

## The Effectiveness Of Learning Basic Mathematics Through Dice Games For 5-6 Years Old At TKIT Al-Muslim

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### **Abstract.**

*The background of this research is to find out the effectiveness of basic mathematics learning through early childhood dice games for children aged 5-6 years at TKIT Algebra, by knowing basic mathematics variables as variables that affect TKIT for children aged 5-6 years, and also using dice games in subjects. basic mathematics in learning. The research method was carried out to find out the results using quantitative survey tools to 100 parents of TKIT Algebra students who were randomly selected, using SPSS software in processing the data obtained from the survey conducted. The problem raised in this study is the effectiveness of basic mathematics on TKIT aged 5-6 years and dice game for TKIT age 5-6 years, whether the relationship between these variables. The results of this study are that there is a significant relationship between basic mathematics and TKIT aged 5-6 years and there is a relationship between dice games and TKIT aged 5-6 years, all supporting data results will be explained in this paper.*

**Keywords:** Basic Mathematics, Dice Game, TKIT, Basic Learning.

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### **I. INTRODUCTION**

Education is an important part of a nation and becomes an important problem of a country, therefore the problem of higher education is one of the basics of a developing country with a lot of education whether a country will be able to develop faster because it has a society with a high level of education so that the country can manage society better and the mission of income education for its people is better as well with the economic development of the continent will be better regulated and will be able to make higher education in each era of leadership of a president so that it will be able to help the country better in the previous era [1]. This study raises research problems discussing basic mathematics variables and dice game variables that can affect TKIT children aged 5 to 6 years. Therefore, the study will use data from a survey conducted with 100 parents of TKIT Al-Muslim [2]. This study uses a quantitative method by conducting a survey of 100 parents of TKIT Al-Muslim in order to get real data from the field and with real data so that the data obtained can make evaluation materials for TKIT Al-Muslim [3]. The purpose of the research conducted in today's paper is to find out how effective basic mathematics subjects are by using dice games in early childhood education at TKIT Al-Muslim. Early Age of TKIT Al-Muslim [4].

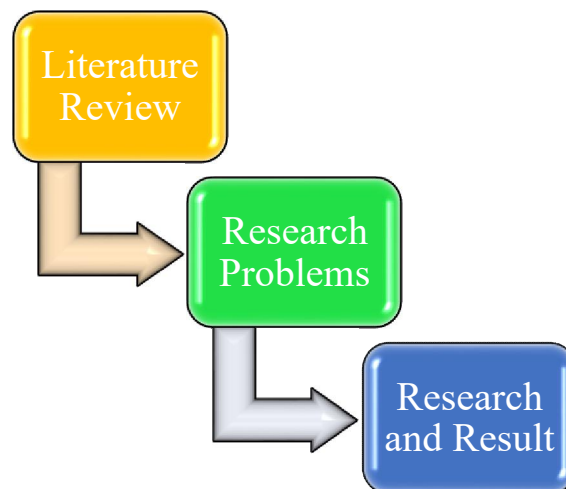
Mathematics is a compulsory subject from the most elementary schools to the highest schools. This study raised basic mathematics variables in TKIT education in order to find out how effective basic mathematics subjects were in TKIT children if basic mathematics subjects were applied [5]. Many games are applied to the early childhood education learning system with games, so students are expected to learn from these games and can think of learning as fun playing. Therefore, the right game can make students learn with fun because the age of Early Childhood Education is still very small around 5-6 years [6].

Education is indeed good to be applied from an early age, the education that is now applied to the Indonesian state, the most basic is early childhood education which can be applied at the age of 5 to 6 years. aimed at the future and can read and write in order to learn effectively in elementary school [7]. The results showed that there were many differences in learning and the important role of the leadership of an TKIT in managing TKIT during the COVID-19 pandemic, therefore this study will describe how many changes have been made [8].

