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EFFECTIVENESS OF GIANT EDUCATIONAL GAME MEDIA FOR IMPROVEMENT MOTOR SKILLS

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Abstract. *The purpose of this research is analyze effectiveness giant educational game media with the theme of scientific-based transportation equipment to improve the motor skills of group B kindergarten children in Kudus. This study uses quasi experimental in the form of nonequivalent control group design. Data sources in this study were teachers and children from group B of Pertiwi Bacin Kindergarten, ABA V Kindergarten, and Nurush Shofa Kindergarten at Kudus, material experts and product experts. Data collection techniques using assessment of observations for children. The instrument is observation sheets. The data analysis technique was carried out in limited trials and extensive trials. It is analysis prerequisite test, and hypothesis testing using t test. The results of the effectiveness test through product trials on the independent Paired Sample t test. Results of t test of 21,189 and a t table of 4,381 or 21,189 > 4,381. Meanwhile N-Gain value of 71 in the effective category. Based on the results of t count > t table and the value of N-Gain, it can be interpreted that the use of giant educational game media learning media with the theme of scientific-based transportation is effectively used to improve the motor skills kindergarten in Kudus. The conclusion is giant educational game media learning media is effective to improve motor skills kindergarten in Kudus.*

Keywords*: giant educational game media, motor skills.*

Main provisions of the article.

The results of both limited and broad trials have proven that giant educational game media is effectively used to improve the motor skills of Group B kindergarten children. In general, learning in kindergarten is for aspects of physical or motor development. Fine motor development and gross motor skills in early childhood need guidance from educators. Gross motor development is as important as aspects of fine motor development, because the inability of children to carry out physical activities will lead to negative self-concepts in children.

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Introduction. Mukrimatin, Murtono, & Wanabuliandari [1] show that education gets a lot of attention in-depth about values and fundamentals to improve the quality of resources human. Early childhood education is a level of education before basic education which is a coaching effort aimed at children from birth to the age of six which is carried out through the provision of educational stimuli to help physical and spiritual growth and development so that children have readiness to enter education. further, which are held on formal, non-formal, and informal channels. Ardianti, Pratiwi, & Kanzunnudin [2] explained education has a decisive role for the development and realization of human resources according to the demands of the times. Education for childhood is also to train discipline. Ningrum, Ismaya, & Fajrie [3] said the existence of discipline embedded in a person gives an attitude of great responsibility. Early childhood education is one form of education that focuses on laying the foundation in several directions, namely physical growth and development, intelligence and socio-emotional.

Early childhood is a sensitive period for children. Children begin to be sensitive to accept various efforts to develop the full potential of children. Sensitive period is a period of maturation of physical and psychological functions that are ready to respond to stimulation provided by the environment. This period is a time to lay the first foundation in developing physical, cognitive, language, social emotional abilities, self-concept, discipline, independence, art, morals, and religious values. According to Sarwono, Murtono, &Widianto [4] lack of social attitudes that students have will have an impact on students' unfavorable affective. Beside that Cahyani, Ismaya, & Fajrie [5] said positive parenting will give high motivation to learn for children. Therefore, conditions and stimulation are needed that are in accordance with the needs of the child so that the child's growth and development is achieved optimally. Ismaya & Santoso [6] explained learning that occurs in the classroom for students, should start with the world closest to or often encountered by students.

One of the developments experienced by early childhood is motor skills. Motor skills consist of fine motor and gross motor. This is very important for the continuity of the child's life in the future, because it determines the child's ability to move. According to Afifah, Murtono, & Santoso [7] every individual is required to develop their ability to compete at the international level. For this reason, efforts are needed to develop motor skills so that children can carry out various daily activities.

Activities for developing children's motor skills are carried out in learning activities and become an integral part of the development of other abilities. However, it is necessary to pay attention to the method of learning that is conveyed to children. Motor development is all body movements, including unobserved internal movements (motors), namely the capture of stimuli by the senses, the delivery of stimuli by the sensory nervous system to the brain (memory) - processing and decision making by the brain - the delivery of decisions by the brain and observable external movements) [8]. Meanwhile, according to Chaplin in Yusuf et al. [9] defines motor development as: (1) continuous and progressive changes in the organism from birth to death, (2) growth,

Often the motor development of preschool children is ignored or even forgotten by parents. This is because they do not understand that motor development is an integral part of early childhood life because most parents and supervisors prioritize cognitive development only. Whereas development is not only in the cognitive aspect but includes all aspects, namely language development, social emotional, religious morals and physical motoric development of children. Physical motor development is very influential on the development of others. As stated by developmentalists.

