European Journal of Humanities and Educational Advancements (EJHEA)
Available Online at: https://www.scholarzest.com
Vol. 3 No. 05, May 2022
ISSN: 2660-5589

THE RELATIONSHIP BETWEEN THE APPLICATION OF LEARNING VIDEOS AND THE JARIMATIKA METHOD WITH THE DEVELOPMENT OF NUMBER CONCEPTS IN EARLY CHILDHOOD EDUCATION

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Article history:
Received: 1st March 2022
Accepted: 4th April 2022
Published: 8th May 2022

Abstract:
This study aims to determine (1) the relationship between the application of video learning with the development of the concept of numbers. (2) The Relationship Between Jarimatika Method With The Development Of The Concept Of Numbers. (3) Simultaneous relationship between the application of learning videos and the Jarimatika method with the development of the concept of numbers. This research uses quantitative methods. This study uses a correlation research design, namely knowing the relationship between two or more variables. The research sample consisted of 30 preschool students, data collection techniques using questionnaires, interview observations and documentation of testing data analysis techniques and hypotheses using multiple regression analysis and ANOVA tests. The results of this study indicate that (1) there is a relationship between the application of learning videos and the development of the concept of numbers, (2) there is a relationship between the Jarimatika method and the development of the concept of numbers, (3) there is a simultaneous relationship between the application of learning videos and the Jarimatika method with the development of the concept of numbers. in children. The purpose of this study is as a reference for further researchers related to the application of learning videos and the Jarimatika method for the development of the concept of numbers.

Keywords: Learning Video, Jarimatika Method, Concept of Numbers.

INTRODUCTION

The Covid-19 pandemic, which is currently experienced by almost all countries in the world, has had a significant and massive impact, not only in the health, economic, social fields, but also in the world of education. travel restrictions, prohibition of mass gathering activities, and mandatory use of masks for the entire community (Ari 2020:65). In the field of education itself, the government has strictly eliminated face-to-face learning in class for all levels of education, from the lowest level to the tertiary level. Schools and campuses as a meeting place for students and teachers are considered to be places that have the potential to transmit the spread of the corona virus.

Therefore, distance learning is considered a solution so that education can still be carried out in the midst of the current Covid-19 pandemic emergency. Number is a mathematical concept used for counting and measurement. Numbers are a collection of numbers that represent the number or quantity of a certain set of objects (Haryono, 2015: 78). A symbol is a sign that is used to symbolize numbers in mathematics, Haryono, (2015: 74).

Online learning media as an open and distributed learning system using pedagogical tools (educational aids), which are made possible through the internet and network-based technology to facilitate the formation of learning processes and knowledge through meaningful action and interaction Dabbagh and Ritland (2005).

The presence of the internet as a platform that provides access for users in particular, students, to reach various sources of information and learning which will certainly help the learning process. There are more than hundreds of thousands of online learning resources in the form of pages, blogs, scientific articles, and videos that can be accessed by students and become an alternative in improving the quality of student learning. The presence of the internet as a platform that provides access for users in particular, students, to reach various sources of information and learning which will certainly help the learning process. There are more than hundreds of thousands of online learning resources in the form of pages, blogs, scientific articles, and videos that can be accessed by students and become an alternative in improving the quality of student learning. Several studies have also shown that the ability and frequency of using online or online learning resources have a significant positive effect on student learning performance.

One way to produce an interesting mathematics learning process is to use video as a learning resource and media. video is a recording of live images or television programs to be broadcast on television sets. video as a technology for capturing, recording, processing, storing, transferring, and reconstructing still image sequences by presenting scenes in motion electronically so that videos look like moving images. Munir's quote (2017)¬ describes video as a digital medium that shows an arrangement of images that are read sequentially at a certain time so as to give the illusion, image and fantasy of moving images. Learning video media also helps the growth and development of the child in the form of increasing the introduction of the concept of numbers. Video learning media can also increase children's learning desires and interests. According to the analysis of researchers, the media used is less varied and less attractive to children, especially to teach children to understand the concept of numbers and their symbols. This of course will affect the child's learning ability and of course the child will have difficulty understanding the concept of numbers and their symbols, so there needs to be an effort or target to improve the child's understanding. A method has been done by early childhood teachers by modifying and looking for teaching aids so that they understand more about the introduction of numbers, but the final result is not satisfactory.

