the child more comfortable so that the message conveyed through the puzzle game will be easily understood by the child. This increased understanding will affect the perception of the child.

*education,
perception,
puzzle game*

INTRODUCTION

Interpersonal perception is one of the important things in the process of communication and social interaction. According to Walgito (1990), interpersonal perception is a process of organizing, interpreting the stimulus received by an organism or individual so that it is something meaningful, and is an active and integrative activity in the whole individual. The process of forming interpersonal perception begins with one's observation of the situation and behavior, sometimes a momentary assessment of the state of the environment (Thalib & Si, 2017)

The provision of education is an effort to change perceptions of school-age children. Through education, children will carry out the learning process to gain understanding so that it affects the thinking process. According to Pestalozzi, education must be based on the nature of children who develop according to certain laws. According to Froebel, education in children should contain elements of play and fantasy. The age of the child is the age of play and likes to fantasize, so the child can channel these aspirations by providing various kinds of children's play equipment in school (Thalib, 2017).

In children aged 7- 11 years. Intellectual development has reached a concrete operational stage. Where children are able to understand logic stably. Characteristics of children at this stage are children can make it simple classification, classify objects based on general characteristics such as color classification, and certain characters. Children are able to make the order properly and the child starts to be able to think argumentatively and solve simple problems (Nurgiantoro, 2018)

To facilitate the understanding of school-age children the education provided can be done through puzzle games. According to Yudha (2007: 33), a puzzle is an image that is divided into pieces of images that aim to hone the power of thought, exercise patience, and familiarize sharing abilities. In addition, media puzzle can also be called an educational game because it is not only for playing but also sharpens the brain and trains

between the speed of the mind and hands (Thomson & Gregorius, n.d.)

Research result (Cardozo, Miranda, Moura, & Marcondes, 2016) di Brazil showed a positive effect of the puzzle on students' learning about cardiac physiology compared with those not using the puzzle.

Data from the health department of 2013 shows that nationally 18.8% of children aged 5-12 years have chosen snacks containing additives. BP POM data in Indonesia in 2010 showed the incidence of food poisoning in school 26.9% and shelter 56.52%. Of the 2,984 samples tested, 45% did not qualify because they contained borax, formalin, rhodamin B. BPPOM data in 2014 showed that in East Java the children's knowledge about 70% snack was good, the attitude of the child was good 45%, and the behavior of the children's snack 43, 3% less good.

The results of the research (Ayati & Rachman, 2017) at SDN 005 Samarinda showed that there was an effect of health education with a puzzle game method on brushing teeth against changes in knowledge for first-grade students at SDN 005 Samarinda.

The results of the research (Thamrin, Santoso, & Prayitno, 2017) at the Bakti I Karanganyar Islamic Kindergarten in the 2012/2013 academic year showed that nutritional education was carried out continuously and repeatedly - knowledge of nutrition and diet (adequacy of nutrients; energy, protein, fat and vitamin C) kindergarten children will increase

The results of the research (Syafitri, Syarief, & Baliwati, 2009) at SDN Lawanggintung 01 Bogor City showed Pocket money to purchased food affected street food habits.

Research Results (Achadi et al., 2010)) in two State Primary Schools (SDN) in Depok City show that the KIE (Communication, Education, and Information) approach has good potential to change the knowledge, attitudes, and behavior of school children.

The results of the research (Nuryanto, Pramono, Puruhita, & Muis, 2014) at Pandean Lamper Elementary School 05 Central Semarang District and Tembalang 01 Elementary School Tembalang District, Semarang City showed the school of nutrition before school education before nutrition education was 66.45 ± 9 , 6% increased to $71.61 \pm 9.3\%$ after nutrition education. Median of attitude before nutrition education is 70.31% increasing to 75% after nutrition education.

Based on a preliminary study on February 3, 2017, at SD PesawahanSidoarjo through 4th and 5th-grade interviews found from 10 children, seven children. Brandishing all the same snacks is distinguished by taste and color alone. Children buy snacks such as a coffee cup, okky jelly, ice pop ice and marimas, sausage with red sauce, glass noodles, and snacks.

Perception is a complex cognitive process to produce a unique picture of reality that is very different from the actual reality (Desmita, 2010).

Through the puzzle game, the child will perform unloading activities and rearrange the puzzle pieces into an intact form with happy, free, and undisturbed so that children can get experience, knowledge, and skills better.

Through the puzzle game, the child will try to solve the problem by composing the image. So the child can get to know some simple strategies for solving problems, train speed, accuracy, and accuracy in solving problems, and instill an unyielding attitude in the face of problems.

The results of the research (Blaine, Kachurak, Davison, Klabunde, & Fisher, 2017)) show that Restrictive feeding and home access to health are most consistently associated with snacking among young children.

Nutrition education in school children should be provided in appropriate ways and media to attract the attention of the child and also can facilitate the child in receiving information.

The purpose of this research is to prove the influence of balanced nutrition education through puzzle game to the children's perception about the selection of snacks in SD Pesawahan Sidoarjo.

