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The Influence of Learning Models Teaching Game for Understanding (TGfu) on Critical Thinking Skills Students in Basketball Games

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The purpose of this study is to ascertain : (1) the significant influence of the Teaching Games for Understanding (TGfU) learning model in basketball games on students critical thinking skills, (2) the significant influence of the Direct Instruction (DI) learning model in basketball games on students' critical thinking skills, (3) the significant difference in the influence between the Teaching Games for Understanding (TGfU) learning model and the Direct Instruction (DI) learning model in basketball games on students' critical thinking skills. This type of research is quasi-experimental design using randomized pretest-posttest group design. The population in this study is all seventh-grade classes of SMP Negeri 1 Rancaekek, Rancaekek District, Bandung Regency, West Java Province, totaling 11 classes with 543 students. The sampling technique used is cluster random sampling. The data analysis technique used is a significance test at the 5% level. The results of the study show that: (1) There is a significant influence of the Teaching Games For Understanding (TGfU) Learning Models on Students' Critical Thinking Skills in Basketball Games with a p-value (0.001) < (0.05). (2) The significant influence of the Direct Instruction (DI) learning model in basketball games on students' critical thinking skills with a p-value (0.001) < (0.05). (3) There is a significant difference between the Teaching Games For Understanding (TGfU) and Direct Instruction (DI) learning models on Students' Critical Thinking Skills in Basketball Games with a p-value (0.001) < (0.05).

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INTRODUCTION

In today's very fast and complex information era, whether we realize it or not, every day we are presented with various kinds of information. sources, ranging from social media, news, to advertisements, which we can easily access. However, all this information is not always accurate or reliable, so like it or not, nowadays we are required to have the ability to identify, analyze, and evaluate information in an objective and rational manner that is critical thinking skills . Critical thinking is a process of applying, analyzing, synthesizing and/or evaluating information collected as a guide to beliefs and actions (Scriven & Paul, 1987) . In other words, critical thinking skills are needed by someone to be able to make decisions that are applied to the actions taken , including decisions in analyzing and solving a problem (Ratnasari, 2020) . That matter in harmony is also stated by Yu et al. (2014) , that critical thinking is a high-level cognitive activity that involves logical reasoning and problem solving. Likewise, Dwyer et al. (2014) , which states that critical thinking is part of the metacognitive process used to obtain a solution to a problem faced. Therefore, critical thinking skills are absolutely necessary in life and are one of the basic abilities needed to face 21st century life (Frydenberg & Andone, 2011; Redecker et al., 2011; Tony, 2010) .

According to Hendra Surya (2011), several characteristics from Skills that are critical are : 1. Character, 2. Criteria, 3. Arguments, 4. Considerations or thinking , 5. Point of view, 6. Implementation procedures criteria . To prepare students in the world of the future, both forming good mindsets, skills and character. This can be achieved through physical education, sports and health (Zhu, Ennis, & Chen, 2011). As stated in Law no. 20 of 2003 article 37 concerning the National Education System states that Physical Education, Sports and Health (PJOK) is one of the mandatory subjects in the primary and secondary school education curriculum. PJOK is subject matter that develops aspects of physical fitness, movement skills, critical thinking skills, social skills, reasoning, emotional stability, moral actions, aspects of healthy lifestyles and the introduction of a clean environment through selected physical, sports and health activities that are planned systematically in order to achieve national education goals (Depdiknas 2006). According to BSNP (2006), objective PJOK education involves two substantial concepts in PJOK learning. First, PJOK functions as an educational system aimed at developing psychomotor, cognitive and affective potential. The second is the idea that the learning process involves student participation in organized physical and health activities. These two concepts are the basis for the curriculum planned for PJOK (Kemendikbud, 2022).