In research using Zoom media, the effectiveness of learning in TKIT will decrease because the core of TKIT is learning and playing. With Zoom, the effectiveness will be reduced and learning is less fun for children aged 5-6 years [9]. The results of the study explain that facilities and infrastructure in an early childhood education are considered important because with many facilities and infrastructure children aged 5-6 years can play and learn optimally with adequate infrastructure, the delivery of material will be better and learning will be more exciting [10]. ]. The results of the study showed that there were many obstacles faced by TKIT during the COVID-19 pandemic, with the existence of covid 19, the learning system changed from what was originally playing and learning to being done online, with this concept change, many problems were encountered so that the learning system could be carried out and the application of knowledge from teachers to students can maximize, for example pedagogical, technological, and economic constraints [11].

## II. METHODS

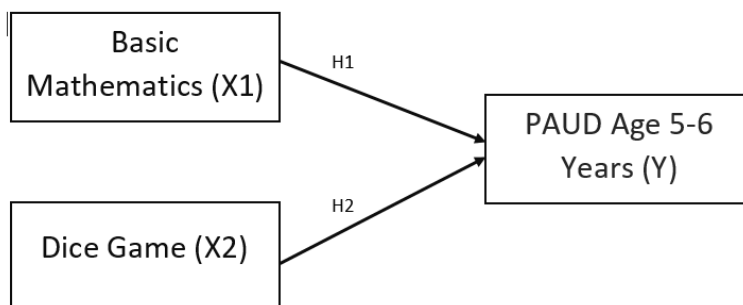
In this study using basic research, namely quantitative by conducting a survey, conducting a literature study in order to find the right research basis for this research. With a study in the library, it will be able to find new problems in this research. The research can be described and explained in the figure below. This study uses SPSS software, SPSS is used to process to produce a new research data that can provide answers to find out whether there is a relationship between one variable and another so that it can be known quickly to have valid data. In this study, taking a sample of 100 parents of students at TKIT Al-Muslim, which will provide the results of the survey in order to improve lessons at TKIT Al-Muslim, by conducting a survey of 100 parents of students who were selected randomly, the data obtained is valid and reliable. In this study using a Likert scale which has a value of 1 to 5, 1 is strongly disagree, 2 is disagree, 3 is Neutral, 4 is agree and 5 is strongly agree, by using a Likert scale it will be known to what extent the variables in this study the relationship between one variable with another variable.



**Fig 1.** Research Method

### III. Results and Discussion

Based on Figure 2 which is a hypothetical description in this study, it will be explained as follows, X1 is Basic Mathematics, X2 is Dice Game and is associated with TKIT aged 5-6 years. Which results in hypothesis 1, is there a relationship between Basic Mathematics and TKIT aged 5-6 years, and hypothesis 2 is there a relationship between dice games and TKIT aged 5-6 years, with both hypotheses it can be seen the dependent variable and what will be concluded from hypothesis that has been taken.



**Fig 2.** Hypothesis Model

**Table 1.** Questions given to 100 parents of TKIT Al-Muslim

No	Question	Variable
1	Basic mathematics is a compulsory subject in TKIT	X1
2	Basic math can be learned for children 5-6 years	X1
3	Basic mathematics is a subject from TKIT to College	X1
4	The dice game is part of the TKIT subject	X2
5	Dice game is a game that is often played in TKIT	X2
6	The dice game is part of the math subject	X2
7	TKIT is considered necessary before entering kindergarten	Y
8	TKIT is basic education for children	Y
9	TKIT is not part of basic education	Y
10	TKIT is not required in education	Y

#### 1. Multiple Linear Regression Analysis

##### a. Regression Equations

**Table 2.** Recapitulation of the Results of Multiple Linear Regression Analysis

Variable	Unstandardized Coefficients
Basic mathematic	2,345
Dice Game	0,529
TKIT ages 5-6 years	0,425

Source: The Results of Data Processing

Based on table 2 above, the following explanation will be given, the Basic Mathematics variable has an Unstandardized Coefficients value of 2.345, the Dice Game variable has an Unstandardized Coefficients value of 0.529 and the TKIT variable aged 5-6 years has an Unstandardized Coefficients value of 0.425 which means that it is very influential between variable one and variable.

