

# The Collaboration of the Teaching Games for Understanding Model with Tag-Games to Improve Long Jump Skills in Elementary School Students

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**Abstract** This research aims to determine the impact of collaborating the Teaching Games for Understanding model with tag-games on learning long jump for elementary school students. This research was conducted at SDN Kotabaru, West Bekasi, Bekasi. The method used was an experiment randomized pretest-posttest control group design. The population is 24 classes, with 520 students at SDN Kotabaru, West Bekasi, Bekasi. Samples were taken using the random sampling technique and classes 5D and 5B were determined with 52 students each. In practice, class 5D studied with Teaching Games for Understanding Model collaborated with Tag-Games and class 5B studied with the conventional model. The instrument used is the long jump test used modified Likert scale in its assessment. The results show that the Teaching Games for Understanding model with tag games has a better influence on long jump skills in elementary schools. The learning process is fun because there are games at the start of the lesson and the packaging of long jump material with the Teaching Games for Understanding model. Students not only learn happily but are always actively involved in challenging learning to obtain better results. This is clearly needed in long jump learning because learning is fun, and students concentrate when studying so that learning objectives can be achieved well. For future research, the Teaching Games for Understanding model with Tag-Games needs to be tried in students' favorites

sports such as badminton, football, basketball, or volleyball to get an idea of the strengths and weaknesses that may arise in its implementation.

**Keywords** Teaching Games for Understanding Model with Tag-Games, Long Jump Skills, Elementary Schools

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## 1. Introduction

Education is a human need to improve themselves both physically and spiritually. Changes and developments in the field of education include various components involved in it, both in terms of educational implementation, curriculum tools, learning facilities and infrastructure and more innovative learning strategies in line with current developments. To make the nation's life more intelligent, improving the quality of education is very important for sustainable development in all aspects of human life. Physical education learning is recommended to use a learning model because it is proven to increase student learning, motivation, and achievement [1]. The physical education system must also be developed in accordance with the conditions of each educational unit with the need for a diversity of student movement interests, both small and large in scope [2], [3].

The educational process must be well designed to be able to improve maximum learning outcomes in accordance with children's needs, especially learning physical education. Physical education and sports learning hours are used by other fields of study [4], which makes learning effectiveness less than optimal.

Other problems that occur in physical education learning create homework for educators, especially physical education teachers, who are required to be more innovative and more active in solving problems that occur. Physical education learning must make children feel cheerful and happy [5]. In fact, there are still many educators who use a physical learning style by emphasizing "Teacher Centered" where children lack the freedom to perform movement skills optimally [6]. This approach makes students view that physical education is not interesting and has an impact on students' low learning motivation. It needs to be realized that every student likes to be involved in creative learning, but when learning is not fun this can reduce students' interest and motivation [7]. So, a learning model is needed that suits students' interests and needs. This can be accommodated through the Teaching Games for Understanding model. This model is seen as being able to optimize athletic learning, especially in elementary schools, with the hope that students will be motivated to learn and can encourage students to continue learning. In the long jump material, the skills are divided into 1) Prefix, 2) Foothold, 3) Repulsion, 4) Hovering and 5) Landing [8]. The fact, long jump skill lessons have not gone well, is because teachers always enforce their wishes for students to become athletes, not students. Most students have the opinion that learning athletics is boring and tiring. One solution that physical education teachers can do is to use the Teaching Games for Understanding model. Through effective learning in improving students' metacognition and skills [9], [10], [11] it is hoped that it can produce better and more enjoyable physical education learning and better learning outcomes than before.

### 1.1. Review Long Jump Using Teaching Games for Understanding Model

Athletics learning with long jump material is a very complex material where each student tries to jump as far as possible in a short time. This condition clearly requires knowledge of good knowledge of results and knowledge of performance from students [12] while still being able to improve students' cognitive, affective, and psychomotor aspects [13]. In relation to mastering long jump skills, positive feedback is needed in learning. The use of the Teaching Games for Understanding model in long jump learning has been proven to be able to accommodate this; in the learning context this is very useful for students in improving long jump learning outcomes [14],[15],[16]. To achieve this, elementary school students need to be provided with fun learning facilities that can stimulate

students to always be actively involved in learning in class [14]. In the long jump there are several stages of movement, namely prefix, foothold, repulsion, hovering and landing [17]. In its implementation, students are seen to be able to display good performance behavior from the interaction between individual constraints, tasks, and the environment during long jump learning. This process will clearly never be achieved by students, especially when students are still learning with conventional approaches [18]. The Teaching Games for Understanding model is seen as being able to provide effective long jump learning [19], [20], especially in improving students' metacognition and skills [9], [10], [11] and is expected to produce better and more enjoyable physical education learning [21]. The lack of research regarding long jump material using the Teaching Games for Understanding model especially in collaboration with the Tag-Games game, has made researchers interested in trying to explore and see what the results are in this long jump material.

