The Influence of the Cooperative Learning Model Type of Teams Games Tournaments (TGT) with the Tournament Table Game on Students' Critical Thinking Abilities

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A R T I C L E I N F O

A B S T R A C T

This study was to determine differences in critical thinking skills between students in the experimental class who took part in learning using the Teams Games Tournament (TGT) cooperative learning model and students in the class who took part in learning using the lecture control learning method in class XI MIPA students at SMA Negeri 2 Kuningan and the increase. In this study the method used is Quasi Experiment. The results of testing the hypothesis show that there are differences in the post test thinking skills between students who take part in learning using the Team Games, Tournament (TGT) type cooperative learning model compared to the lecture method, and there are differences in increasing critical thinking skills between students who take part in learning using the type cooperative learning model Team Gamex Tournament (TGT) compared to the lecture method. This is because the value of Tcount (1.961 and 3.968) resulting from the hypothesis test is greater than t table (1.667). Therefore, the use of the Team Games Tournament (TGT) cooperative learning model can improve students' critical thinking skills.

INTRODUCTION

One of the life skills that need to be developed through the educational process is thinking skills. One's ability to succeed in life is often determined by their ability to think critically, especially when it comes to solving problems. Critical and creative thinking skills play a crucial role in preparing students to become effective problem solvers who can make well-informed and academically accountable decisions and conclusions (Ariyana, Pudjiastuti, Bestary, & Zamroni, 2018). Critical thinking is a thought process aimed at making rational decisions about what one believes or does. Therefore, critical thinking involves considering and evaluating information, ultimately enabling students to actively make decisions (Ennis, 1996: 12). Critical thinking is highly important for students because it allows them to systematically approach problems, face challenges in an organized manner, formulate innovative questions, and design original solutions (Johnson, 2010: 183).

Critical thinking is an ability that is not solely based on memorization but encourages students to construct their own knowledge in the form of hypotheses, observe cause-and-effect relationships, analyze and synthesize events, extract ideas from examples, and go further by developing new hypotheses based on existing facts. The critical thinking skills possessed by students are expected to consistently discover new things or solve problems that arise in everyday life. Critical thinking can also present a theory or solution when addressing a case, and these skills are necessary in the field of education. Therefore, critical thinking is an essential skill that should be possessed by a society to contribute to the advancement of a nation's civilization.

Based on the results of interviews with the respective teachers, it has been observed that there is a difference in students' critical thinking abilities during Economics lessons between social science (IPS) and science (MIPA) classes. This difference is attributed to the fact that Economics is an elective subject in MIPA classes, and the one-way teaching approach in these classes limits students' opportunities for discussion, making them more passive and less capable of exploring their critical thinking abilities. Students in these classes may struggle to think deeply and generate ideas without referring to books or notes. This indicates that students' critical thinking skills are still vulnerable and have not been optimally developed.To confirm the low level of students' critical thinking abilities, the researcher collaborated with the respective teacher to conduct a test on students' critical thinking abilities in economics, focusing on cognitive level C4 (Analytical Skills). The results obtained were as follows:

Table 1Test Results of Students' Critical Thinking Ability Grade XI Science (MIPA) – Elective Subject: Economics Odd Semester Academic Year 2022/2023

No.	Class	Number of Students	KKM	Number of Students' Scores			
				Below KKM		Above KKM	
				Total	Percentage (%)	Total	Percentage (%)
1	XI MIPA 5	36	75	23	63 %	13	37 %
2	XI MIPA 6	36	75	20	56 %	16	44 %
3	XI MIPA 7	36	75	26	72 %	10	28 %
Total		108		69	64 %	39	36 %

Based on the given situation, it is necessary to provide an alternative solution to address the issue by implementing engaging and innovative teaching methods. Efforts can be made to ensure that students develop critical thinking skills by selecting and applying appropriate teaching strategies, thus optimizing the learning process.The development of students' critical thinking abilities can be reflected in the learning outcomes achieved through effective and appropriate teaching methods. One alternative is to use the Cooperative Learning Model, specifically the Teams Games Tournament (TGT) method, to enhance critical thinking skills. Slavin (2005) mentions that the TGT method involves academic game tournaments where students compete representing their teams, with team members of similar academic performance competing against each other. Subsequently, the teacher delivers the lesson, and students engage in team thinking.

