

# The Influence of Teaching Games for Understanding (TGfU) Learning Model on Improving Physical Education Learning Outcomes

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**Abstract**—The purpose of the study was to prove the effect of the Teaching Games for Understanding (TGfU) learning model on the learning outcomes of Physical Education volleyball material. The population in this study were VIII grade students at Pleret 1 Junior High School, Bantul Regency, totaling 28 students. This type of research is experimental, with a Quasi Experimental Design design. The instruments used were the volleyball lower passing technique performance test assessment sheet and the volleyball lower passing knowledge test. The results showed that there was a significant effect of the TGfU learning model on the learning outcomes of Physical Education volleyball material for class VIII students at State Junior High School 1 Pleret, Bantul Regency. This is indicated by the  $p$ -value  $(0.000) < (0.05)$  and an increase of 44.86%. The researcher strongly expects the reader to be able to carry out learning activities on other materials using the TGfU learning model, so that students' learning outcomes can increase.

**Keywords**— Teaching Games for Understanding (TGfU), Physical Education, volleyball lower pass.

## I. INTRODUCTION

Learning in the 21st century requires students to have several high-level thinking skills, one of which is critical thinking skills. Critical thinking skills are skills that are focused on making decisions, analyzing, and evaluating a problem that can be accounted for. Critical thinking skills are important for learners to train responsibility and train skills in analyzing and solving various problems (1).

Active learning is learning that invites students to learn actively, meaning that they dominate the learning activities. (2). Active learning makes students stimulated to participate in all learning processes, not only mentally but also physically. One of the subjects taught at school is Physical Education.

Physical Education is a useful subject to promote greater adherence to sports practice in learners, and thus, achieve better quality of life, health, motor skills, academic achievement, or educational values (3). Physical education emphasizes motor skills and physical activity as self-expression, with physical activity or movement activity so far for goals, decision making and so on and can be modified in learning (4).

One of the big ball materials is volleyball. Volleyball is a team sport played by two teams, each team consisting of six people (5). In practice, both teams must pass the ball over the net and drop it in the opponent's defense to win (6). The basic

techniques in volleyball that need to be mastered are serving, passing, smash, and block (7).

A learning approach where students are expected to think scientifically, critically, logically, and objectively in accordance with existing facts. Physical Education learning if done with a good model and approach not only contributes to the psychomotor and affective aspects but can also contribute to the cognitive aspects in critical thinking students. Physical Education teachers in delivering the material is very diverse, especially in the learning model and also the approach used by the teacher in delivering the material so that students can receive well what is delivered by the teacher. Overcoming these problems, it is necessary to apply a learning model that can demonstrate the motion process correctly and well in accordance with the demands of the curriculum. One of these learning models is Teaching Games for Understanding (TGfU).

Physical Education learning with TGfU approach can be used as one of the efforts to make learners enthusiastic and actively participate in PE learning. TGfU has a great impact on cognitive learning, pursuing to train learners who are competent, able to make decisions and solve tactical problems. (8). Applying TGfU actively supports teaching and motivates learners towards learning (9) and increase the exercise time of moderate and vigorous physical activity (10).

TGfU in Physical Education focuses on teaching learners tactical understanding before learners relate to skill performance, thus TGfU offers a tactical approach to teaching the performance of volleyball games. This implies that the experience of playing games to approach teaching the game of tactics to skills. Tactical approach learning strongly prioritizes the role of the PE teacher as a facilitator and the role of learners to be active and involved in the learning process. The TGfU approach is the tactics of the game to be understood as the first introduction, learners must know why and when the skill is needed in the context of the game, the technical implementation in playing skills.

Gil-Arias et al.'s study found that after implementing the TGfU program for 16 sessions, an increase in motivation and intention to be physically active was observed in learners (11). Another study by Merino-Barrero et al. showed that evidence of TGfU's contribution to adolescent health, as responsibility, basic psychological needs, and self-determined motivation

predicted intentions to be physically active and healthy lifestyles (12). Scientific evidence demonstrates TGfU's ability to enhance motor, cognitive and affective learning.

Based on the background that has been stated above, the researchers are interested in conducting research with the title "The Influence of Teaching Games for Understanding (TGfU) Learning Model on Physical Education Learning Outcomes of Volleyball Material for Class VIII Students".

II. METHOD

Study Participants

The population in this study were students in grade VIII at State Junior High School 1 Pleret Bantul Regency, totaling 28 students.

Study Organization

This research is a type of experimental research. The design used in this research is Quasi Experimental Design. This study aims to directly test the effect of a variable on another variable and test the hypothesis of a cause-and-effect relationship. The instruments used are the volleyball lower passing technique performance test assessment sheet and the volleyball lower passing knowledge test. The research was conducted for 4 meetings.

