



Young Children's Learning of Discipline: the Use of Traffic Simulation Games

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Abstract

Discipline in traffic is all kinds of behavior of the street user, both with vehicles and without ones according to the law. The teaching of it should be started as soon as possible to children in order to obtain traffic disciplinary when a person lives in a society. The application by learning through traffic simulation is one of the ways that can be used to grow traffic disciplinary to a child aged 5-6 years old. The problem in this research is what are types of games applied in the learning through traffic simulation to the disciplinary of preschool students? Furthermore, are there any influences of the application of such learning through traffic simulation in preschool students disciplinary? The purpose of the research is to know types of traffic simulation games applied in students' learning process and to know whether applying learning through traffic simulation games influences the disciplinary of preschool students. The approach used in this research is a quantitative study. The population is students aged 5-6 years old in TK Bhayangkari Kecamatan Gajahmungkur Semarang. The sample is 30 students in grade B of TK Kemala Bhayangkari 90 and 30 students in grade B of TK Kemala Bhayangkari 08. The types of games used in the learning through traffic simulation games are the basic rule of pedestrians, basic rule of bikers, introduction of traffic signs, and information of how to use a helmet, and manners on vehicles. After treatment given to the experiment group, it is found that there was an increase in children's traffic disciplinary, the mean within the experiment group was 103,87 and in control group 72,87. The score gained by the experiment group showed a higher number than the control group with the difference of 31,0 and the counting score on post-test of 10,282 with sig (2tailed) $0,00 < 0,05$ which means H_0 is acceptable. Thus, there was a significant influence on applying learning through traffic simulation games to increase child's traffic disciplinary.

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INTRODUCTION

The activity in traffic is an important thing in doing social life because traffic is used as transportation medium from one place to another. The law of UU No. 2 of 2009 about traffic and public transportation explained that, traffic and public transportation is very important since traffic cover people’s need. Traffic security is one of the fundamental principles of transportation providence.

In Indonesia, those principles often carried on differently on the field. This shows in traffic safety and society disciplinary in obeying traffic regulation still very low. Breaking traffic is not only done by an adult but also children, it may cause danger to other street users. It because children in early each does not acknowledge traffic safety and regulation, and also because the lack of traffic disciplinary awareness in children.

Some traffic violations that was reported done by children: children often do not stop and look to right and left before crossing the street, children often ride bikes close to the middle of the street, children bikes along side by side with other children, children do not pass through zebra cross while crossing the street (while zebra cross is available). This teaching traffic safety is important sin early age to get children used to traffic disciplinary.

Base on the background, there is some problem brought to this research: (1) what types of traffic simulation games can be applied in students’ learning process and (2) to know whether applying learning through traffic simulation games influences the disciplinary of preschool students.

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RESEARCH METHOD

The approach used in this research is a quantitative study. Using Quasi-Experiment research design, the research study 60 children in the age of 5-6 years old which are students of TK Bhayangkari Kecamatan Gajahmungkur Semarang. The sample is 30 students of grade B of TK Kemala Bhayangkari 90 and 30 students of grade B of TK Kemala Bhayangkari 08. On this design, two samples are sorted by purposive sampling, a technique to take a sample with certain consideration (Sugiyono, 2011:68). The technique of data collecting is rating scale called children disciplinary scale. Statistics test in the data analysis of the research is independent sample t-test in SPSS (Statistical Package for Social Science) program 16 for windows.

The dependent variable is variable that is influenced by independent variable (Sugiyono, 2010). The dependent variable in this research is the disciplinary of 5-6-year-old children. The independent variable is a variable that influences or cause the changes or the emerge of the dependent variable (Sugiyono, 2010). The independent variable is playing through traffic simulation games.

An instrument before it is used as a measurement tool, it should be tested. The test was performed to know whether the research instrument valid and reliable for the research. The detail of the instrument before and after the test is in table 1.