### 1.2. Review Teaching Games for Understanding Model with Tag-Games

Specifically, research on the use of Teaching Games for Understanding using Tag-Games is still very rare. However, researchers are trying to review the use of Teaching Games for Understanding using Tag-Games. This Tag-Games game improves motor skills [22] and communication between students [23]. This happens because in its implementation students are involved in active tag game movements and always move dynamically, especially if group activities are added. This condition makes students enjoy playing tag games [23]. The use of the Teaching Games Model for Understanding which is collaborated with tag-games is considered as different knowledge with the same concept [24], where students gain new experiences in learning and can foster social aspects with their friends [25], [26]. This condition needs special attention from physical education teachers, because it is known that students who are accustomed to working or practicing together in groups will experience an increase in creativity in movement [27], self-confidence and concentration [28], independence, decision-making and interest in exercising [29]. The concept of Tag-games clearly needs to be changed so that it can be carried out safely by each student in the context of physical education learning [30]. The safety aspect in physical education learning needs to be considered by every physical education teacher, because students should be able to learn safely in the classroom. Another factor that is considered is the change in concept, especially in terms of the rules of the game [31], which will train students' response abilities in the context of their motor behavior [32]. In addition, it will also encourage effective tactical abilities from students supported by the development of cognitive, affective, social perspectives, and physical literacy abilities [33]. The use of Tag-Games

must be adjusted to the development and growth needs of students and in line with the school curriculum [34], [35] and be able to foster students to always participate actively [36] in learning to support Health Related Quality of Life [37].

## 2. Materials and Methods

This research aims to determine the impact of collaborating the Teaching Games for Understanding model with tag-games on learning long jump for elementary school students. This research was conducted at SDN Kotabaru, West Bekasi, Bekasi City. The method

used was an experiment using a randomized pretest-posttest control group design [38]. The population is 24 classes, with 520 students at SDN Kotabaru, West Bekasi, Bekasi. Samples were taken using the random sampling technique [38], and class 5D was selected with 52 students studying with the Teaching Games for Understanding model with tag-games and class 5B studying with the conventional model. The instrument used is the long jump test that (prefix, foothold, repulsion, hovering and landing) used modified Likert scale in its assessment, where the assessment categories are 5) excellent, 4) Good, 3) Fair, 2) Poor, and 1) very poor. The learning lesson can see in table 1.