Based on these problems, so that children's understanding of the concept of numbers and the symbols of numbers can develop well, the way that can be used is by utilizing learning video media and the Jarimatika method. Based on the above background, the researcher took the title of the thesis "The Relationship Between the Application of Learning Videos and Jarimatika on the development of the concept of numbers".

METHOD

This research method uses quantitative methods, the research method is a scientific procedure or method to obtain data with the aim of finding a relationship between the application of learning videos and the Jarimatika method with the development of the concept of numbers, descriptive research is research that observes at early childhood education, interviews or questionnaires about the current situation. this, regarding the subject.

RESULTS AND DISCUSSION

Results

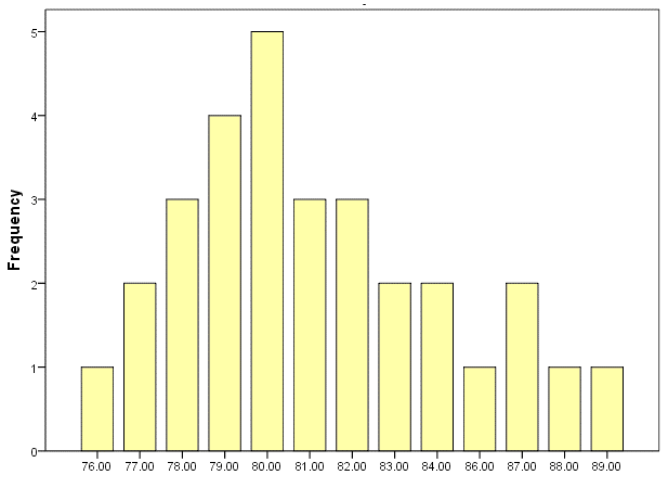
1. Learning Video (X1 Variable)

Learning video data was taken through a questionnaire spread over 25 questions X1 and obtained from 30 research samples. The frequency distribution table for the X1 Learning video is as follows:

Nomor	Kelas Interval	Frekuensi
1	76.00	1
2	77.00	2
3	78.00	3
4	79.00	4
5	80.00	5
6	81.00	3
7	82.00	3
8	83.00	2
9	84.00	2
10	86.00	1
11	87.00	2
12	88.00	1
13	89.00	1
	Total	30

Based on the frequency distribution table above, it can be seen that the largest frequency is in the interval class 80 with a frequency of 5 people, while the lowest is in the interval class 76, 86, 88, 89 which has an interval class of 1. This can also be seen from the following table:

Based on the frequency distribution histogram data and the graph above, there are the results of the calculation of scores for the X1 variable as follows:



$$\text{Question Score} = \frac{Skor\ aktual}{Skor\ ideal}\ X\ 100\%$$

$$= \frac{2240}{3000}\ X\ 100\%$$

$$= 75\ \%$$

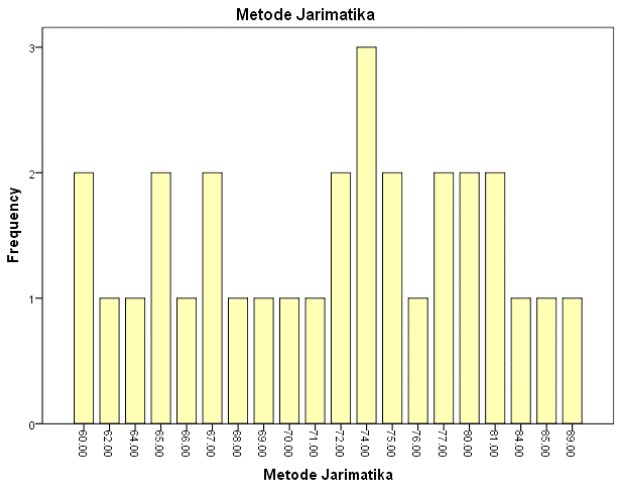
It can be seen that the descriptive analysis for the learning video variable is very good by getting a score of 75%. This shows the learning video is included in the good group

2. Jarimatika Method (Variable X2)

The Jarimatika method data was taken through a questionnaire spread over 25 questions X2 and obtained from 30 research samples. The frequency distribution table for the X2 Jarimatika Method is as follows:

Nomor	Kelas Interval	Frequency
1	60.00	2
2	62.00	1
3	64.00	1
4	65.00	2
5	66.00	1
6	67.00	2
7	68.00	1
8	69.00	1
9	70.00	1
10	71.00	1
11	72.00	2
12	74.00	3
13	75.00	2
14	76.00	1
15	77.00	2
16	80.00	2
17	81.00	2
18	84.00	1
19	85.00	1
20	89.00	1
	Total	30