In learning TGfU abilities and skills play participant educate developed in two method : (a) simultaneously with tactics in situation small game contextual and/ or modified / conditioned ; and b) put into practice in exercise planned and organized skills in lessons by teachers (Metzler, 2011; Harvey & Jarrett, 2014; Alexander et al., 2020). A number of study The previous one also concluded that TGfU can increase performance (McNeill et al., 2011); increase procedural knowledge and retrieval decision play , experience positive affective (Light & Harvey, 2017; Bracco et al., 2019; Tristan , Alex & Carla, 2014)); pleasure play , achievement competence and desire For follow exercise sports (Morales- Belando & Arias-Estero, 2017). Researchers interested in the influence of learning models Teaching Games for Understandings (TGfU) in the game of basketball against Skills think critical participants educate .

METHODS

The method used in this research is an experimental research method. According to Fraenkel (2012) experiment is " try something and systematically observe what happens " which means trying something and systematically observing what happens. The research design used in this research is a

quasi experimental design using a randomized pretest-posttest group design (Wallen, 2012). Therefore, the researcher applied a posttest to the experimental group and control group, and provided different treatment to the experimental class and control class . This research was carried out by providing treatment consisting of two treatments, namely the use of the Teaching Games for Understanding (TGfU) learning model in the experimental class and the Direct Instructional (DI) learning model in the control class. Each group was given the same initial test (pretest), then one group was given TGFU treatment and the other group was given Direct Instruction treatment . After the treatment was completed, both groups were given the same final test (posttest).

Population

Populations are individuals or objects that have common characteristics. From the population, the amount of data needed to solve the problem under study can be taken. Fraenkel (2012) explains: " The large group to which one hopes to apply the results is called the population ". There are two types of population according to Fraenkel (2012) " Target versus Accessible Population ".

The population in this study was all class VII of SMP Negeri 1 Rancaekek, Rancaekek District, Bandung Regency, West Java Province, totaling 11 classes, totaling 543 students. The reason for taking the research population at SMP Negeri 1 Rancaekek was because at this school the learning was teacher centered which did not give students the opportunity to think and be creative and the learning process was weak which supported the development of students' critical thinking skills in physical education learning.

Sample

Determine the sample size, it is based on the opinion of Fraenkel and Wallen (in Maksum, 2012, p. 62) stating that "There is no definite measure of how many representative samples there are." The samples taken in this research were class VII-I, totaling 50 students and class VII- E , totaling 50 students, determined using cluster random sampling . Class VII-I received TGfU model treatment and class VII- E received Direct Instruction treatment which was selected by random assignment .

Research Instrument

The research instrument used to measure students' critical thinking abilities is in the form of multiple choice questions with question indicators referring to Yudiana's (2010) opinion: analysis, evaluation, inference, interpretation, deductive reasoning and inductive reasoning" (Anjar Muhammad Iqbal 2018). The indicators that have been formulated in the form of a grid above are then used as material for creating and compiling written test statement items in the form of multiple choice questions.

Procedure Study

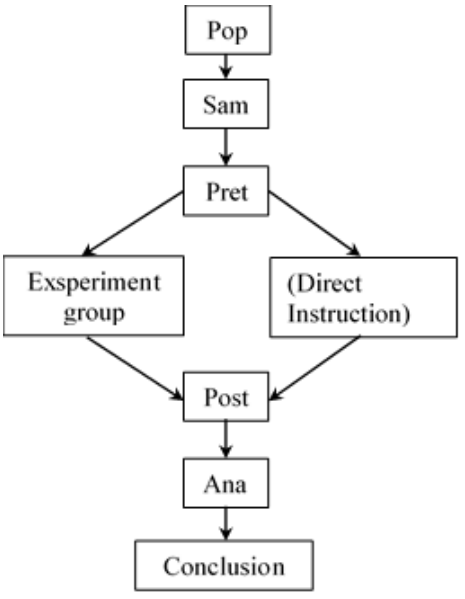


Figure 1.