##### b. Koefisien Determinasi (R<sup>2</sup>)

**Table 3.** Correlation and Determination Coefficients

Dependent Variable	Independent Variable	R	R Square	Adjusted R Square
Y	X1 & X2	0,7 31	0,435	0,511

Source: The Results of Data Processing

Based on table 3 above, there are dependent variables, namely Y and independent variables, namely X1 and X2, variable X1 has an R value of 0.7 and variable X2 has an R value of 31, variables X1 and X2

have an R Square value of 0.435 and variables X1 and X2 has an Adjusted R Square value of 0.511, which means that the independent variable and the dependent variable have a very significant relationship.

*c. Hypothesis Testing*

c.1. Hipotesis I (F test / Serempak)

**Table 4.** F / Simultaneous Test

Dependent variable	Independent Variable	F Count	F Table 0,05	Sig.F	decision on H0
Y	X1 & X2	54,224	1,256	0,004	Rejected

*Source: The Results of Data Processing*

Based on table 4 above, there are dependent variables, namely Y and independent variables, namely X1 and X2, variables X1 and X2 have an F Count value of 54.224 and variables X1 and X2 have an F Table value of 1.256, variables X1 and X2 have a Sig.F value, namely 0.004, X1 and X2 variables have a Decision on H0 value, namely Rejected, which means that there is a relationship between variables.

c.2 Hipotesis II (t test / Parsial)

**Table 5.** t / partial test results

Variable	t	Sig.
X1	3,563	0,002
X2	5,278	0,002

*Source: The Results of Data Processing*

Based on table 5 above, there are independent variables, namely X1 and X2, variable X1 has a t value of 3.563 and variable X2 has a t value of 5.278, variable X1 has a sig value of 0.002 and variable X2 has a sig value of 0.002 which means variable X1 and X2 has a very significant value to the dependent variable Y.

**2. Discussion of Research Results**

*a. Hypothesis 1 (H1) Basic Mathematics variable (X1) on TKIT aged 5-6 years (Y)*

Based on the results of data processing above, the results of hypothesis testing 1 (H1) for Basic Mathematics variable (X1) to TKIT aged 5-6 years (Y), Basic Mathematics variable (X1) has a significant relationship to TKIT variables aged 5-6 years ( Y).

*b. Hypothesis 2 (H2) variable Dice Game (X2) against TKIT ages 5-6 years (Y)*

Based on the results of data processing above, the results of hypothesis testing 2 (H2) of the Dice Game variable (X2) on TKIT aged 5-6 years (Y), the Dice Game variable (X2) has a significant relationship to the TKIT variable aged 5-6 years ( Y).

**3. Descriptive Analysis**

*a. Basic Mathematics Variables (X1)*

Based on the results of the research above and data processing, it can be concluded that the Basic Mathematics variable (X1) significantly affects TKIT variables aged 5-6 years (Y) which means if a good TKIT will have good Basic Mathematics so that it can have TKIT ages 5- 6 Years is also good, therefore basic mathematics is a variable that must exist and has a good influence on TKIT.

*b. Dice Game Variable (X2)*

Based on the results of the research above and data processing, it can be concluded that the Dice Game variable (X2) affects the TKIT variable aged 5-6 years (Y) significantly, which means that if a game is good, it will have a good influence on TKIT students aged 5-6 years. which is also good, therefore the selection of games must be chosen carefully so that it can help students in learning.

*c. TKIT variables aged 5-6 years (Y)*

Based on the results of the research above and data processing, it can be concluded that the TKIT variable aged 5-6 years (Y) is significantly influenced by the variables of Basic Mathematics (X1) and Dice Game (X2), which means that if an TKIT aged 5-6 years must have eyes lessons that can influence students and have games that can develop student learning power so that they can increase student intelligence.

#### IV. CONCLUSION

The conclusion generated based on the research above is that the variables of Basic Mathematics (X1) and Dice Game (X2) significantly affect TKIT aged 5-6 years (Y), which means that good Basic Mathematics (X1) will be able to produce TKIT aged 5-6. Year (Y) is also good, because planning requires good subjects, then a good Dice Game (X2) will be able to produce TKIT aged 5-6 years (Y) which is also good, because planning early childhood games is mature, future research by trying other variables in order to know what variables can affect TKIT aged 5-6 years.

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