This approach is also supported by research conducted by Harahap (2020), which states that students' critical thinking abilities improve when using the Cooperative Learning Model, specifically the Teams Games Tournament (TGT), compared to those using conventional teaching methods. In TGT, students are actively engaged in games and competitions, and correct answers are rewarded, motivating their critical thinking skills.

The Cooperative Learning Model, specifically the Team Games Tournament (TGT) type, is an educational approach that can foster social attitudes among students. This cooperative learning model involves students working in small groups of 4-5 students together. These groups are heterogeneous and consist of a mix of high, low, and medium-ability students. After learning, students engage in an academic tournament. TGT is used for revising subjects before students take separate exams. This cooperative learning model was developed by Robert Slavin, dividing students into several small groups. This teaching technique combines group learning with group skills and encourages student activity as they are required to participate in solving academic tasks.

Based on the background mentioned above, the researcher is interested in conducting a study with the title **"The Influence of the Cooperative Learning**

Model, Teams Games Tournaments (TGT), with Tournament Table Games on Students' Critical Thinking Abilities."

LITERATURE REVIEW

Critical Thinking

The skill or ability to think critically is a necessity for everyone living in the 21st century, especially in the era of the fourth industrial revolution (Industry 4.0). Critical thinking is not about how much information a person possesses. In fact, even someone with an excellent memory and a vast knowledge of facts may not necessarily possess critical thinking skills. Critical thinking is a mindset that involves understanding the consequences of what they know (Vivian, 2022). Someone with this mindset will question various possibilities, leading to new solutions. Indirectly, critical thinking enables you to identify, argue, and solve problems simultaneously.

According to Demiral (2019), critical thinking is a skill that individuals need to have in every field. In the education process, problem-solving and critical thinking skills are essential outcomes. Just as in the educational process to develop critical thinking and problem-solving skills to acquire an attitude for competitive strategies and to broaden their perspectives. Critical thinking is the process of sequentially interpreting and evaluating existing information to fully understand an issue before making a decision about it.

Based on the definitions above, critical thinking is the activity of analyzing ideas or concepts towards a more specific direction, sharply distinguishing, selecting, identifying, examining, and refining them towards greater perfection. This mental process analyzes ideas and information obtained from observations, experiences, common sense, or communication.

Characteristics of Critical Thinking

Critical thinking possesses several characteristics, and an individual who engages in critical thinking pays attention to specific characteristics of critical thinking. According to Hasanudin, as cited in Thabroni (2022), a critical thinker exhibits several characteristics, including:

1. Raising important questions and issues, formulating them clearly and precisely.
2. Gathering and assessing relevant information, using abstract ideas to interpret it effectively.
3. Drawing conclusions and solutions with strong reasoning, strong evidence, and testing them using relevant criteria and standards.
4. Thinking openly by employing various alternative systems of thought while recognizing, evaluating, and seeking relationships between all assumptions and practical implications.
5. Being able to overcome confusion, distinguishing between facts, theories, opinions, and beliefs.

Based on the explanations above, it can be concluded that an individual with critical thinking skills possesses these characteristics, as evident from the provided description.

Model of Learning

A learning model essentially represents the form of learning that is outlined from the beginning to the end and is presented in a distinctive way by the teacher. According to Isjoni (2010), understanding learning models is essential for teachers to effectively conduct teaching and improve learning outcomes. In its implementation, learning models should be tailored to students' needs because each learning model has different objectives, principles, and main emphases.

A learning model is also defined by Istarani (2012) as "the entire presentation framework of teaching materials that encompasses all aspects before, during, and after the teaching process carried out by the teacher, as well as all related facilities used directly or indirectly in the teaching and learning process. In addition to serving as a guide in determining the steps of teaching, learning models also provide teachers with insights into the resources and infrastructure that can be used during the teaching and learning process."

Based on the expert opinions mentioned above, it can be concluded that a learning model is a systematic approach or technique for teaching that is carried out from the beginning to the end of the learning process. It serves as a guide for teachers in planning and conducting learning activities with the aim of achieving the learning objectives.

Definition of Cooperative Learning Model

Cooperative learning is a teaching model conducted by grouping students. According to Slavin (2007), "cooperative learning encourages students to interact actively and positively in groups, allowing the exchange of ideas in a comfortable atmosphere in line with the philosophy of constructivism."