Based on the test result, there were 30 items of valid statement. Based on the measurement of data reliability statistic after removing 3failed items, the score obtained was 0,900 with 30 items of valid statements tested to 30 respondents.

Data analysis technique used in this research are (1) Normality test, the calculation using data from pretest and posttest scores for software SPSS 16.0 by using one-sample Kolmogorov test. (2) Homogeneity test was performed to know

Table 1. Recapitulation Validitas

No	Aspect	Question Number	Failed Item	Valid Item
1.	Mental Attitude (Obedience and Discipline)	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15	7, 11, 13	2, 3, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15
2.	A good understanding of the rules, norms	16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33	-	16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33
	Amount	33	3	30

whether two classes have the same variants. To analyze homogeneity in this research, independent sample t-test is used under SPSS 16.0. (3) a hypothesis test was used to prove the correctness of the hypothesis proposed and to report that there were differences in learning result between the experiment group and the control group. The test used to these two groups is t-test by using normal distribution data.

RESULTS AND DISCUSSION

The learning through traffic simulation games was tested to 30 respondents from grade B students of TK Kemala Bhayangkari 90 Semarang. Based on the research on learning through traffic simulation the result are:

1. Types Of Games In Learning Through Traffic Simulation In Preschool Students Disciplinary

Kinds of games given to the learning using traffic simulation:

a. Basic rules for pedestrians

Every individual must walk or move to one place to another place. The basic rules to walk explained the best way to walk on the street. Not only how to walk but it gives information on how to cross his street. First, the researcher explained about zebra cross. The researcher showed the performance and the use of zebra cross. After children understood, the researcher taught children how o cross through it. These are the ways to cross the street taught by the researcher:

(1) Walk on the left side, (2) Use the available zebra cross or crossing bridge, (3) Do not cross on the crossroads or intersection or near the turn, (4) Look to right and left and repeat and make sure it safe for the passing vehicles then they can cross the street.

b. Giving Basic Rules For Bikers

Bicycles are mean of transportation usually used by children. The safety on riding a bicycle is very important to know by children. In this research, the researcher explained some ways to ride a bicycle safely: (1) Bicycle goes on the left side of the street, (2) Do not ride bicycle side by side with other bikers, (3) Be careful of the pedestrians and other vehicles, (4) Use bicycle bell to warn the street user in front of you, (5) Give a friend a ride only when there is seat behind.

c. Introducing Traffic Signs

A traffic sign is defined as a street equipment in the form of letters, numbers, sentences symbol and or the combination of those and functioned as a warning, restriction, instruction, or directory for the street users (Government law UU Number 22 2009). The traffic signs given in the research are:

1) Warning Sign

According to article 7 versus 1 of the regulation of ministry of transportation of Indonesia Republic number PM 13, 2014 about traffic signs explains a warning sign is used to give warning of the possibility of a danger on the street or dangerous places and informs a danger situation.

Table 2. Warning Signs





No	Signs	Explanation
1.		Traffic lamp
2.		Crossing area
3.		T-junction
4.		Keep alert/ be aware

Table 3. Restriction And Instruction Sign






No	Signs	Explanation
1.		Restricted for all vehicles
2.		Must follow the direction to the left
3.		Must follow the direction to the right

Table 4. Directory Signs

No	Signs	Explanation
1.		Parking lot
2.		Gas station

2) Restriction And Instruction Signs

Restriction sign is a sign that informs a restriction (Djunaidi, 1995:58) while instruction sign is a sign that gives order to a driver to do as it says, for example, o stop, to slow down, keep on the left side of the street, etc (F.D. Hobbs, 1995:559)

3) Directory Signs

Directory sign is a sign provided for the convenient of the street users and increase the efficiency of street safety (F.D. Hobbs, 1995:560)

d. Information About How to Use Helmet and Manner On The Vehicle

This research also explained how to use helmet correctly and how is the correct manner of riding a vehicle. First, the researcher explained what kind of helmet should be worn, the helmet under the license of SNI or Indonesian Nasional Standard, that proved the helmet pass the endurance test.