From the observation findings, the motor skills of group B kindergarten children in Kudus Regency have not developed well. The ability of hands in coloring, cutting and pasting is still experiencing difficulties. Likewise, with the lack of control, agility and balance of children's movements in doing physical games [10]. The teacher plans play activities to train children's motor skills with educational game media, hereinafter referred to as educational game media so that they are skilled at using their limbs effectively. Hurlock [11] explain the motor skills that show improvement are those learned in school because the teacher is in charge of directing the correct practice.

The world of children is the world of play, so it is proper for educators to provide play facilities for children. Play is an activity that is spontaneous, fun and satisfying. Play for children is a job requirement for adults. Play activities become the experience and knowledge of children. Related to providing opportunities for children to play, because in essence playing it self is a child's right throughout his life span. Through playing children can practice, improve children's fine motor skills and develop creativity. Various developmental potentials can be obtained through play activities and games

Giant educational game media is a learning media to improve children's motor skills that allow children to be active in activities. This is in accordance with the opinion of Audra and Neuharth-Pritchett in Farida [12] through his research shows that learning activities should be child-centered. Speaking of learning media innovations is not only to acquire cognitive knowledge, but also to stimulate other abilities in children, including motor skills. Purbasari et al. [13] explained the elements of making game tools that are child-friendly, safe to use, standardized quality or durability of toys, as well as developing culture, social values, education and technology are the goals of creating children's play tools. This research is very important because there is no research that discusses the giant educational game media with the theme of transportation. Giant educational game media with a scientific approach is expected to improve children's motor skills.

Conceptual Framework. Hurlock [11] motor skills are the ability to control physical movements through coordinated activities of the nerve center, nerves, and muscles. Motor skills are divided into two, namely fine motor and gross motor skills. Soetjiningsih [14] explained fine motor skills is the fine coordination of small muscles that play a major role. According to Soetjiningsih [14], fine motor skills are influenced by mature motor functions, good neuromuscular coordination, accurate visual function and nonverbal intellectual abilities. Differences in children's fine motor development are influenced by their nature and the stimulation they get. Activities that can improve children's fine motor skills are coloring, cutting, pasting, collage, shaping [15]; [16]. Hurlock [11] states that in motor skills, small muscles that are well coordinated have a large function.

Hurlock in Arifiyanti [17] stated that childhood is an ideal period to learn motor skills because children's bodies are more flexible than teenagers or adults. Children tend to do repetitive activities for things they like. Children also have a brave soul to explore. Even according to Hurlock [18] at an early age is the ideal time to learn certain skills.

Asmariani [19] states that the media is an intermediary or introductory tool from the sender of the message to the recipient of the message. Learning media is a form of equipment, method or technique used to channel messages, help reinforce learning materials, can increase children's interest and motivation to learn [20]: [21]. So, learning media is a means of carrying learning information from educators to students in order to make it easier for children to understand learning material. Vygotsky in Morris & Age [22] argues that the environment and media are very helpful for children in learning to enrich children's experiences. Even con-

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firmed Amprasi, Petkou, & Tsantopoulos [22] The media plays an important role and has a big influence in educational activities

Giant educational game media is one educational game media that can be made by the teacher and the children themselves during the learning process [23]. Aspects that need to be considered in the selection of educational game media are the educational goals to be achieved, the characteristics of the child, the type of learning stimulation needed (audio, visual, motion, and so on), background or area conditions, local conditions and the extent of the institution's area.

Giant educational game media includes visual media in the category of three-dimensional models. Edward in Hastuti & Dewi [24] explained that educational game media are tools used by children to play while learning. That is, by playing will bring children to positive experiences that can improve all aspects of children's development such as: faith and piety, thinking power, creativity, ability by the body. Oktavianti & Ratnasari [25] said in the use of media often accompanied by various activities of play, thus creating an active learning, creative, effective, and fun.

The effectiveness of giant educational game media transportation equipment is in line with research [26]. The Effectiveness of Giving Origami Educational game media to Children's Fine Motor Development in Brother Bakti Luhur Kindergarten Makassar. The results of the bivariate analysis showed that there was an effect of the effectiveness of providing educational tools on fine motor development in children (p = 0.000) which means it is smaller than < 0.05. The conclusion of this study is that there is an influence between the effectiveness of giving origami educational tools to the development of fine motor skills in children at Brother Bakti Luhur Kindergarten, Makassar.

Research Objectives. This research is analyze giant educational game media with the theme of scientific-based transportation equipment to improve the motor skills of group B kindergarten children in Kudus.

