



# Jigsaw Cooperative Model: Solution for Active Soccer Practice Learning

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**Abstract.** This study aims to determine the impact of the application of the jigsaw cooperative learning model on students' soccer playing skills. The research method uses experimental research. The research population is all students who program soccer courses. The research sample was taken using a random technique to obtain a research sample of 50 students. The results showed that practice recovery using the jigsaw cooperative learning model was effective in improving soccer playing skills. However, it is necessary to pay attention to the initial ability of students as teachers in each group to be more active.

**Keywords:** cooperative learning · jigsaw type · soccer

## 1 Introduction

The jigsaw cooperative learning model is currently popular as a learning model that actively involves students forming study groups in understanding teaching materials. The jigsaw cooperative learning process is an effective learning model to improve the quality of students [1]. Jigsaw cooperative learning utilizes small groups of students who work together to maximize learning conditions to achieve learning goals and get a maximum learning experience, both individually and in groups [2]. The jigsaw cooperative learning model is one of the flexible cooperative models because each group member is given material to be studied in the expert group and after that returns to the home group to explain the material that has been studied [3]. The jigsaw cooperative learning method uses a two-way approach that is active in the classroom, individually and collectively [4]. The application of the jigsaw cooperative learning model is proven to be able to improve students' critical thinking skills [5]. The jigsaw cooperative learning model is one of the innovative learning models with a creative approach [6].

The jigsaw cooperative learning model is a promising method in physical education (PE) [4]. The application of the jigsaw cooperative learning model in the practical learning of physical education is proven to be effective in improving learning outcomes [7]. Effective PE learning must provide a fun motion experience so that students can enjoy every movement they do [8]. The jigsaw cooperative learning method is considered very appropriate if applied in the T/P Soccer course because the game of soccer is a group game and requires students to actively learn soccer skills and rules. Studies from

Juditya & Aprila (2018) prove that the jigsaw learning method has a positive impact on the soccer playing skills of PE students. Other studies from Rahmadhani & Sudarso (2019) prove the jigsaw cooperative learning model provides an increase in passing and inner foot control skills in soccer material.

The theory and practice course of soccer is one of the subjects in the field of expertise that is mandatory for students in the sports education department, the Physical Education Study Program. Through soccer courses, graduates have competence as physical education educators who are skilled at playing soccer and can teach soccer. Based on the results of observations and discussions with colleagues who teach TP courses. In soccer, it was concluded that structured innovations were needed in learning, organizing, presenting, and evaluating learning. Not achieving the expected learning outcomes can not be separated from the learning process that is less than optimal. One aspect that affects the learning process is the application of learning methods or models.

## 2 Research Methods

This research uses a quantitative approach with a quasi-experimental type of research. The population in this study were all students majoring in sports education FOK Undiksha who programmed the T/P Soccer course totaling 142 spread over 5 classes. The sampling technique used random cluster sampling based on class and obtained a research sample of 50 students who were divided into the experimental group and the control group. The research instrument used a soccer skill test which was developed according to the material and theoretical studies focused on aspects of knowledge and skills. The data analysis technique used the mean difference test (t-test).

## 3 Results and Discussion

The results of the study show descriptive data analysis and significant test analysis. The description of the data shows that the application of the cooperative learning model to improve the learning outcomes of playing soccer skills can improve the skills of playing soccer by 16.13%. Meanwhile, the control group using the conventional method showed an increase of 1%. This increase will be followed by a mean difference test to determine whether there is a significant increase or not (Table 1).

The mean difference test used a t-test to determine the significant effect of the application of the jigsaw cooperative learning model on the improvement of students' soccer playing skills. In the experimental group the value of  $t = 4.659$  with a significant value of 0.000 which means that the application of the jigsaw cooperative learning model has a significant positive effect on soccer playing skills. In the control group using the conventional learning model, the t-value of 0.411 with a significance of 0.684 means that the conventional learning model does not have a significant impact on improving students' soccer playing skills (Table 2).

Physical education require great efforts in the learning and learning process because the impact will be inherent in students in the future [11]. Therefore, physical education teachers need skills in PE learning [12]included in choosing the PE learning model. One model that is currently popular and promising is the jigsaw cooperative learning model.

**Table 1.** Description of data

Experiment	Pre-test	Post-test
N	25	25
Total	657	763
Mean	26.03	30.05
Var	16.04	20.00
Max	36	39
Min	22	24
Control		
N	25	25
Total	676	682
Mean	27.00.00	27.03.00
Var	15.04	19.02
Max	36	35
Min	22	22

**Table 2.** Mean difference test

	t	Sig. (2-tailed)	Sig.	Information
Jigsaw cooperative	4,659	0.000	0.05	Significant
Conventional	0.411	0.684	0.05	Not significant

This model provides individual and group experiences for students in understanding teaching materials and sharing experiences in motion tasks.

Based on the results of the study, the application of the jigsaw learning model had a significant effect, meaning that the jigsaw cooperative learning model significantly improved soccer playing skills. The jigsaw cooperative learning model if applied in PE learning provides opportunities for students to be active because this model uses a tactical approach [13]. The tactical approach requires students to actively move on the encouragement of themselves and their peers so that it will provide a meaningful experience for themselves and their groups.

The jigsaw cooperative learning model demands students' practical abilities, teaching skills, and students' social skills (O'Leary et al., 2014). The jigsaw cooperative learning model in PE provides opportunities for students who have better abilities to actively share knowledge, experience, and movement learning. This will create and develop a sense of empathy for peers. This feeling will encourage students to be more active in learning and sharing experiences without feeling awkward because students interact with peers.

The jigsaw cooperative learning model makes students feel that heterogeneous groups and friendships have the potential to promote higher-order social and cognitive learning (O’Leary et al., 2018). However, it should be noted that students with limited psychomotor abilities need to be served or taught in groups. This situation provides an opportunity for lecturers of the PJKR FOK Undiksha study program to use mixed group methods with single groups according to the practical abilities of students and more structured learning activities.

## 4 Conclusions

The jigsaw cooperative learning model is one of the creative and tactical approaches to learning soccer practice at FOK Undiksha. The application of the jigsaw type of cooperative learning model has a significant impact on the soccer playing skills of FOK Undiksha students. Learners are more active in learning and are encouraged to share movement experiences and knowledge with peers.

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