

THE EFFECT OF THE TEAM GAMES TOURNAMENT MODEL WITH THE TRADITIONAL GAME MEDIA TO TRAIN CRITICAL THINKING ABILITY IN ELEMENTARY SCHOOL STUDENTS

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Abstract: This study aims to determine the effect of the team games tournament (TGT) learning model with the coglak media of areca nut as a traditional game to train the critical thinking skills of the fifth-grade school students in science learning. This research is quantitative research. The one group pretest-posttest design was applied in this study. The sample in this study were the fifth-grade students at SDN Imppres Mawu in academic year 2020/2021. The instrument used is a test using essay questions adapted to critical thinking indicators—data analysis using technical analysis of N-Gain test data. N-Gain test is used to calculate students' critical thinking skills. Training students' critical thinking skills obtained an average N-Gain value of 0.32 with a medium category level. In conclusion, there is an influence on the team's games tournament model with the coglak media of areca nut as a traditional game to train students' critical thinking skills to be applied to help train students' critical thinking skills.

Keywords: *Teams Games Tournament Model, Media Coglak Biji Pinang, Traditional Games, Critical Thinking Ability.*

INTRODUCTION

Generally, traditional games are influenced by geographic location and local culture, and Bima conventional games in West Nusa Tenggara are very isolated [1]. The majority of students are introduced to games that use modern technology, such as online games that are easily accessible at any time, making students lazy to move, lazy to interact, and tend to create a virtual world as a place to play. It causes students' learning motivation to be very low. The low motivation of students causes students to be lazy to learn and impacts the ability of minimal high-level thinking patterns. In addition, students' ability to describe a statement based on their understanding is difficult. In the end, it impacts students' explanation abilities which are still very low.

The survey results of the Indonesian Internet Service Providers Association (APJII) in 2016 showed that of the 256.2 million Indonesian population, more than half (132.7 million) people use the internet; 7.8% of students and 6.3% of high school students [2]. In addition, another phenomenon found by the researcher is that the teaching and learning process at the elementary school level currently still tends to be teacher-centered, which is characterized by the use of conventional learning models with the lecture method that teachers still conduct. As a result, students find it challenging to understand the teacher's explanation, do not record the information conveyed, and are unable to analyze the material presented by the teacher with their abilities.

Based on the problems above, researchers are motivated to use a creative and innovative learning model to improve students' critical thinking skills in the learning process. Congklak areca nut media is the

researcher's choice to be used as learning media. Congklak media is, commonly abbreviated as CBP was chosen because the nut is easy to find in the research area (Wera, Bima District, West Nusa Tenggara). The potential for the nut in the place is very large, even to the point of becoming waste, and is expected to become an exciting learning media; besides, it can also increase the local wisdom of the area. This media has previously been widely developed for traditional games. However, its use as a learning medium in the teaching and learning process is still minimal, mainly if it is associated with the concept of subject matter. To increase learning motivation at the elementary level and foster high curiosity. It is necessary to conduct an exciting and creative teaching and learning process, one of which can be through learning methods of meaningful games. When a significant learning process has grown, students will easily be trained to develop their ability to think critically. This media aims at training students' critical thinking skills during the learning process.

21st-century learning is focused on developing student-centered abilities to develop higher-order thinking skills, one of which is critical thinking. Therefore, the teacher's role in the learning process is very important to actively involve students in understanding a concept, analyzing and solving a problem, and transferring what they have learned as a meaningful experience to apply their knowledge in everyday life [3].

Critical thinking is the thinking process to process the knowledge obtained in an organized manner by criticizing, selecting, solving a problem, making a decision, evaluating the existence of facts or assumptions, and logic with rational and

accountable reasons. The low level of students' critical thinking skills is caused by applying learning models that are less innovative and not student-centered. Thus, an innovative learning model is needed to make students active and grow their critical thinking skills. One of the learning models that can make this happen is the Teams Games Tournament (TGT) type cooperative learning model [4].

The TGT learning model aims to motivate students to support and help each other in mastering the abilities taught by the teacher, in which each team member gets a score [5]. The TGT learning model is a type of cooperative learning that places students in study groups of 4 to 5 students who have different abilities, gender, ethnicity, or race [6]. The TGT learning model is also one of the learning models that makes students more active in the learning process because they are required to compete in groups in answering as many questions as possible and, of course, with the correct answers [7].

Applying the TGT learning model can make students collaborate and motivate each other with different abilities. Students can be more interested, not easily give up, and always follow and complete tasks during the learning process [8]. In addition, all students are actively involved in learning and can foster a sense of togetherness and mutual respect for fellow group members [9]. This learning model is very suitable if applied to classes that have heterogeneous abilities because students with less ability will be assisted by students who have better abilities during group work [10]. Students will enjoy the learning and understand the material presented by the teacher more easily. Thus, the application of the TGT learning model in the classroom positively impacts training students' critical thinking skills, and the TGT learning model has also proven to be more effective in improving students' critical thinking skills [11, 12].

RESEARCH METHODS

The type of this research is pre-experimental with one group pretest-posttest design. The research population were all fifth-grade students of Mawu Dalam Elementary School, Wera, Bima Regency of the academic year 2020/2021 with purposive sampling technique. The sample used was all students of class V with a total of 16 people.

Table 1. Experimental method research design

Group	Pretest	Treatment	Posttest
SD X	O ₁	X ₁	O ₂

Notes:

- O₁ = Pretest results on experimental class units at School
- O₂ = Posttest results on experimental class units at School

X₁ = Treatment using *Congklak* betel nut as a traditional game through TGT learning model

The effectiveness test used the N-Gain test.

$$g = \frac{S_{posttest} - S_{pretest}}{S_{maksimum} - S_{pretest}}$$

Notes:

- g = N-Gain
- S *pre-test* = pretest score
- S *post-test* = posttest score
- S *maximum* = maximum score(ideal)

The results of the normalized gain scores were divided into three modified categories [13,14]. These categories are shown in Table 2.