Data Analyst

Data analysis was carried out using the Statistical Package for Social Science (SPSS) series 22 program. The steps taken were as follows:

1. Test Statistical Assumptions

Statistical assumption tests include data normality tests and homogeneity tests. The normality test is carried out to determine

the shape of the distribution of the data obtained as an initial requirement for subsequent parametric testing. This normality test is also carried out as an effort to fulfill the requirements for drawing conclusions that are standard and reliable, so that they can be generalized. The purpose of the normality test is; a) whether the data from samples taken from the same population is normally distributed, and b) whether the test is carried out with parametric or non-parametric statistics (if the distribution is normal then use parametric statistics and if it is not normally distributed then use non-parametric statistics).

The normality test was carried out using the Kolmogorov-Smirnov test . Meanwhile, the homogeneity test is intended to show that two or more groups of sample data come from populations that have the same variance. The Homogeneity Test was carried out using the Levene test .

2. Hypothesis testing

In this research there are three hypotheses, namely:

a. TGfU learning model on students' critical thinking skills.
b. Direct Instruction learning model on students' critical thinking skills.
c. There are differences in the influence of TGfU and Direct Instruction on students' critical thinking skills.

Hypothesis testing uses statistical analysis of the ANCOVA test. Analysis of Covariance (ANCOVA) is a linear model with one continuous dependent variable and one or more independent variables. ANCOVA is carried out by adding reinforcing variables (covariates) into the model so as to strengthen the accuracy/precision of the analysis and increase statistical significance. The ANCOVA test also requires a linear relationship between the dependent and independent variables. Suherman (2014) states that ANCOVA is an analytical technique that is useful for increasing the precision of an experiment because it regulates the influence of other uncontrolled independent variables. ANCOVA is used if the variables are independent. includes quantitative and qualitative variables.

Furthermore, Suherman (2014) explained that the purpose of ANCOVA analysis is to find out or see the effect of treatment on response variables by controlling other quantitative variables. In the ANCOVA analysis of this research, the pretest was used as a covariate and the posttest was used as the dependent variable . Meanwhile, the learning model is a fixed factor . In this study there were two groups of data, namely the experimental group and the control group.

Limitation Research

In this research there are limitations to several factors that could pose a threat to internal validity and external validity. Therefore, controls are needed to minimize these threats.

1. Internal Validity

   Internal validity talks about the extent of conformity between research data and the actual situation. This validity is obtained by using data collection instruments that meet scientific requirements (valid and reliable).

The research design used in this research is The Randomized Pretest-Posttest Design . Fraenkel et al (2012) . So that the research results can be generalized to other populations and environments, the steps taken are to carry out rigorous experiments. Before carrying out the research, the researcher discussed with the principal and physical education teacher from SMP Negeri 1 Rancaekek regarding the research to be conducted, especially regarding the TGfU learning model . Apart from that, before every physical education subject is taught, the researcher discusses the material and learning plan so that in the learning process it is hoped that the physical education learning plan (treatment) that has been planned will not deviate .

RESULT

The average acquisition and standard deviation of students' critical thinking skills in the TGFU group and Direct Instruction group. The TGFU group consists of 50 people and the Direct Instruction group consists of 50 people.

Table .1 Mean Value and Standard Deviation of Data Groups

Descriptive Statistics

	N	Mean	Std. Deviation
Post_eks	50	64.880	15.275
Post_kon	50	57.360	11.389
Pre_eks	50	51.680	14.271
Pre_con	50	49.760	11.603
Valid N (listwise)	50		

Based on the table above, it is known that for the TGFU group the pretest average is 51 , 680 and the posttest average is 64 , 880 , while for the Direct Instruction group the pretest average is 49 , 760 and the posttest average is 57 . 360 . So we can conclude that the average in the experimental class is greater than the average in the control class. Based on the average value of each group, it can be seen that the learning model has a significant effect on students' critical thinking skills. Statistical assumption tests were carried out to test the research hypothesis, namely the normality test and data homogeneity test. Normality tests were carried out on pretest and posttest data in the experimental group and control group. This is done to find out whether the data is normally distributed or not, so that the use of statistical analysis can be determined. If the data is normally distributed, parametric statistics will be used, and vice versa, if the data is not normal, non-parametric statistics will be used. Normality test was carried out on data in the experimental group and control group.