Methodology

Research design. The design of this research is: squasi experimental in the form of nonequivalent control group design (pre-test-post-test control group design without random), Sugiyono [27].

$$\frac{O_1 \quad x \quad O_2}{O_4 \qquad\qquad O_4} \tag{1}$$

Description:

O1 = Pre-test results of the experimental group

O2 = Post-test results of the experimental group

O3 = Pre-test results of the control group

O4 = Post-test results of the control group

Data Sources and Types. The data sources in this study were teachers and children from group B of Pertiwi Bacin Kindergarten, ABA V Kindergarten, and Nurush Shofa Kindergarten at Kudus. There are 10 teachers and 60 students. The type of data in this research and development is quantitative data. Quantitative data were collected through beginning assessment of observation as the pre-test value and the final observation after learning using the giant educational game media as the post-test value.

Data collection. Data collection techniques using observation. Researchers conducted direct observations and systematic recording. Observations were carried out with observation guidelines in the implementation of learning with the giant educational game media.

Instrument Research. This research instrument uses observation sheets sheets. Observation sheet to determine the child's motoric improvement from before and after using giant educational game media.

Data Analysis. The data analysis technique was carried out in limited trials and extensive trials. The data analysis techniques used are 1) instrument test consisting of validity test and reliability test, 2) analysis prerequisite test consisting of normality test and homogeneity test) and 3) Hypothesis test consisting of independent sample t test and Normalized Gain (N-Gain) for the limited trial, for the extensive trials test using an independent paired sample t test.

Finding and Discussion. To test the giant educational game media, extensive trials and limited trials were carried out. The effectiveness test was carried out through the test of the average difference and N Gain. The results of the limited trial were tested in 2 groups, experimental group and control group. Sample of each group is 10 children. The extensive trial was tested in 2 kindergartens, Nurush Shofa Kindergarten and ABA V Kindergarten. The sample in the extensive trial consisted of 20 children.

Limited Trial

t-Test. t-test is used for hypothesis testing. Hypothesis testing with the help of SPSS is the Independent Sample t-test. Independent Sample t-test was used to test the significance of the difference in the mean of the two groups. This test is also used to test the effect of the independent variable on the dependent variable. The results of the t-test for the hypothesis using are as follows.

Table 1. Results t-test Limited Trial

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Observation Value	Equal variances assumed	.037	.849	28.967	18	.000	42.000	1.450	38.954	45.046
	Equal variances not assumed			28.967	17.839	.000	42.000	1.450	38.952	45.048

Based on the table above, it is known that the value of Sig. (2-tailed) of 000< 0.05. Score *t* count of 28.967 and the value of t table with df = 18 of 2.1788, then the value of t count > t table (28.967> 2.1788) then Ho is rejected and Ha is accepted because Sig. (2-tailed) < 0.05 and t count > t table. This means that there is a significant increasemotor skills of group B kindergarten children in Kudus after use giant educational game media learning media with the theme of transportation tools.

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Test N Gain. N Gain in this study will show whether there is an increase in the motor skills of group B kindergarten children in Kudus by using the giant educational game media learning media with the theme of scientific-based transportation. Gain test results in each class are as follows.

Table 2 - N-Gain . Test Results Limited Trial

No	Score	Experiment Class	Control Class
1	**N-Gain**	0.8092	0.2319
2	Criteria	Tall	Low
3	N-Gain %	80.9243	23.1980
4	Interpretation	effective	Ineffective

Based on these data, the results of the Gain calculation are the experimental class with an N-Gain value of 0.8092 in the high category in the range of g > 0.7. This means that there is an increase in children's motor skills in the high category. The N-Gain % value is 80.9243 which is interpreted in the effective category. This means that the use of giant educational game media learning media with the theme of scientific-based transportation equipment is effectively used to improve the motor skills of group B kindergarten children in Kudus. Control class N-Gain value of 0.2319 low category. The increase in motor skills of kindergarten children is low. The N-Gain % value is 23.19 in the ineffective category. This means that learning without giant educational game media media is not effectively used to improve the motor skills of group B kindergarten children in Kudus. Fajrie & Purbasari [28] said direct experience can improve student communication through visual works or pictures.

Extensive Trial

Paired t-test. The t-test on a broad trial using independent paired sample t-test because it only consists of one class, namely the experimental class. The following are the results of the Paired t test in a broad trial.

Table 3 - Paired Samples Test

		Paired Differences					T	df	Sig. (2-tailed)
		mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pairs 1	Post Test Score - Pre Test Score	35.750	7.545	1.687	32.219	39.281	21.189	19	.000

The results of the calculations in the paired t table show that the average value for there is a difference from the pre-test of 49.95 and post-test of 85.70. The calculated t value is 21.189., While the t table with df = 19 is 4.381 or 21.189 > 4.381 . Because t count > t table, then Ho is rejected and Ha is accepted.