After that the children have explained the steps to wear a helmet correctly (1) Take off the safety strap (2) Put the helmet on and plug the strap back and make sure they can hear the click sound. (3) Close the helmet cover entirely to the chin.

The children were also explained how to ride, in order to give awareness to the children of being careful on the two-wheel vehicle. The correct position to hitchhike is to hold on tightly to the rider/ driver. Children must not play their hands out, to avoid the distraction to other driver and avoid the danger for the children.

2. The Influence of the Application of Traffic Simulation to Preschool Students Disciplinary

The application of the traffic simulation gives positive and significant influence to the disciplinary of 5-6-year-old children. It showed by the significant pretest and post-test score of intelligence of traffic disciplinary between the experiment group treated by traffic simulation and the other group without treatment (the control group).

The normality and homogeneity test in this research was using statistical calculation under SPSS program for window 16.0. The homogeneity test was performed as a requirement in independent t-test analysis. The result would be stated as normal and homogeny if the test result score is more the 0,05 significant as showed in table 4 and 5.

Tabel 5. Normality Data

Kelompok	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistic	Statistic	Statistic	Statistic	df	Sig.
Skor Kelompokkontrol	.149	.953	.953	.953	30	.202
kelompokeksperimen	.141	.964	.964	.964	30	.383

Table 6. Homogeneity Data

	Kelompokkontrol	Kelompok experiment
Chi-Square	9.667a	7.333b
Df	16	19
Asymp. Sig.	.883	.992

Table 7. Result T-test Data Posttest Group Experiment And Control

			Levene's Test for Equality of Variances		t-test for Equality of Means		
			F	Sig.	T	Df	Sig. (2-tailed)
Posttest	Equal variances assumed		47.134	.000	10.282	58	.000
	Equal variances not assumed				10.282	45.251	.000

Table 8. Means Of The Disciplinary Of Experiment Group And Control Group

	Kelompok	N	Mean	Std. Deviation	Std. Error Mean
Posttest	Kelompokeksperimen	30	103.87	7.999	1.460
	Kelompokkontrol	30	72.87	14.448	2.638

a. Lilliefors Significance Correction

The result of normality test reported that data has normal distribution since the Sig score on the control group was 0.087 and 0,130 > 0,05 on the experiment group.

Homogeneity test data showed that the score of the control group was 0,883 and experiment group was 0,9992 which meant 0,05 difference. After seeing the analysis of the normality test and the homogeneity test, the hypothetic analysis was established by using t-test of independent sample t-test under SPSS for the window.

Based on t-test, data was found homogeneity, thus, the analysis should use equal variance assumed in a t-test for equality of means column which t score 10,282 with sig (2 tailed) <0,05.

According to the post-test score in both

group, the mean in experiment group was 103.87 and in the control group was 72,87. this mean showed experiment group's score was higher than the control group with the difference of 31, as shown in table 7.

From the result, learning through traffic simulation games gave a significant influence to the disciplinary of 5-6-year-old children of TK Kemala Bhayankari 90 Semarang. It was accordance to a research by Santoso (2013), which reported that traffic education can form an obedience young generation, particularly in traffic. Discipline manner of traffic couldn't be formed instantly, that was why the learning through playing could help in growing the disciplinary of traffic in children.

CONCLUSION

Based on the result and discussion of the research, it could be explained that the types of games in learning through traffic simulation in 5-6-year-old children of TK Kemala Bhayangkari 90 Semarang are: basic rules for pedestrians, basic rules for bikers, and the introduction of traffic sign to children. The traffic disciplinary in children before they were given a treatment of learning was the same. Result data of t-test calculation of post-test showed significant difference with the t calculation $>$ t table or t calculation = 10,282 sig (2tailed) $<$ 0,05. The learning through traffic simulation games gave significant influence to the children disciplinary in traffic since it could increase the discipline of 5-6-year-old children of TK Kemala Bhayangkari 90.

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