This was done to see whether the two groups had data that was symmetrically or normally distributed (Maksum, 2012, p. 161). Testing the similarity of variances (Homogeneity of variances) using the Levene Test . The decision making criteria are as follows:

When sig. or significance or probability value > 0.05, data from each group has the same variance (homogeneous).

When sig. or significance or probability value < 0.05, data originating from a population has unequal variance (not homogeneous).

Normality testing was carried out using the Kolmogorov Smirnov test at a confidence level of 95%. Guidelines for decision making are:

- When Sig. or probability value p > 0.05 (normally distributed data), but
- When Sig. or probability value p < 0.05 (data is not normally distributed)

In this research, normality and homogeneity testing of four groups of data was divided into two groups, namely pretest and posttest. The results are as follows:

Table .2 Data Normality Test Results

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Residual for POSTTEST	.059	100	.200*	.975	100	.050

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Based on the data above, it can be seen that the pretest and posttest data results from learning PJOK TGfU and DI basketball material , views From the results of the Kolmogorov Smirnov normality test in the table shows that the significance value is > 0.05. Because results significance 0.200 which is the normality test Already fulfilled . so variables normally distributed . Therefore it's this data can be analyzed furthermore Because has a fulfil condition For analyzed carry on .

Table 3. Pretest Data Homogeneity Test Results

Levene's Test of Equality of Error Variances[a]

Dependent Variable: POSTTEST

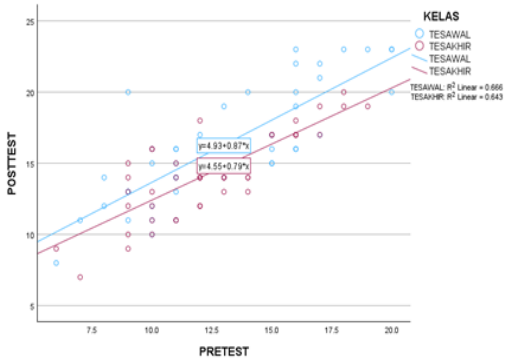
F	df1	df2	Sig.
3.219	1	98	.076

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + PRETEST + KELAS

Based on the data above can seen pretest and posttest results from PJOK group basketball material experiment TGfU and DI obtained p-value > 0.05, if seen from results significance 0.076 > 0.05 can be concluded that the second group population is homogeneous . From the results of the statistical assumption test carried out, it can be concluded that the data is normally distributed and homogeneous, so the test was carried out using parametric statistical analysis.

Therefore all data is in nature homogeneous , then data analysis can be next with statistics parametric . Linearity (Regression Covariate -Var Dependent).



Graph.1 Linearity Covariant – Var Dependent Regression

At each interaction data class linear pretest against posttest data with value y=4.93+0.87*x and y=4.55+0.79*x.

Table.4 ANCOVA Test Results

Tests of Between-Subjects Effects

Dependent Variable: POSTTEST

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	819.812[a]	3	273.271	68.974	<,001
Intercept	131.626	1	131.626	33.222	<,001
KELAS	.215	1	.215	.054	.816
PRETEST	684.581	1	684.581	172.789	<,001
KELAS * PRETEST	1.861	1	1.861	.470	.495
Error	380.348	96	3.962		
Total	24548.000	100			
Corrected Total	1200.160	99			

a. R Squared = .683 (Adjusted R Squared = .673)

Based on the data above, it can be concluded that because the class*prettest sig value is 0.495, then coefficient regression For all group The same or homogeneous .

Hypothesis testing was carried out using ANCOVA analysis. In testing with ANCOVA, the pretest score is used as a covariate because the pretest is a quantitative scale variable, while the posttest score is used as the dependent variable . This value shows how much influence the covariate has on the dependent variable. Significant < 0.05 means a significant effect. The learning model is a qualitative scale variable, so it is an independent variable or also called a fixed factor. This value shows how much influence the independent variable has on the dependent variable. Significant < 0.05 means there is a significant influence. Thus, in accordance with the research problem formulation, the results obtained include:

1.Influence TGFU to Skills think critical participant educate School Middle School in the Game of Basketball

Hypothesis :

H ₀ : No there is influence significant TGFU on the critical thinking skills of junior high school students in basketball games.

