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Increasing Students' Critical Thinking Ability with the Teams Games Tournament (TGT) Learning Model

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Abstract
This inquire about points to survey Increasing Students' Critical Thinking Ability with the Teams Games Tournament (TGT) Learning Model in lesson VII understudies at MTs Tarbiyah Islamiyah Ulumahuam. Employing a quantitative approach with a pre-experimental inquire about plan of the One Gather Pretest-Posttest sort, this inquire about included 27 understudies as a test from the lesson VII populace. Based on information investigation, the normal pretest score gotten was 38.00, whereas in treatment, the posttest score experienced a critical increment with an normal of 85.33. The measurable test comes about appear a t-count esteem of 5.55 which is more noteworthy than the t-table of 2.04 at a importance level of 0.01, expressing that there's a critical impact of the TGT demonstrate on students' numerical issue understanding capacities. This is often reflected within the relapse coefficient of 0.81 and the t-count which come to 5.55, more prominent than the t-table of 2.04, with a centrality level of 0.00 < 0.05. Separated from that, the comes about of the ordinariness test utilizing the One-Sample Kolmogorov-Smirnov Test appear the Asymp esteem. Sig. (2-tailed) 0.056, which is more noteworthy than 0.05, showing that the information takes after a typical dissemination, supporting the legitimacy of advance examination.

Keywords: Mathematical Critical Thinking Ability, Teams Games Tournament (TGT) Model.

1. Introduction

Critical thinking ability is an ability and the disposition to critically evaluate a belief or beliefs, what assumptions they are based on and on what basis view of life in which these assumptions lie (Tilaar, 2020). Education has a significant contribution in building quality human resources that are able to compete. Through the educational process, a person not only obtains information, but also hones skills, attitudes and values that are important for facing various challenges in life. A good education system is able to produce a generation that is creative, innovative and has critical thinking (Heryadi, 2021). Apart from that, education is also an important means of creating social equality, opening up economic opportunities, and improving the quality of life of society as a whole. However, education still faces various complex problems. One of the main issues is

inequality in access to education, especially in remote and less developed areas. Many children cannot enjoy adequate educational facilities due to economic limitations, infrastructure or the availability of teaching staff. Apart from that, the quality of education is also often in the spotlight, where irrelevant curricula and monotonous teaching methods cause students' low interest in learning. To overcome this problem, cooperation is needed between the government, society and the business sector in creating an education system that is inclusive, high quality and relevant to the needs of the times (Sholihah & Mahmudi, 2015).

Arithmetic may be a science that makes a difference depict and clarify circumstances and conditions by utilizing theoretical, optimistic and common concepts in tackling issues (Situmorang, 2017). Tackling scientific issues requires different instructing approaches from a instructor so that they can be connected successfully within the learning handle. The utilize of innovative learning strategies could be a appropriate choice for instructors and understudies to confront the advancement of instruction that prioritizes quality (Muttaqien, 2021) Since of its significance, understudies are anticipated to have a great understanding of arithmetic subjects. Agreeing to Cokraft (Kusmanto and Marliyana, 2014), the significance of science instruction lies within the reliable utilize of mathematics education in way of, life the require for pertinent arithmetic abilities in different ranges of learning, and the require for education arrangements from science.

According to Rohmah & Payito (2024), the ability to think critically in mathematics is an important skill for each understudy to back the learning prepare and unravel different numerical issues. In everyday life, individuals are often required to hone critical thinking skills to be able to face challenges and find solutions effectively and efficiently (Rohmah & Prayito, 2024).

Learning media can stimulate students' interest, motivate them to learn, and create new desires in the learning process (Critical, 2024). Games can be an effective means of increasing student interest and motivation in learning. Just like games, critical thinking requires understanding, strategy, focus, and creativity, all of which can be trained to hone critical thinking skills gradually. From this explanation, it can be seen that games have a close relationship with learning achievement and the development of critical thinking skill (Widyadhari, 2024).

Based on the depiction of the issue, the analyst considers it imperative to conduct investigate on students' basic considering capacities through the application of the TGT (Groups Recreations Competition) learning show, which is considered important to the conditions and needs at MTs Tarbiyah Islamiyah Ulumahuam. In development, amid address and reply sessions between instructors and understudies, understudies can reply but are not able to clarify in a coherent way the issues they are confronting, so their basic considering aptitudes in understanding issues are still constrained. Understudies moreover appear trouble in developing viable welcome sentences in composing. Subsequently, inquire about with the title “Increasing Students' Critical Thinking Ability with the Teams Games Tournament (TGT) Learning Model”is considered essential to carry out.

2. Methods

This research was carried out on class VII students at MTs Tarbiyah Islamiyah Ulumahuam with the aim of assessing the impact of using the Teams Games-Tournaments (TGT) learning model on students' critical mathematical thinking skills. This study applies a quantitative approach with a quasi-experiment design to analyze the impact of certain treatments on learning outcomes (Muh.Haikal Nur Fikri, 2024). The research design adopted a pretest and posttest model to compare students' abilities before and after being given treatment (Sumardi, 2024). The tool used in this research is a test to measure critical thinking skills in mathematics consisting of 20 essay questions. The test taken comprised of lesson VII A understudies at MTs Tarbiyah Islamiyah Ulumahuam, Statistical tests in this study used SPSS 17 new version by searching for the ANOVA test to draw conclusions

This research data processing can be done in SPSS version 17 or through manual calculations as explained below.