**Table 1.** The long jump learning using Teaching Games for Understanding model with tag-games and Conventional

Teaching Games for Understanding model. with Tag Games Model	Lesson	Conventional Model
<ul style="list-style-type: none"> <li>Introduction.</li> <li>Teaching Games for Understanding model with tag-games.</li> <li>Explanation of Assessment Criteria in long jump material.</li> <li>Explanation of Student Role Rules.</li> </ul>	<b>1</b>	<ul style="list-style-type: none"> <li>Introduction to long jump material.</li> <li>Explanation of Assessment Criteria in long jump material.</li> </ul>
<ul style="list-style-type: none"> <li>Students warm up.</li> <li>Students play Tag Games by jumping 1 foot.</li> <li>Students play Tag Games by jumping 2 feet.</li> <li>Students learn long jump with prefix and focal point material using the Teaching Games for Understanding model.</li> </ul>	<b>2 - 4</b>	<ul style="list-style-type: none"> <li>Students warm up.</li> <li>Students do the core material with prefix and focal point in the long jump.</li> </ul>
<ul style="list-style-type: none"> <li>Students warm up.</li> <li>Students play Tag Games by jumping 1 foot.</li> <li>Students play Tag Games by jumping 2 feet.</li> <li>Students learn long jump with repulsion using the Teaching Games for Understanding model.</li> </ul>	<b>5 - 7</b>	<ul style="list-style-type: none"> <li>Students warm up.</li> <li>Students do the core material with repulsion in the long jump.</li> </ul>
<ul style="list-style-type: none"> <li>Students warm up.</li> <li>Students play Tag Games by jumping 1 foot.</li> <li>Students play Tag Games by jumping 2 feet.</li> <li>Students learn long jump using with floating in the air and landing material using the Teaching Games for Understanding model.</li> </ul>	<b>8 - 10</b>	<ul style="list-style-type: none"> <li>Students warm up.</li> <li>Students do the core material with floating in the air and landing in the long jump.</li> </ul>
<ul style="list-style-type: none"> <li>Students warm up.</li> <li>Students play Tag Games by jumping 1 foot.</li> <li>Students play Tag Games by jumping 2 feet.</li> <li>Students learn the long jump using material on a series of long jump movements (prefix, focal point, repulsion, floating in the air and landing) in long jump material using the Teaching Games for Understanding model.</li> </ul>	<b>11 - 13</b>	<ul style="list-style-type: none"> <li>Students warm up.</li> <li>Students carry out the core material for a series of long jump movements (prefix, focal point, repulsion, floating in the air and landing) in the long jump material in one series of movements.</li> </ul>
<ul style="list-style-type: none"> <li>Students warm up.</li> <li>Performing long jump.</li> <li>Strengthening Teaching Games for Understanding model with tag-games in long jump learning form the teacher.</li> </ul>	<b>14</b>	<ul style="list-style-type: none"> <li>Students warm up.</li> <li>Performing long jump.</li> <li>strengthening conventional model in long jump learning form the teacher.</li> </ul>

## 2.1. Procedure and Test

Some of the preparations were made by the author in this study. As a first step, the author conducted a preliminary survey at SDN Kotabaru, West Bekasi, Bekasi City, to see the problems that occurred. After that, communicate with the research team and ask permission from the principal of SDN Kotabaru, West Bekasi, Bekasi City, to conduct research and distribute ethical approval sheets to students. Consent is addressed to the students' parents, and parents must also give permission that within the period from January to April 2024, they will be included in this research. The students involved have obtained full consent, and all procedures were approved by the Jakarta State University ethics committee. The population is 24 classes, with 520 students at SDN Kotabaru, West Bekasi, Bekasi. Samples were taken using the random sampling technique [38], and classes 5D and 5B were determined with 26 students each. In practice, class 5D studying with Teaching Games for Understanding Model is in collaboration with Tag-Games and class 5B studying with the conventional model.

The next step is to prepare the long jump equipment because the instrument used is the long jump test. The next step is to carry out a pretest on the experimental and control groups before they are given treatment. After that, treatment was carried out in the experimental group, where students learned to use the Teaching Games for Understanding model with tag games given every Monday and Wednesday. Meanwhile, in the control group, students studied using the conventional model, which was given every Tuesday and Thursday. The treatment process was carried out in 14 meetings, with the duration of each meeting being 90 minutes. After the treatment is finished, a long jump posttest is carried out. The next step is for the author to carry out data processing and analysis.

## 2.2. The Data Analysis

Data was processed using Microsoft Office-Excel and IBM SPSS Statistics v.26 software. The next step is that the author provides scores, totals, averages, and standard deviations and makes graphic diagrams. After that, analyse the data, which includes normality and homogeneity tests. In the end, the author carried out an analysis to answer the hypothesis using the independent t test.

## 3. Result and Discussion

Below are presented the results of research carried out by researchers, further explanation can be seen as follows.

### 3.1. Characteristics of the Research Subjects

Based on Table 2, we can know some of the characteristics of the students who are the subject of this study divided it into male and female groups within each class. For the number of male and female participants, there are 26 members. The average age of all class was 13 years. The average height of the experimental 5D male is 1.42 meters, the experimental 5D female is 1.44 meters. While the control 5B male is 1.42 meters, the control 5B female is 1.39 meters. The average height of the experimental 5D male is 41.46 kg, the experimental 5D female is 43.00 kg. While the control 5B male is 40.62 kg, the control 5B female is 35.31. For the category of body mass index, the experimental 5.D male is 20.06 (Normal), the experimental 5.D female is 20.73 (Normal). While the control 5.B male is 20.00 (Normal), and the control 5.B female is 18.26 (Normal).