H¡ : T is found to influence significant TGFU significantly on the critical thinking skills of junior high school students in basketball games.

With the criteria of sig. < 0.05, then H ₀ is rejected, and if sig. >0.05 then H ₀ is accepted.

2. Influence Direct Instruction to Skills think critical participant educate School Middle School in the Game of Basketball

Hypothesis :

H ₀ : No there is influence significant Direct Instruction on the critical thinking skills of junior high school students in basketball games.

H¡ : T is found to influence significant Direct Instruction on the critical thinking skills of junior high school students in basketball games.

With the criteria of sig. < 0.05, then H ₀ is rejected, and if sig. >0.05 then H ₀ is accepted.

Based on table 4.6, it is known that the Sig value. model 0.001 < 0.05. then H₀ is rejected so H¡ is accepted, meaning that the Direct Instruction learning model has a significant effect on students' critical thinking skills.

3. Differences in influence TGFU and Direct Instruction to Skills think critical participant educate School Middle School in the Game of Basketball

Hypothesis :

H ₀ : No there is differences in influence which is significant from TGFU and Direct Instruction on the critical thinking skills of junior high school students in basketball games.

H¡ : T is found differences in influence which is significant from TGFU and Direct Instruction on the critical thinking skills of junior high school students in basketball games.

Based on table 4.6., sig 0.001 < 0.005, it is known that there is a difference in correlation between TGFU and Direct Instruction , so H ₀ is rejected so H¡ is accepted, meaning that there is a difference in the influence of TGFU and Direct Instruction on the critical thinking skills of junior high school students in games. Basketball.

DISCUSSION

Based on the results of the analysis tests carried out, it is known that the Sig. model 0.001 < 0.05, then H0 is rejected so H1 is accepted, meaning that TGFU influences the development of critical thinking skills of junior high school students in basketball games. The research results of Yudiana et al (2009) concluded that various forms of game activities can improve students' critical thinking skills.

The data from the analytical tests carried out is known to have obtained a Sig value. model 0.001 < 0.05, then H0 is rejected so H1 is accepted, meaning that the Direct Instruction learning model has an effect on students' critical thinking skills. This is in line with previous research written by Kurniawan (2022) t- test results pair in group experiment show significant results of 0.000 and the average pretest score is 62.75 and the average posttest score is 74.25, there are difference of 11.5 between pretest and posttest scores , show that There is influence the so that can concluded that Model of Instruction Direct increase Skills play .

Based on the results of the analysis tests carried out, it is known that the Sig. model 0.001 < 0.05. Testing hypothesis third show that there is a difference between group that uses it TGFU and Direct Instruction to Skills think critical participant educate School Middle School in the Game of Basketball. Based on findings researchers , differences are caused because of the implementation process learning and prioritization of different learning targets so you get different results too . Direct instruction learning target priority is mastery of techniques before applying them in the game. Meanwhile, TGFU has a priority on the cognitive domain which prioritizes students' understanding of the tactical problems that must be solved in the game so that they know what skills must be mastered so that decision making and implementation of techniques can be applied correctly.

CONCLUSION

Based on the results of data processing and analysis, answers to the research questions that have been asked are obtained. The conclusions obtained are as follows:

1. The Teaching Games for Understanding model to ball games Basketball has a significant effect on students' critical thinking skills and is very valuable for development through movement activities, one of which can be done by implementing a learning model that supports the development of creativity.

2. The Direct Instruction model to the game of basketball has a significant effect on students' critical thinking skills. So that it can be directed straight in to do technique play basketball , and teachers become instructor in learning and students as the target object in the learning .

3. The Teaching Games for Understanding model shows differences in influence with a more effective influence from the Direct Instruction model in ball games basketball on students' critical thinking skills. so that can concluded that Model of Instruction Direct increase Skills play

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