Statistical Analysis

The data analysis technique used in this study using SPSS 20 is by using a paired sample test at a significance level of 0.05. Previously, prerequisite tests of normality and homogeneity were carried out.

III. RESULT

The main data obtained in this study are Physical Education learning outcomes data on volleyball material. Before being given treatment, the group was given a pretest first, then continued by giving treatment to the TGfU learning model. After being given treatment, then a posttest is carried out to get the final score which will then be able to show the effectiveness of using the Teaching Games for Understanding (TGfU) learning model to improve the learning outcomes of Physical Education volleyball material. Before testing the research hypothesis, it will first be analyzed regarding the average value of students obtained. The results are explained as follows.

TABLE 1. Descriptive statistic

Statistic	Pretest	Posttest
N	28	28
Mean	51.54	74.66
Median	51.39	75.70
Mode	47.22	76.39
Std. Deviation	5.97	5.11
Minimum	41.67	66.67
Maximum	62.50	86.11
Sum	1443.10	2090.38

Based on table 1, it can be seen that there is an increase in the learning outcomes of Physical Education volleyball material in the TGfU experimental group. The mean or

average pretest value is 51.54 and the posttest is 74.66. The following is a diagram of the average value of learning outcomes of Physical Education volleyball material in Figure 1.

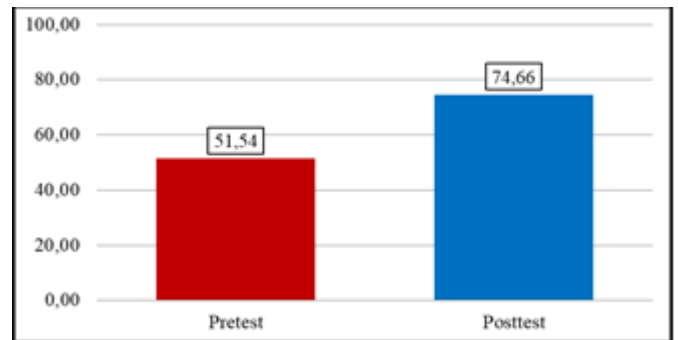


Fig. 1. Average Pretest and Posttest Physical Education Learning Outcomes Volleyball Material

Normality Test

The normality test uses the Shapiro-Wilk Test, namely by looking at the significance value of the residual variable if the value is above 0.05, it can be said that the data is normally distributed. The results are presented in Table 2.

TABLE 2. Normality test result

Group	Shapiro-Wilk		
	Statistic	df	Sig.
Pretest TGfU	0.921	28	0.087
Posttest TGfU	0.959	28	0.228

Based on table 2 above, it can be seen that the pretest and posttest data on the learning outcomes of Physical Education volleyball material have a p-value > 0.05, so the variables are normally distributed.

Homogeneity Test

The homogeneity test is useful for testing the similarity of the sample, namely uniform or non-variant samples taken from the population. Homogeneity test using Levene Test. The homogeneity rule if sig. > 0.05, then the test is declared homogeneous. The results of the homogeneity test are presented in Table 3.

TABLE 3. Homogeneity tes results

Group	Test of Homogeneity of Variances			
	Levene Statistic	df1	df2	Sig.
Pretest-Pottest TGfU	0.507	1	54	0.638

Based on table 3 above, it can be seen that the pretest-posttest data on the learning outcomes of Physical Education volleyball material obtained p-value > 0.05, so the data is homogeneous.

Hypothesis Test Result

The hypothesis in this study was tested using paired sample test and independent t test with the help of SPSS 20. The second hypothesis to be tested in this study is "There is a significant influence of TGfU learning model on the learning

outcomes of Physical Education volleyball material". The research conclusion is declared significant if the t value > t table and p-value < 0.05. Based on the results of the analysis, the data obtained in table 11 below.

TABLE 4. Test hypothesis

Paired Samples Test			
Group	t	Sig. (2- tailed)	Difference
Pretest-Posttest Fix Target	17.241	0.000	23.12

Based on the analysis results in table 4 above, it can be seen that t count 17.241 and t table (df 28-1) 2.052 with a p-value of 0.000 < 0.05, then these results indicate there is a significant difference. Thus the alternative hypothesis (Ha) which reads "There is a significant effect of the TGfU learning model on the learning outcomes of Physical Education volleyball material for class VIII students at State Junior High School 1 Pleret Bantul Regency", is accepted. The magnitude of the increase in learning outcomes of Physical Education volleyball material after being given the TGfU learning model is 44.86%.

#### IV. DISCUSSION

Based on the results of the analysis, it shows that the TGfU learning model is effective for improving the learning outcomes of Physical Education volleyball material. This is evidenced by the results of the t-test conducted on the pretest and posttest scores of the Physical Education learning outcomes of volleyball material. Through TGfU learning, learners can be improved in decision making, technical execution, mutual support, game performance, game involvement, fun, perceived competence, and intention to be physically active after the implementation of TGfU units. Learners and teachers will experience improvements in the above variables as a result of the TGfU implementation process (13).