Test N Gain. N-Gain test results ondata the results of broad product trials are as follows:

Table 4 - N-Gain Test Results

No	Score	Class
1	**N-Gain**	0, 71.
2	Criteria	Tall
3	N-Gain %	71
4	Interpretation	Effective

Based on these data, the result of calculating the Gain value is a normalized gain value or N-Gain of 0.71 which is interpreted in the high category in the range of g > 0.70. This means that there is an increase in children's motor skills in the high category. N-Gain % value is71 in the effective category. This means that the use of the giant educational game media learning media with the theme of scientific-based transportation is effectively used to improve learning outcomesresults motor skills of group B kindergarten children in Kudus.

Discussion. Based on the results of initial field testing shows giant educational game media learning media with the theme of scientific-based transportation is very much needed by teachers and children to support learning the theme of transportation to stimulate children's motor skills. This can be seen from the positive response of children by 86% and the positive response of teachers by 92% towards the use of giant educational game media media for transportation, all of which are in the category of very like. This means that of course with the use of giant educational game media in learning there will be clarity of information/ messages about the subject matter received by students. In addition, through the media the active role of students can be maximized to gain knowledge about the subject matter, this will deepen the child's understanding.

In accordance with the characteristics of the media, the use of media can help humans overcome more or less the limitations of the human senses so that the message conveyed becomes clear [29]. The use of media can reduce verbality because the media can encourage children to actively participate in the teaching and learning process, so that the information received by students is not only from the teacher but students are also actively seeking and getting the learning information.

The results of the product trial were limited to the value obtained by the pre-test value in the control class and the experimental class had an average value that was almost the same, thus indicating that the abilities of the two classes were the same or balanced. While the post test value of the experimental class was higher than the control class. In the learning control class without giant educational game media media and in the experimental class using giant educational game media media as a means of transportation. This means that the use of scientifically based giant educational game media media can improve children's motor skills.

The results of the t-test on a limited trial n value *t* count of 28.967 and the value of t table with df = 18 of 2.1788, then the value of t count > t table (28.967> 2.1788) so that Ho is rejected and Ha is accepted. This means that there is a significant increase motor skills of group B kindergarten children in Kudus after use giant educational game media learning media with the theme of transportation tools

N-Gain test results, N-Gain of 0.8092 is interpreted in the high category while the N-Gain % value is 80.9243 which is interpreted in the effective category. This means that the use of giant educational game media learning media with the theme of scientific-based transporta-

tion equipment is effectively used to improve the motor skills of group B kindergarten children in Kudus.

The results of the limited test are in accordance with the benefits of outdoor educational game media according to the Ministry of Education and Culture, namely: 1) Developing gross motor skills, 2) Develop fine motor skills, 3) Develop communication skills, 4) Stimulating the ability to think, understanding the dimensions of space, and imagination, 5) Cultivating self-confidence, courage, independence, responsibility, tolerance, socialization, cooperation, and knowing the rules, 6) Develop sensitivity to the preservation of the natural environment. 7) Cultivate an attitude of respect and gratitude for God's creation, 8) Instilling moral and religious values [30]. Gross motor skills, including the large muscles of the arms, legs, and trunk, such as walking and jumping. Meanwhile, fine motor skills

Giant educational game media includes visual media in the category of three-dimensional models. Edward in Hastuti [24] explained that educational game media are tools used by children to play while learning. That is, by playing will bring children to positive experiences that can improve all aspects of children's development such as: faith and piety, thinking power, creativity, ability by the body. Therefore, it is very good to use giant educational game media to improve children's motor skills.

The sheducational game media of the large giant educational game media will make it easier for children to use in the game, because basically by playing, children can carry out activities so that all aspects of development can develop optimally [31]. Play, or play as an activity, relates to the whole child, not just a part. However, through games (when children play) children will be encouraged to practice their skills that direct children's cognitive, language, psychomotor, and physical development.

The results of the t-test for large-scale field trials are the t count is 21,189, while the t table is 4,38 or 21,189 > 4,381 Ho is rejected and Ha is accepted, meaning that there is an increase in the motor skills of group B kindergarten children in the use of giant educational game media media for scientific-based transportation. While the N-Gain value is 0.71 in the high category and the N-Gain % value is71 in the effective category. This means that the use of the giant educational game media learning media with the theme of scientific-based transportation is effectively used to improve learning outcomesresults motor skills of group B kindergarten children in Kudus.