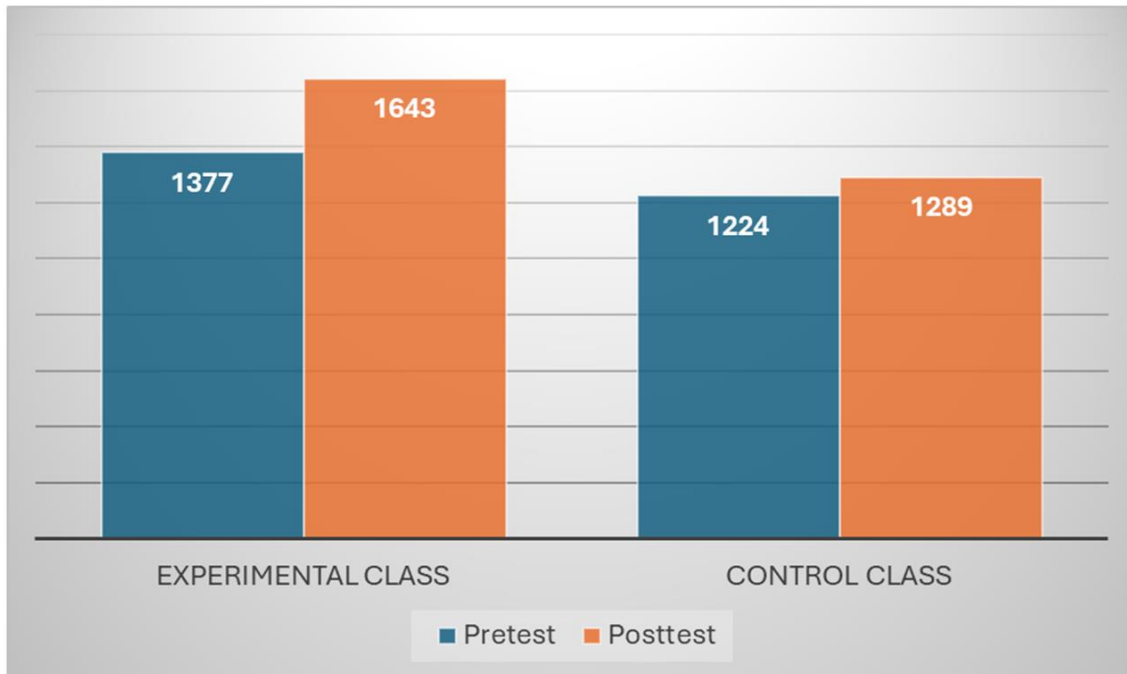
### 3.2. The Result of Long Jump Skills in Elementary School Students

Based on chart 1, the experimental group obtained a pretest score of 1377 and a posttest score of 1643, while the control group obtained a pretest score of 1224 and a posttest score of 1289. That means the experimental group learning long jump skills using the Teaching Games for Understanding Model with tag-games has a greater value than students learning with conventional models.