Cooperative learning is a teaching model where students learn and work collaboratively in small groups consisting of four to five students with a heterogeneous group structure. Heterogeneity in this context refers to a group structure that encompasses differences in academic abilities, gender, race, and possibly even ethnicity. This approach is implemented to train students to accept differences and collaborate with peers from diverse backgrounds (Nurdyansyah & Fahyuni, 2016).

Cooperative learning is a teaching model that has recently garnered attention and has even been recommended by education experts due to its aim to enhance the quality of the learning process and outcomes. Cooperative learning employs a small group/team system, with groups of four to six individuals from different academic backgrounds, genders, races, or ethnicities (heterogeneous). Cooperative Learning, or Cooperative Learning, is a learning and teaching method or strategy that emphasizes collective attitudes or behaviors in working together. In other words, learning is conducted by creating small groups with 2-5 students each, aimed at motivating and helping each other to achieve goals to the fullest extent (Syahfnidawaty, 2020).

Syntax of Cooperative Learning Model

Cooperative learning allows students to work together and actively participate. The teacher serves as a mediator and guide who directs each student toward correct knowledge. As seen in the syntax of the cooperative learning model below:

Table 2 Syntax of Cooperative Learning Model

Phase	Indicator	Teacher's Activity
1	Conveying objectives and motivating students	Educators communicate the learning objectives (competency standards) they want to achieve in the lesson and motivate students to learn.
2	Presenting Information	Educators present information to students through demonstrations or reading materials.
3	Organizing students into learning groups	Educators explain to students how to form learning groups and assist each group in making efficient changes.
4	Guiding groups to work and learn	Educators guide learning groups as they work on tasks involving cooperative skills.
5	Evaluation	Educators evaluate the learning outcomes related to the material that has been
6	Providing rewards	Educators provide ways to appreciate both individual and group efforts and learning outcomes

Elements of the Cooperative Learning Model

In cooperative learning, learning doesn't have to be transferred solely from the teacher to the students; rather, students can teach others who share the same mindset. Roger and David Johnson, as cited in (Nurdyansyah & Fahyuni, 2016), state that "not all group learning can be considered cooperative learning. To achieve optimal results," there are five fundamental elements in the cooperative learning model that should be implemented, as follows:

1. Positive Interdependence Principle: This principle believes that success in completing tasks depends on the efforts made by the group. Therefore, all group members will experience interdependence.
2. Individual Accountability: The success of the group heavily relies on the efforts of each member. As a result, each group member has tasks and responsibilities within the group.
3. Face-To-Face Promotive Interaction: During face-to-face interactions, students within the group have the opportunity to discuss, share, and receive information from other group members. This interaction activity creates beneficial synergy for all group members.
4. Interpersonal Skills: Communication among group members or social skills is a key aspect of student activities to get to know and trust each other, communicate accurately and unpretentiously, accept and support one another, and resolve conflicts constructively. Contributing to the

success of cooperative learning requires interpersonal skills within small groups. Thus, skills such as leadership, decision-making, building trust, communication, and conflict management need to be taught accurately as academic skills.

5. Group Processing Evaluation: Group processing evaluation involves assessing or evaluating the group's work process and collaborative outcomes. This evaluation aims to facilitate more effective cooperation in the future.

Definition of the Cooperative Learning Model: Teams Games Tournament (TGT)

The Teams Games Tournament (TGT) cooperative learning model is one of the easily applicable learning types that involve the active participation of all students without the need for status differences. It includes students taking on the role of peer tutors and incorporates elements of games and reinforcement (Slavin, 2010). The Team Games Tournament (TGT) learning model consists of four steps: material delivery, group learning, organizing tournaments, and group prize distribution. Groups consist of 5-6 people. The selection of group members should be heterogeneous in terms of gender, ethnic background, and academic performance.

The TGT learning model is a learning activity that involves heterogeneous group learning, both in terms of background and academic achievement, and includes games and systematic tournaments that provide scores, rankings, and champions for individuals or groups who achieve the best scores to foster a sense of enjoyment and motivation in learning (Thabroni, 2022).