Based on the frequency distribution table above, it can be seen that the largest frequency is in the interval class 74 with a frequency of 3 people, while the lowest is in the interval class 62, 64, 66, 68, 69, 70, 71, 76, 84, 85, and 89 which have class interval of 1. This can also be seen from the following table:



Based on the frequency distribution histogram data and the graph above, there are the results of the calculation of scores for the X2 variable as follows:

$$\text{Question Score} = \frac{Skor\ aktual}{Skor\ ideal}\ X\ 100\%$$
$$= \frac{2180}{3000}\ X\ 100\%$$
$$= 73\ \%$$

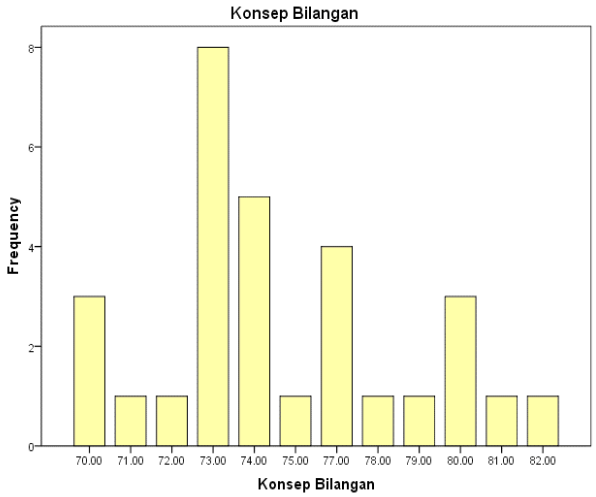
It can be seen that the descriptive analysis for the Jarimatika Method variable is very good by getting a score of 73%. This shows that the Jarimatika method is included in the good group

3. Concept of Numbers (Variable Y)

This number concept data was taken through a questionnaire spread over 25 questions Y and obtained from 30 research samples. The frequency distribution table for the Y Jarimatika method is as follows:

	Kelas Interval	Frequency
1	70.00	3
2	71.00	1
3	72.00	1
4	73.00	8
5	74.00	5
6	75.00	1
7	77.00	4
8	78.00	1
9	79.00	1
10	80.00	3
11	81.00	1
12	82.00	1
	Total	30

Based on the frequency distribution table above, it can be seen that the largest frequency is in the interval class 73 with a frequency of 8 people, while the lowest is in the interval class 71, 72, 75, 78, 79, 81, and 82 which has an interval class of 1. This is can also be seen from the following table:



Based on the frequency distribution histogram data and the graph above, there are the results of the calculation of scores for variable Y as follows:

$$\text{Question Score} = \frac{Skor\ aktual}{Skor\ ideal}\ X\ 100\%$$
$$= \frac{2250}{3000}\ X\ 100\%$$
$$= 75\ \%$$

It can be seen that the descriptive analysis for the Number Concept variable is very good with a score of 75%. This shows that the concept of numbers is included in the good group.

4. Data Normality Test.

The results of the data normality test for the X1 learning video variable can be seen in the Kolmogorov-Smirnov test table

		Vide Pembelajaran
N		30
Normal Parameters[a,b]	Mean	81.3333
	Std. Deviation	3.42741
Most Extreme Differences	Absolute	.151
	Positive	.151
	Negative	-.084
Kolmogorov-Smirnov Z		.829
Asymp. Sig. (2-tailed)		.498

It can be seen in the table above, it shows that the X1 learning video variable has a significance of more than 0.05 > 0.498. This means that the X1 learning video variable is normally distributed.

The results of the normality test of the data for the X2 Jarimatika variable can be seen in the Kolmogorov-Smirnov test table below:

		Metode Jarimatika
N		30
Normal Parameters[a,b]	Mean	72.6667
	Std. Deviation	7.52162
Most Extreme Differences	Absolute	.074
	Positive	.074
	Negative	-.070
Kolmogorov-Smirnov Z		.407
Asymp. Sig. (2-tailed)		.996

The results of the normality test of the data for the X2 Jarimatika variable can be seen in the Kolmogorov-Smirnov test table below**:**

		Konsep Bilangan
N		30
Normal Parameters[a,b]	Mean	75.0000
	Std. Deviation	3.41397
Most Extreme Differences	Absolute	.215
	Positive	.215
	Negative	-.112
Kolmogorov-Smirnov Z		1.179
Asymp. Sig. (2-tailed)		.124

It can be seen in the table above, showing that the Y method variable has a significance of more than 0.05 > 0.124. This means that the concept variable Y is normally distributed. This study shows that the data normality test requirements for multiple regression X1, X2 and Y are met in this study.