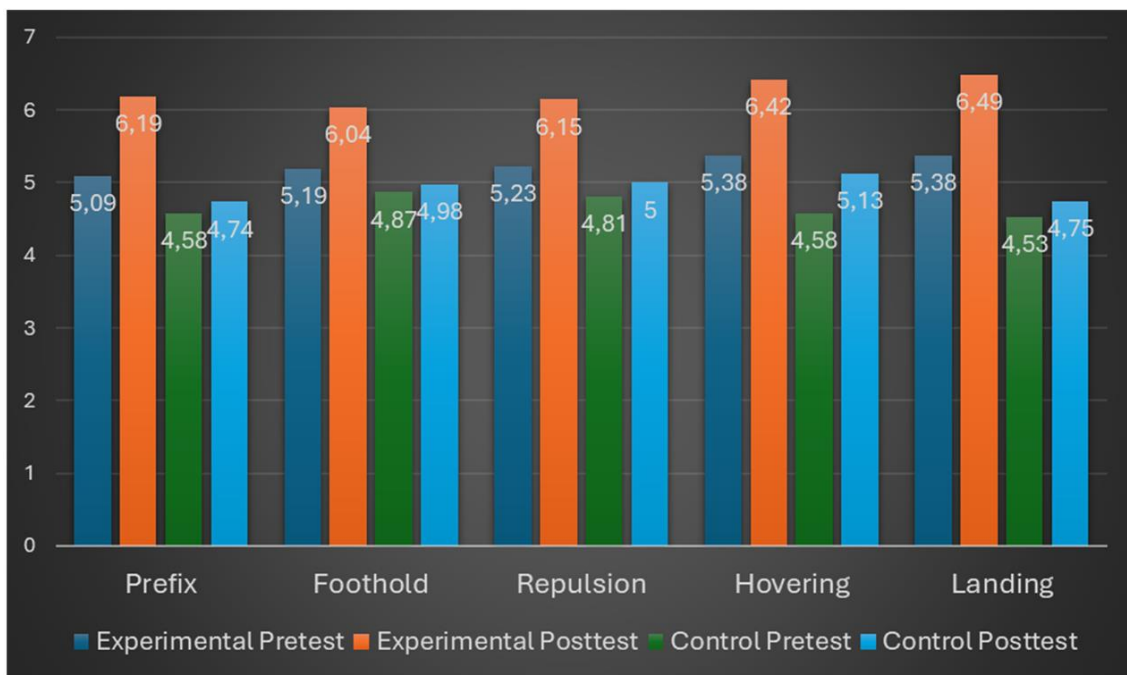
Based on chart 2, the experimental group obtained an average pretest score for the prefix phase (5.09), foothold phase (5.19), repulsion phase (5.23), hovering phase (5.38), and landing phase (5.38). The experimental group also obtained an average posttest score for the prefix phase (6.19), foothold phase (6.04), repulsion phase (6.15), hovering phase (6.42), and landing phase (6.49). In the experimental group, the average of the five components increased after being taught long jump using the Teaching Games for Understanding Model with tag-games. Meanwhile, the control group obtained an average pretest score for the prefix phase (4.58), foothold phase (4.87), repulsion phase (4.81), hovering phase (4.65), and landing phase (4.53). The control group also obtained an average posttest score for the prefix phase (4.74), foothold phase (4.98), repulsion phase (5.00), hovering phase (5.13), and landing phase (4.75). The results of the average for the control group who studied with the conventional model showed that the five components increased but were still lower than the experimental group who learned long jumps using the Teaching Games for Understanding Model with tag-games.

**Table 2.** Characteristics of the Research Subjects

Group	N	Age	Height	Weight	BMI
Experimental 5.D Male	26	13	1.42 m	41.46 Kg	20.06
Experimental 5.D Female	26	13	1.44 m	43.00 Kg	20.73
Control 5.B Male	26	13	1.42 m	40.62 Kg	20.00
Control 5.B Female	26	13	1.39 m	35.31 Kg	18.26



**Chart 1.** The Result of Long Jump in Elementary School Students



**Chart 2.** The Average results of Long Jump Skill in Elementary School Students

### 3.3. Normality and Homogeneity Test of the Long Jump Skill

Based on Table 3, the pretest experimental group obtained a statistical value of 0.093, Sig. 0.200, and the posttest obtained a statistical value of 0.084, Sig. 0.200. Whereas in the control group, the pretest obtained a statistical value of 0.093, Sig. 0.200, and the posttest obtained a statistical value of 0.089, Sig. 0.200. It can be concluded that the long jump skills scores of elementary school students in the experimental group and control group were normally distributed. From Table 3, the results of the Lavene test of long jump skills in elementary school students in the experimental and control classes obtained a statistical value of 25.945, Sig. 0.000. It can be concluded that the long jump skills scores of elementary school students in the experimental group and control group are homogeneous.

**Table 3.** Normality and Homogeneity Test

Normality Test	T	Sig. (2-tailed)
Experiment_Pretest	0.093	0.200
Experiment_Posttest	0.084	0.200
Control_Pretest	0.093	0.200
Control_Posttest	0.089	0.200
Homogeneity Test	T	Sig. (2-tailed)
Experiment >> Control	25.945	0.000

### 3.4. Paired and Independent t Test of the Long Jump Skill

Based on Table 4, it can be seen from the results of the paired test that the long jump skills of elementary school students in the experimental group obtained a statistical value of -18.989, Sig. 0.000. It can be concluded that there is an increase in long jump skills in elementary school students in the experimental group who learn long jump using the Teaching Games for Understanding Model with tag games. Meanwhile, the results of the paired test showed that the pleasure of student learning in the control class obtained a statistical value of -1.936, Sig. 0.058. It can be concluded that there is no increase in long jump skills in elementary school students in the control group who learn long jump using the conventional model.