Syntax of the Teams Games Tournament (TGT) Cooperative Learning Model

Games in TGT can involve questions written on numbered cards. For example, each student selects a numbered card and attempts to answer the corresponding question. According to (Slavin, 2010), there are syntax considerations to be observed in the Teams Games Tournament (TGT) cooperative learning model:

1. Classroom Presentation
   Classroom presentations or discussions led by the teacher should be entirely focused on the Teams Games Tournament unit.
2. Teams
   Teams consist of four or five students representing various parts of the class in terms of academic performance, gender, and race. The main function of these teams is to ensure that all team members genuinely learn.
3. Games
   Games consist of relevant content questions designed to test the students' knowledge acquired from classroom presentations and teamwork.
4. Tournaments
   Tournaments are a structure where games take place. Tournaments usually occur at the end of the week or at the end of a unit, after the

teacher has given classroom presentations, and the teams have completed group work.

5. Team Recognition
   Teams receive certificates or other forms of recognition if their average scores meet specific criteria.

Framework of Thought

Simply put, the framework of thought in this research is illustrated as follows:

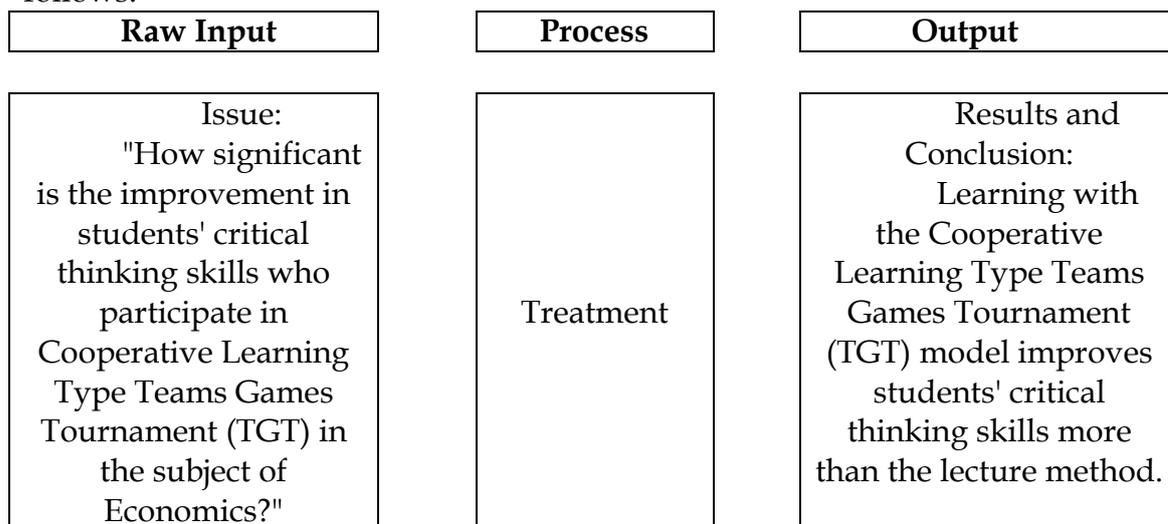| Raw Input	Process	Output
Issue: "How significant is the improvement in students' critical thinking skills who participate in Cooperative Learning Type Teams Games Tournament (TGT) in the subject of Economics?"	Treatment	Results and Conclusion: Learning with the Cooperative Learning Type Teams Games Tournament (TGT) model improves students' critical thinking skills more than the lecture method.

Figure 2 Research Framework

Hypothesis:

The hypotheses in this research are as follows:

1. There is a difference in critical thinking ability between students in the experimental class who receive instruction using the Cooperative Learning Type Teams Games Tournament (TGT) model and the control class who receive instruction using the lecture model

2. There is an improvement in students' critical thinking ability between students in the experimental class who receive instruction using the Cooperative Learning Type Teams Games Tournament (TGT) model and the control class who receive instruction

METHODOLOGY

The choice of research methodology is a crucial step in any research, as it can determine the success of the study. Using the appropriate research method is essential for a researcher to ensure that their study can address issues and uncover truths. Scientific research methods involve data collection with the aim of describing, proving, developing, and discovering information, theories, and understanding, solving, and anticipating human existence problems (Sugiyono, 2017). In this research, the method employed is Quasi-Experimental. Quasi-experiment is a quasi-experimental method that cannot control all variables affecting the research process.