CONCLUSION

Learning video data was taken through a questionnaire spread over 25 questions X1 and obtained from 30 research samples. Based on the frequency distribution table above, it can be seen that the largest frequency is in the interval class 80 with a frequency of 5 people, while the lowest is in the interval class 76, 86, 88, 89 which has an interval class of 1. It can be seen that descriptive analysis for the learning video variable is very good by getting a score of 75%. This shows that the learning video is in the good category. The results of the normality test of the data for the X1 learning video variable, which can be seen in the Kolmogorov-Smirnov test table, shows that the X1 learning video variable has a significance greater than 0.05 > 0.498. This means that the X1 learning video variable is normally distributed. From the T-test table data above, the results of tcount 3.920 with a significance value of 0.001 if tcount is greater than ttable 2,037 and a significance value below 0.005, it can be concluded that there is a relationship between the Application of Learning Videos and the Development of Number Concepts. According to Mira (2014: 78) the relationship of learning videos with the concept of numbers, namely the learning videos that are broadcast has the advantage that there are sounds, colors, movements, and all the shows contained in the video are something that can be easily understood by children in the learning process because Mirna (2014) revealed that the video media used in conveying messages or learning to children was conveyed evenly.

The Jarimatika method data was taken through a questionnaire spread over 25 questions X2 and obtained from 30 research samples. Based on the frequency distribution table above, it can be seen that the largest frequency is in the interval class 74 with a frequency of 3 people, while the lowest is in the interval class 62, 64, 66, 68, 69, 70, 71, 76, 84, 85, and 89 which have class interval of 1. It can be seen that the descriptive analysis for the Jarimatika method variable is very good with a score of 73%. This shows that the Jarimatika method belongs to the good group. The results of the normality test of the data for the X2 Jarimatika variable, which can be seen in the Kolmogorov-Smirnov test table, shows that the X2 Jarimatika method variable has a significance of more than 0.05 > 0.996. This means that the X2 radius method variable is normally distributed. From the T-test table data above, the results of tcount 6,137 with a significance value of 0.000 turn out to be greater than ttable 2,037 and a significance value below 0.005, so it can be concluded that there is a relationship between the Jarimatika Method and the Development of Number Concepts. According to Septi (2007: 17) that the Jarimatika method is one way of counting with finger tools. The Jarimatika method can provide convenience for students to count so that they can develop their number concepts, Peni (2007: 76) The use of the Jarimatika method will have an impact on accuracy in completing arithmetic operations using the Jarimatika method will make learning activities more fun so that students become excited in learning this will greatly assist students in mastering multiplication counting skills, so they can develop students' number concepts.

The results of the data normality test for the X1 learning video variable, which can be seen in the Kolmogorov-Smirnov test table, shows that the X1 learning video variable has a significance of more than 0.05 > 0.498. This means that the X1 learning video variable is normally distributed, the X2 Jarimatika method variable has a significance of more than 0.05 > 0.996. This means that the X2 method variable is normally distributed, that the Y method variable has a significance of more than 0.05 > 0.124. This means that the concept variable Y is normally distributed. This study shows that the data normality test requirements for multiple regression X1, X2 and Y are met in this study. Simultaneous testing is carried out to determine the joint relationship between the independent variables X1, X2 and Y, as seen from the results of the significance test of the f test that there is a value of fcount 21,151 and the significance value of 0.000 turns out to be greater than ttable 3.032 and the significance value is below 0.005, so it can be concluded that there is a simultaneous relationship between the variables X1, X2 to Y. In Yuli Purwati's Journal (2021) entitled Video Animation of Basic Mathematics Using the Jarimatika Method, there are values good significance, where when the learning video takes place students are directed to use their fingers to help count from the questions that are displayed through this video, students will focus their attention on the video and their fingers so that they can solve the problems presented. show in v The idea of this method can develop the students' concept of numbers, it can be said that the video learning method and the Jarimatika method can develop the concept of numbers for students.

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