The results of this study are in accordance with research conducted by Aryanti, et al., (14) that the implementation of the TGfU learning model makes students' psychomotor abilities and improves badminton serving skills. Qohhar & Pazriansyah research (15) There is an effect of the TGfU learning model on the skills of basic soccer techniques. The TGfU learning model applied to students, makes students actively involved in the game, and can perform basic techniques. The game system applied in the TGfU model is not competitive or tournament, so that students are not burdened by winning or losing. Games played by learners in soccer learning are a type of fun game with a modified pattern with varying levels of difficulty.

Research by Riyanto, et al., (16) showed that there is an effect of TGfU learning model on improving students' Physical Education learning outcomes. TGfU focuses on indirect tactical approaches such as thinking, problem solving, taking initiative before using rigid skills. The techniques used should stimulate learners' interest in the subject rather than using direct teaching techniques. TGfU gives learners the freedom to play. TGfU has emphasized not only the importance of tactics but also the way in which tactics are learned. From a pedagogical perspective, learners who engage

at a higher level learn more. Learners who are given more opportunities to learn will be more able to master tactics and techniques in a game, especially in this research volleyball game.

Alkindi, et al., (17) suggests that TGfU is a true instructional learning model to discover how children understand sports through the important ideas of the game. TGfU does not emphasize learning on sports playing strategies, so that learning is clearer and according to the stage of child formation. The TGfU learning model is based on six components, in the process of implementation, namely games, game applications, tactical awareness, making the right decisions, performing skills, and performance.

TGfU has a great impact on cognitive learning, pursuing to train competent learners, able to make decisions and solve tactical problems (8). Using TGfU actively supports teaching and learner motivation towards learning, as well as increasing practice time of moderate and vigorous physical activity, some of these factors make TGfU one of the main models used by PE teachers to improve learner health. Unlike technique-oriented approaches, TGfU contributes to improving learners' tactical awareness and performance (18), along with feelings of autonomy, competence and self-efficacy in small-sided games.

The opinion of Barba-Martin et al., (19) states that TGfU is based on four pedagogical principles. These principles are: (1) transfer, which is achieved through the use of global games, finding tactical aspects common to different sports; (2) modification-representation, consisting of adapting games to the age or body skill level of learners, maintaining tactical structure; (3) modification-overload; this principle raises the possibility of incorporating new rules or modifying them to help assimilate key tactical content; and (4) tactical complexity, where the tasks proposed should be based on a progression in tactical difficulty.

The tactical approach is more effective in developing learners' ability in the physical education process to master the material presented than the traditional skills approach. There was an increase in participation and effort, learning, influence and motivation in learning physical education with TGfU (20). TGfU provides an alternative to teaching physical education. TGfU facilitates learner development and performance in increased physical activity. TGfU is more capable of developing knowledge than technical approaches (21).

Identified TGfU as a pedagogical approach that promotes the development of physical literacy (22). TGfU is influential and beneficial from the perspective of physical education teachers. TGfU has a significant impact on learners' motivation in sport, and improves performance. TGfU showed a significant increase in tactical skills and confidence levels in physical education learners (23). TGfU is considered valid and effective in physical education learning activities at the junior high school level (24). TGfU has been able to increase students' activity levels and make students happy in the physical education learning process at schools in Hong Kong (25).

In addition, the key to the success of TGfU is the questioning technique and its relevance to learners on the

introduction of rules and techniques. The focus is on learners and problem solving. This teaching approach very effectively uses active learning where learners learn through games. In games, learners observe other players, think about tactics, make decisions about using sport skills, and solve tactical problems that arise during matches. Thus, TGfU is a good way to encourage deep thinking among learners. The game-centered approach can help learners to understand, apply, analyze and evaluate their actions. TGfU is an approach to learning physical education especially games that allows children to always be creative and understand the concepts of play. The TGfU approach is one that accommodates the needs of children in play. This indicates that the learning approach through games in the TGfU model is able to improve the skills of students especially in volleyball games.

V. CONCLUSION

Based on the results of data analysis, description, testing of research results, and discussion, it can be concluded that there is a significant influence of the TGfU learning model on the learning outcomes of Physical Education volleyball material for class VIII students at State Junior High School 1 Pleret Bantul Regency. This is indicated by the p-value (0.000) < (0.05) and an increase of 44.86%.

The researcher strongly expects the reader to be able to carry out learning activities on other materials using the TGfU learning model, so that students' learning outcomes can improve. For further research, it is recommended that it be developed through the study or use of different dependent variables such as playing skills, physical fitness variables, or attitude variables. In addition, it is hoped that further research can be developed with attribute variables such as motor ability, gender, age group and so on or application at a higher level of education.

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