**Table 4.** Paired and Independent t Test Results

Paired Test	T	Sig. (2-tailed)
Experiment Pretest >> Posttest	-18.989	0.000
Control Pretest >> Posttest	-1.936	0.058
Independent t Test	T	Sig. (2-tailed)
Experiment >> Control	17.622	0.000

Based on Table 4, it can be seen from the results of the

independent t test that the long jump skills of elementary school students obtained a statistical value of 17.622, Sig. 0.000. That means the experimental group who learned long jump using the Teaching Games for Understanding Model with tag-games had a better result than the control group who learned long jump using the conventional model.

### 3.5. Discussion

#### 3.5.1. There is an Influence of the Teaching Games for Understanding Model with Tag-games on Long Jump Skills in Elementary Schools

The long jump learning process using the Teaching Games for Understanding Model with Tag-Games Model makes students learn in a happy state while remaining focused on the complex long jump material. The important thing is that every child can be actively involved in learning, enthusiastic, and trying to make the best jumps possible. In their learning, students also seem to never give up being able to jump as far as possible. For example, Adam during the experiment in the first exercise still seemed to be having difficulties, but in the second meeting he was willing to ask the teacher about his deficiencies in the material, and Adam also seemed to always discuss things with his colleagues in learning if there was something he felt was still lacking. This is clearly a good achievement in learning long jump using the Teaching Games for Understanding Model with Tag-Games because every learning difficulty faced by students turns into a major strength for the students themselves to be able to change in a better direction in learning, and it is hoped that there will be an appropriate motor development level of need [39]. It needs to be realized that in learning the long jump, which is a complex movement, the teacher must be able to make the atmosphere fun but remain serious and active.

Apart from that, good planning is also needed so that learning can run optimally, where students are able to practice and show a high level of trust in their teacher. This increase in cognitive abilities clearly requires fluency in thinking, flexibility in seeing opportunities, high imaginative abilities, and accuracy in decision-making in the field. This condition also makes it clear that the main emphasis in this long jump material is that every student can be actively involved in every series of the learning process, while students also know about the knowledge of results and knowledge of performance [12] of the material.

#### 3.5.2. There is an Influence of the Teaching Games for Understanding Model with Tag-games on Long Jump Skills in Elementary Schools

Long jump learning uses a conventional model where the teacher always uses a command style; this is what is usually done. In the learning process, there are repetitions before students can do the actual long jump. For example,

Selly had to repeat the pushing movement several times because the teacher said she was still unable to do it. In the next material, the students study separately and independently, and when they can do it well, they join their friends in the next material. Even though the teacher's goal is for students to understand the material being presented, in another view, this condition will cause excessive anxiety, which can reduce students' creativity [40], [41]. This increased anxiety occurs because students are afraid of being criticized or ridiculed by their friends because they only learn from what the teacher exemplifies. Clearly, this is not a desirable creative process because students just wait their turn and create a high dependency on the teacher's role. This limits students' ability to make decisions and creates a lack of courage to try.

Another view has also been expressed that repetition of these exercises is not necessarily the most effective way to improve technical skills because of the passivity that is generated in children, either by repeating a series of exercises without understanding their true meaning or by the teacher's explanations and demonstrations. It needs to be understood that in the training process, a balance must be achieved between skills and the challenges felt by students. This needs to get more attention because if left unchecked, it will make students lazy in studying physical education and reduce HRQoL [42], [43] which makes students lazy to exercise.

### 3.5.3. The Teaching Games for Understanding Model with Tag-Games Gives Better Influence on Long Jump Skills in Elementary Schools

Long jump learning using the Teaching Games for Understanding Model with tag-games is an appropriate and planned way to ensure that the learning process provided provides high benefits for students. The learning process is fun because there are games at the start of the lesson and the packaging of long jump material with the Teaching Games for Understanding Model. This model gives its own approach to the learning. In this condition, students not only learn happily, but they are always actively involved in challenging learning to obtain better results [44] compared to using conventional models. When implementing the Teaching Games for Understanding Model with tag-game learning, it is not uncommon for students to experience problems, but students can overcome this smoothly so that they gain new knowledge and movement skills that physical education teachers hope will emerge in their learning. This is the situation that teachers hope for in the 21<sup>st</sup> century, where students must be able to adapt to unexpected situations and stimulate enthusiasm so that students get used to doing other physical activities in the future [4].