Table 2. Normalized Gain Criteria

Percentage	Criteria
$g < 0,3$	No Effective
$0,7 > g \geq 0,3$	Effective
$g \geq 0,7$	Very Effective

RESULTS AND DISCUSSION

This study aims at determining the effect of the TGT learning model with the media of areca nut *Congklak* as a traditional game to train critical thinking skills of elementary school students. There were lots of previous studies that developed this media as a learning medium, but the difference lies in the innovation that is based on local wisdom to increase it in today's era and is more specific to see the influence of the media through the learning model of play in training students' critical thinking skills. *Congklak* is a traditional game known by various names throughout Indonesia. In playing *Congklak*, a type of clam shell is usually used as *Congklak* seeds and if not available, seeds from plants and small stones can be used as an alternative. However, the *Congklak* seeds used in this study were areca nut seeds, while the *Congklak* was made from colored painted coconut shells, because betel nut and coconut shells were the most potential in the area. Picture of areca nut *Congklak* media can be seen below.



Figure 1. areca nut *Congklak* media

In this study, the total population that was directly used as the research sample was 16 students. The small number of samples was caused by field conditions which included underdeveloped areas and lack of interest in learning, thus, the number of

students at each grade level was very small. It is a quantitative research that uses instrument test validation. This study uses One Group Pretest Posttest Design where there is a pretest before being given treatment to determine the initial state, and a posttest to determine the effect of the treatment in training students' critical thinking skills.

The data in this study used a description test instrument. The research data were obtained from the pretest and posttest scores of students' cognitive abilities. The pretest and posttest scores are declared complete if they meet the minimum completeness criteria of 70. The calculation of the pretest and posttest scores has different results. Data on learning outcomes for the pretest and posttest scores of the fifth-grade students of SDN Impres Mawu in the academic year 2020/2021 can be seen in the following table:

Table 3. Pretest and Posttest Results Data

Description	pretest	posttest
Highest score	70	90
Lowest score	40	70
Average	57,5	71,5
Students passed	1	16

There are differences in the results of the pretest and posttest in the lowest score, the highest score, the average grade and the number of students who completed the pretest and posttest. In the pretest the lowest value was 40 and the highest score was 70, while the posttest obtained the lowest score of 70 and the highest score of 90. The average value of the pretest was 57.5 and after being given treatment using the TGT learning model with the *Congklak* areca nut media as a traditional game the average value of the posttest was 71.5.

Based on table 3, there is an increase in the value from pretest to posttest before being given treatment and after being given treatment. The value used as the final data in the study is the posttest value. This reflects that the higher the results obtained by students in evaluation activities, the better student knowledge is, and vice versa, the low learning outcomes indicate low student knowledge. Learning outcomes are the most reliable indicator of the quality of education, especially for the achievement of the objectives of the activity [15-17].

Analysis of students' critical thinking abilities seen from the observations during the learning process and cognitive test results using the following aspects: (1) analyzing skills, (2) recognizing and solving problems, and (3) evaluating or assessing skills. From these three aspects, it can be seen that students' critical thinking skills are classified as high,

medium, and low, and can also be seen according to the N-Gain classification. The following is a table of students' critical thinking skills:

Table 4. Percentage of Students' Critical Thinking Skill

Classification	Number of Students	Percentage
High	7	44 %
Average	5	31%
Low	4	25%

Table 4 shows that of the 16 students, there are 7 students who have high critical thinking skill, 5 students have moderate critical thinking skill, and 4 students have low critical thinking skill. If measured by using the calculation of the N-Gain classification, the students' critical thinking skills after being given treatment were 44% high, 31% moderate and 25% low. The percentage of critical thinking skills of fifth-grade students of SDN Impres Mawu Dalam can be seen in the following diagram.

The data on students' critical thinking skills in table 4 is the result of observations during the learning process where students are given *Congklak* areca nut media games through the TGT learning model. These games can have an effect on learning because students are happy in terms of playing. Critical thinking ability is also influenced by several aspects: analyzing, recognizing, solving problems, and evaluating or assessing skills.

Table 5. students' overall critical thinking skills

	Pretest Score	Posttest Score	N-Gain Value	Category
Total	920	1, 145	0,32	Average
Average	57,5	71,5		

The results in training students' critical thinking skills obtained an average N-Gain value of 0.32 with a medium category. This shows the influence of the TGT learning model with the *Congklak* seed areca nut media as a traditional game in training students' critical thinking skills. So, it can be applied to help train students' critical thinking skills, especially in subjects that are considered difficult such as Science. The development of students' social interactions through the *Congklak* game shows a high enthusiasm in learning and helps them interact with other students. *Congklak* games make students able to

express themselves, be more confident, train and improve their social skills so they can form their empathy and sympathy[18].

The application of a model and the use of a media in providing a subject matter determine the success of the learning process, especially the activeness of students when receiving learning materials. The use of learning media at the elementary school level is an important part that teachers must pay attention to, because the input of students at the elementary school level is limited, especially in understanding abstract material. [19,20].

CONCLUSION

Based on the results and discussion, an N-gain was obtained of 0.32 in the medium category. It can be concluded that there is an influence on the Teams Games Tournament learning model with the Congklak areca nut media as a traditional game to train students' critical thinking skills. Especially in learning Science for fifth-grade elementary school students of SDN Impres Mawu Dalam.

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