1) Average value (mean) is a statistical measure commonly used to describe central values, and the concept is similar to the average taught in schools (Kambey, 2021).
2) Median is a number that separates data into two parts that have an equal number of elements (Munir, 2021).
3) Fluctuation and standard deviation are two measures that are frequently utilized to degree information conveyance, where fluctuation is the square of the standard deviation, whereas standard deviation is the square root of the change (Pratasik, 2021).
4) The lowest and highest scores refer to the lowest and highest scores possessed by that group.

- When $\alpha = 0.05 \geq$ Sig, Therefore, is Ho is not accepted and Ha is accepted.
- When $\alpha = 0.05 <$ Sig, Therefore, Ho is accepted and Ha is not accepted.

Ha is Alternative hypothesis which states that there is a significant difference or relationship, Ho is The null hypothesis states there is no significant difference or relationship.

Before treatment is given, students will take a pretest to measure their initial level of ability. After the treatment, students will be given a posttest with the same number of questions, namely 10 questions, and the time used is also similar. The distinction in scores between the pretest and posttest will be the most marker to evaluate the degree to which students' issue tackling capacities have made strides after being given treatment.

From the portrayal over, the inquire about plan can be portrayed as takes after:

Table 1 Research Design

Class	Pretest	Treatment	*Posttest*
Experiment	$O1_E$	X	$O2_E$

Source: Modification Setyosari, 2013: 186

Data :
O1E :Test course pretest comes about
X : Learning that centers on issue fathoming
O2E : Exploratory lesson posttest comes about

3. Result and Discussion

Results

Based on observations and research findings at the location, further data analysis was carried out to test the results obtained.

3.1. Analysis of Trial Results Data

The investigate test trial was carried out on October 20 2024 at MTs Tarbiyah Islamiyah Ulumahuam, particularly in lesson VII. The instrument test was carried out on lesson VII understudies since they as of now caught on the fabric on including positive integrability to positive numbers, which had already been instructed in lesson VI. The variety in capacities of understudies in lesson VII is considered comparable to understudies in lesson VI, so the test comes about stay pertinent. The exam schedule is kept confidential so that students do not find out about it during class VI learning. This test trial incorporates testing the unwavering quality of the questions, the trouble level of the questions, the in general unwavering quality of the test, and the separating control of each address thing.

3.1.1. Normality Test

In this study, data is analyzed to evaluate whether the distribution follows a normal pattern. The normality test is carried out if sig > 0.05 then it is assumed to be normal and if sig < 0.05 it is assumed to be abnormal. This process was carried out with a sample of 27 and the results are presented in table 1.

Table 1 Normality Test

		Unstandardized Residual
N		27
Normal Parameters[a,b]	Mean	0E-7
	Std. Deviation	9.87618605

The Most Drastic Difference	Absolute	.24
	Positive	.24
	Negative	-.15
Kolmogorov-Smirnov Z		1.33
Asymp. Sig. (2-tailed)		.056
a. The test distribution is Normal.		
b. Obtained based on data information.		

The comes about of the One-Sample Kolmogorov-Smirnov Test appear the Asymp esteem. Sig. (2-tailed) 0.056 > 0.05, which indicates that the distribution of residual data in the Teams Games-Tournaments (TGT) learning model follows a normal distribution pattern. Therefore, the assumption of normality is acceptable, which allows for further statistical analyzes with a sufficient degree of validity. This is different from other research which found a significance value of 0.02, lower than 0.05. These findings indicate that the residual data is not normally distributed, so the assumption of normality is not met, and a non-parametric analysis approach or data transformation is needed to obtain valid results (Amni, 2020).

3.1.2. Simple Regression

Straightforward straight relapse is connected to survey the affect of one free variable on the subordinate variable. This strategy is utilized to get it the relationship between the two factors, where the autonomous variable acts as a figure that impacts changes within the subordinate variable which is displayed in table 2.

Table 2 ANOVA

Model		Non-Standard Coefficients		Normal Coefficient	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	54.31	5.87		9.24	.00
	Teams Games-Tournaments (TGT)	.81	.14	.724	5.55	.00
a. Dependent Variable: Mathematical Thinking Ability						

The comes about of the relapse examination uncover that the application of the Groups Games-Tournaments (TGT) show contains a critical affect considering capacities. The recorded relapse coefficient was 0.81 with a t-count of 5.55, which was more prominent than the t-table, and a noteworthiness esteem of 0.00. The constant value of 54.31 reflects students' basic abilities without implementing TGT, while every additional 1 unit of TGT. This shows that the TGT model is very effective in helping students solve mathematical problems with a more critical approach. This research is different from other studies which show that the application of the TGT type cooperative learning model supported by online game media does not produce a significant increase in students' conceptual understanding and mathematical reasoning abilities, when compared to traditional learning methods. This shows that the effectiveness of the TGT model can vary depending on the context and way of implementation (Nurbaiti, 2021).

4. Conclusion

Based on almost complete disclosure, the Bunches Games-Tournaments (TGT) learning illustration shows a very important influence on students' critical thinking abilities. This is reflected in the relapse coefficient of 0.81 and tcount of 5.55, more prominent than the ttable of 2.04, with a centrality level of 0.00 <0.05. Apart from that, a normality test was also carried out using the One-Sample Kolmogorov-Smirnov Test to determine the Asymp value. signature. (2-tailed) 0.056, which is more important than 0.05, indicates that the information follows the usual spread, supporting the legitimacy of the initial check.

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