Physical education learning using the conventional model, whether we realize it or not, can influence feelings and thought processes. This happens because of the students' negative psychological conditions, which can produce poor results [44]. This situation was reflected in

one of the male students, namely Ilham Jaya, who seemed hopeless in learning to long jump about flying and landing. Ilham repeatedly got poor results because his landing position was falling backwards, which made his jump results not good. This lack of critical thinking skills is reflected because, in practice, Ilham Jaya always relies on evaluations from teachers. This condition is clearly different from Adinda, who studied with the Teaching Games for Understanding Model with Tag-Games. In practice, Adinda also experienced the same difficulty because her landing position was not good. In this condition, Adinda seemed more able to think about solving her own problems by discussing them with her friends, and it was seen that after the discussion, Adinda asked the teacher about her problems. In this position, the teacher only gives good landing clues, and Adinda immediately practices them with the help of her colleague's observations to correct her movements. This is a picture that arises when using the Teaching Games for Understanding Model with tag-games, and the author does not find it in learning with conventional models. Students would never have looked like that before, the teacher explained to researchers. The use of the Teaching Games for Understanding Model with tag-games is clearly needed in long jump learning because the learning is fun, whether you realize it or not. It will make it easier to achieve the goals set by the physical education teacher [45] and make students able to solve problems independently. In its application in physical education classes, apart from good knowledge about the Teaching Games for Understanding Model with Tag-Games applied, teachers also need to pay attention to good classroom management [46], because this will help increase student involvement in class and will make it easier. Students concentrate when studying so that learning objectives can be achieved well.

## 4. Conclusions

The long jump learning using the Teaching Games for Understanding Model with Tag-Games is an appropriate and planned way to ensure that the learning process provided provides high benefits for students. Physical education learning using conventional models, whether we realize it or not, can influence feelings and thought processes. This happens because of the negative psychological condition of students, which can produce poor results, and some students may become discouraged. The learning process is fun because there are games at the start of the lesson and the packaging of long jump material with the Teaching Games for Understanding Model. This model gives its own approach to the learning. Students not only learn happily but are always actively involved in challenging learning to obtain better results. This is clearly needed in long jump learning because learning is fun, and students concentrate when studying so that learning objectives can be achieved well. For future

research, the Teaching Games for Understanding Model with Tag-Games needs to be tried in students' favorites sports such as badminton, football, basketball, or volleyball to get an idea of the strengths and weaknesses that may arise in its implementation.

#### 4.1. Limitations and Future Directions

The research that we have conducted has several limitations that can motivate similar research in the future.

First, in this study, the Teaching Games for Understanding Model was used by considering the aspects suggested by the original syntax [47]. The reason for collaborating with tag-games is as a means of supporting simple games in the long jump material. This needs to be understood because it is very difficult for the author to determine a fun game for students in this long jump material.

Second, in determining the type of sport used, namely the long jump itself, it is because every school in Indonesia already has facilities for long jump and most of them are not used. Through this study, we assume that if students learn long jump using the Teaching Games for Understanding Model which is collaborated with tag-games, it will increase students' chances of mastering the material and will later be proven by a long jump test in the area at school. The indirect impact is that the long jump facilities at school will be actively used by teachers and students to learn and hopefully can be maintained.

Third, related to the age of the sample in this study, which was conducted in grade 5 of elementary school, most of whom were 13 years old. This is our initial research in using the Teaching Games for Understanding Model in collaboration with tag-games, which in the following year we will clearly also see at different age levels. We really need this condition because to see how the real picture of the Teaching Games for Understanding Model application is collaborated with tag-games and the benefits of learning at each age level and different levels of education. In addition, it needs to be understood that the process of determining the class from the school, we are only allowed to conduct research in grade 5 only. Fourth, in-depth and structured research by comparing it with other learning models is very necessary. Especially research involving aspects of attitudes such as discipline, self-regulation, self-expression can be tried in sports such as badminton, football, basketball, or volleyball using other techniques needed, so that the results can be more accurate. In our point of view, this in-depth research is very interesting, and we have certain limitations, especially the problem of the availability of supporting facilities and infrastructure. It should be noted that in Indonesia not all schools have adequate facilities and not all schools allow research to be carried out on their students.

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## Ethic Committee

This research followed ethical standards and received approval from the Institutional Review Board of Universitas Negeri Jakarta, Indonesia with reference number (Protocol code NO:517/UN39.14/PT.01.05/VI/2024 and date of approval June 10, 2024).

## Conflict of Interest

The author declares that there is no conflict of this article.

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