The results of both limited and broad trials have proven that giant educational game media is effectively used to improve the motor skills of Group B kindergarten children. In general, learning in kindergarten is for aspects of physical or motor development. Fine motor development and gross motor skills in early childhood need guidance from educators. Gross motor development is as important as aspects of fine motor development, because the inability of children to carry out physical activities will lead to negative self-concepts in children [32, 33, 34].

Making giant educational game media involves children starting from the process of assembling patterns, cutting geometric sheducational game medias, pasting them to coloring. These activities attract children's learning interest without realizing it can improve children's motor skills. Giant educational game media has advantages over ordinary educational game media which is small in size. The large size can make children more enthusiastic about playing in learning.

The effectiveness of giant educational game media transportation equipment is in line with research Sriwahyuni et al. [26] namely the Effectiveness of Giving Origami Educational game media to Children's Fine Motor Development at Brother Bakti Luhur Kindergarten Ma-

kassar.The results of the bivariate analysis showed that there was an effect of the effectiveness of providing educational tools on fine motor development in children (p = 0.000) which means it is smaller than < 0.05. The conclusion of this study is that there is an influence between the effectiveness of giving origami educational tools to the development of fine motor skills in children at Brother Bakti Luhur Kindergarten Makassar.

Rofi'ah & Widiyati [35] conducted a study entitled The Effectiveness of the Use of the Travel Playmat Educational Teaching Aid to Develop Gross Motor Skills for 7-Year-Old Children. Based on the results of the study, it can be concluded that the first results show that t count (33.91) > t table 0.692, thus, the results are significant so Ha is accepted and H0 is rejected so there are differences in the results of increasing children's motor skills using giant educational game media.

Based on the results of previous studies and discussions, it can be concluded that the giant educational game media learning media is an effective means of transportation used to improve children's motor skills Kindergarten group B in Kudus. This means that the hypothesis that there is an increase in children's motor skills using giant educational game media learning media is proven.

Conclusions and Recommendations. Based on the results of the effectiveness test, children and teachers really like the giant educational game media for transportation. The result of the t test is that the t count is 21,189, while the t table is 4,381 or 21.189 > 4.381, while the N-Gain value is 71 in the effective category. based on the results of t arithmetic > t table and n-gain value. It can be interpreted that the use of educational game media giant learning media with the theme of scientific-based transportation is effectively used to improve the motor skills of group B kindergarten children in Kudus. The suggestions given by the author is giant educational game media can be used to increase childhood motoric skill.

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ЭФФЕКТИВНОСТЬ ГИГАНТСКИХ ОБУЧАЮЩИХ ИГРОВЫХ СРЕД ДЛЯ РАЗВИТИЯ МОТОРИКИ

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Резюме. *Целью данного исследования является анализ эффективности гигантских обучающих игровых средств на тему научно-обоснованного транспортного средства для совершенствования моторики детей. В этом исследовании используется квазиэксперимент в форме неэквивалентного дизайна контрольной группы. На основании результатов проведенных ранее исследований и обсуждений можно сделать вывод, что гигантский развивающий игровой носитель обучающего носителя является эффективным средством передвижения, используемым для совершенствования моторики детей. Это означает, что гипотеза о том, что происходит повышение моторики детей с помощью гигантских обучающих игровых средств обучения, доказана.*

Ключевые слова: *гигантские обучающие игровые среды, моторика.*

ҚОЗҒАЛЫС ДАҒДЫЛАРЫН ЖЕТІЛДІРУГЕ АРНАЛҒАН ГИГАНТТЫ БІЛІМ БЕРУ ОЙЫНЫНЫҢ МЕДИАСЫН ҚОЛДАНУДЫҢ ТИІМДІЛІГІ

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Түйін. *Бұл зерттеудің мақсаты – балалардың моторикасын жетілдіруге арналған ғылыми негізделген көлік тақырыбы бойынша алып оқу ойындарының тиімділігін талдау. Бұл зерттеуде эквивалентті емес бақылау тобының дизайны түріндегі квазиэксперимент қолданылады. Алдыңғы зерттеулер мен пікірталастардың нәтижелеріне сүйене отырып, оқыту тасымалдаушысының алып дамып келе жатқан ойын тасымалдаушысы балалардың моторикасын жақсарту үшін қолданылатын тиімді тасымалдау құралы болып табылады деп қорытынды жасауға болады. Демек, гигганттік оқу ойынын оқыту құралдарының көмегімен балалардың моторикасының артуы бар деген гипотеза дәлелденді..*

Түйін сөздер: *алып білім беру ойын құралдары, моторика.*

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