MATERIAL AND METHODS

This research is comparative analytic research, with pre-experimental design approach (one group pre-post test design). Data collection was conducted in one group by assessing the perception of 4-5 grade students in SD Pesawahan Sidoarjo; then the researchers provide balanced nutrition education through a puzzle game. Then assess the perception of grade 4-5 students in SD Pesawahan Sidoarjo. This research was conducted at SD Pesawahan Sidoarjo in March 2017. The independent variable is the implementation of balanced nutrition education through puzzle games. While the dependent variable in this research is the perception of children about the selection of snacks in SD Pesawahan Sidoarjo.

The population in this research is all the children in grade 4-6 in SD Pesawahan Sidoarjo as much as 54 respondents. The sample of this research is some of grade 4-5 students in SD Pesawahan Sidoarjo counted 48 respondents. The sampling technique used is simple random sampling. The measurement tool used the questionnaire to assess perception with 100% valid test result and reliable with $\rho = 0.961$. Data analysis using T-Test with $\alpha_{table} = 0,05$.

RESULT

This research covers the characteristics of the respondents are:

General Data

Characteristics of respondents by age

Table 1 Frequency Distribution of Respondents by age in SD PesawahanSidoarjo in March 2017.

No	Age (years old)	Frequency (f)	Percentage (%)
1	9-10	19	39,6
2	11-12	29	60,4
Total		48	100

Table 1 shows that most respondents are 29 (60.4%) aged 11-12 years.

Characteristics of respondents by Sex

Table 2 Distribution of Respondent Frequency by Sex in SD PesawahanSidoarjo in March 2017.

No	Sex	Frequency (f)	Percentage (%)
1	Male	24	50
2	Female	24	50
Total		48	100

Table 2 shows that half of the respondents are 24 (50%) of the respondents are male.

Specific data

The influence of balanced nutrition education through puzzle game to the children's perception about the selection of snacks in SD PesawahanSidoarjo.

Table 3 Cross Distribution The influence of balanced nutrition education through puzzle game on children's perception about the selection of snacks in SD PesawahanSidoarjo in March 2017.

Perception	Before		After	
	F	%	F	%
Positive	25	52,1	36	75
Negative	23	47,9	12	25
Total	48	100	48	100

$P_{\text{count}} 0,000 = \text{ dan } \alpha_{\text{table}} = 0,05$

Based on Table 3 it is known that 36 (75%) of respondents after being given a balanced nutrition education through puzzle game have a positive perception.

DISCUSSION

Based on table 3 shows that 36 (75%) of respondents after being given a balanced nutrition education through puzzle games have a positive perception.

Perception is a complex cognitive process to produce a unique picture of reality that is very different from the actual reality (Desmita, 2010).

The results of the research (Woźniak, Artych, & Wawrzyniak, 2014) showed Many adverse and abnormal eating habits of pupils were found, especially in boys, that could lead to overweight and obesity. Subjects were found to incorrectly assess their body shape, particularly the girls, thereby leading to unwarranted slimming behavior.

Health education is essentially an activity or an attempt to convey a health message to a community, group or individual. In the hope that with the message, people, groups, or individuals can gain knowledge about better health. Finally, knowledge about health can affect its behavior. In other words, the existence of health education can lead to

changes in target behavior (Notoatmodjo, 2010).

Based on table 3 also shows ρ count 0.000 = and α table = 0,05. It means balanced nutrition education through puzzle games can improve the perception of children about the selection of snacks in SD Pesawahan Sidoarjo.

The results of the research (Machado, Oliveira, Ferreira, das Neves, & Mello-Carpes, 2018) 100% of the students (n: 43) agreed that the use of the membrane potential puzzle contributes to a better understanding of the content and 100% (n: 43) of the students said that the questions contribute to increasing their learning.

It shows that after being given a health education through a puzzle game can improve perceptions of respondents. Education is the process of delivering messages. To facilitate the receipt of the message conveyed then need to use the right way and method. In school-age children, it is more appropriate to use the puzzle game method. The world of children is a world of the game, playing is a fun and spontaneous activity, it gives psychological safety to children. So it will be easy to understand. The child's understanding / cognitive ability will influence the child's perception.

CONCLUSION

Balanced nutrition education through puzzle games can improve the perception of children about the selection of snacks in SD Pesawahan Sidoarjo. Learning through puzzle games can foster self-confidence in children and children able to solve problems. This makes the child more comfortable so that the message conveyed through the puzzle game will be easily understood by the child. This increased understanding will affect the perception of the child.

Based on the results of the research put forward some suggestions include: 1) Educational facilitators, in this case, is the

teacher is expected to instruct and facilitate learners to buy healthy snacks for example by providing healthy canteen at school and deliver balanced nutrition material in the learning process. 2) Parents should provide healthy food in their cooking for their children 3) Researchers then expected to analyze the effect of balanced nutrition education on the behavior of healthy food consumption.

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