The research design used is the Pretest-Posttest, Non-Equivalent Control Group Design. This design is similar to the pretest-posttest control group design, with the difference that in this design, both the experimental and control groups are not selected randomly. In this design, both the experimental and control groups are compared, although these groups are chosen and placed without randomization. Both groups undergo a pre-test, followed by treatment, and finally, a post-test is administered.

Tabel 3 Non-equivalent Control Group Design (Comparison group/pretesr-posttest)

Kelas	Pretest	Treatment	Postest
Eksperimen	Q_1	X	Q_2
Kontrol	Q_3	-	Q_4

Variables and Their Measurements
Variables and Their Measurements

In any research, there are research variables that are phenomena that must be observed or examined first. Sugiyono (2013) states that research variables are attributes or characteristics or values of people, objects, or activities that have certain variations determined by the researcher to be studied and then conclusions drawn. This study consists of two variables, namely:

Independent Variable	=	Cooperative Learning Model Type Teams Games Tournament (TGT)
DependentVariable	=	Critical Thinking Ability

Research Subjects
To determine the control and experimental classes, this study used the purposive sampling technique. According to Sugiyono (2017), purposive sampling is a data collection technique where samples are chosen deliberately, considering certain criteria. Then, from these two classes, a random selection was made to determine which class received treatment in the form of the Cooperative Learning Model Type Teams Games Tournament (TGT) and which class received the lecture method treatment. Thus, it is determined as follows:
Class XI MIPA 5 = Control Class
Class XI MIPA 7 = Experimental Class.

Based on the explanation above, in this study, the researcher examines the influence between these two variables, namely the (X) cooperative learning model variable and the (Y) critical thinking ability of students.

RESEARCH RESULT
Data Analysis Techniques
Test of Test Items
The steps for analyzing test items are as follows:
Difficulty Level of Questions

Formula

$$K = \frac{U + L}{T}$$

Information :

TK = Difficulty Level
U = Number of students in the upper group who answered correctly (27% of 36 students = 9)
L = Number of students in the lower group who answered correctly (27% of 36 students = 9)
T = The number of students in the upper group and lower group

Criteria for the value of the difficulty level of the questions.

Table 2 Difficulty Level Criteria

No	Difficulty Level	Information
1	0,00 - 0,22	Hard
2	0,22 – 0,79	Currently
3	0,79 – 1,00	Easy

After taking the steps also using the formula, all calculations are assisted by using Microsoft Excel, from the calculations that have been carried out, the results for the difficulty level of the questions are as follows;

Table 3 Recapitulation of Question Difficulty Levels

No	Question No	Criteria	Total	%
1	28.37,38,45	Easy	4	8%
2	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,20, 21,22,24,25,26,27,29,32,34,36,39,40,41,42,44,4 6,47	Currently	36	72%
3	19,23,30,31,33,35,43,48,49,50	Hard	10	20%
	TOTAL		50	100%

From the results of the test analysis of the difficulty level of the instrument items, there were 4 questions that were included in the easy criteria with a percentage of 8%, 36 questions included in the medium criteria with a percentage of 72%. 36 and 10 questions including difficult criteria with a percentage of 20%.

Discriminating Power
Formula

$$DP = \frac{U - L}{\frac{1}{2}.T}$$

Information :

DP = Discriminating Power

U = Number of students in the upper group who answered correctly (27% of 36 students = 9)

L = Number of students in the lower group who answered correctly (27% of 36 students = 9)

T = The number of students in the upper group and lower group

Criteria for interpreting discriminatory power:

Table 4 Criteria for Discriminating Power

No	Discriminating Power	Criteria
1	0,00 – 0,19	Bad (Replaced)
2	0,20 – 0,29	Adequate (Improved)
3	0,30 – 0,39	Good
4	0.40 and above	Excellent

Based on the calculation of discriminating power in the instrument test questions, the following results are obtained:

Table 5 Summary of Discriminatory Power

No	Question No	Criteria	Total	%
1	27,28,31.40,45	Bad	5	10%
2	22,43	Fair	2	4%
3	22,29	Good	2	4%
4	1,2,3,4,5,6,7,8,9,10,11,12,13,14, 15,16,17, 18,19,20,21, 23,24,25,26,30, 32,33,34,35,36. 37,38,39,41.42.44,48, 46,47,49,50	Excellent	41	82%
	Total		50	100%

Based on the analysis of the discriminative power test for those questions, it can be determined that there are: 5 questions with a "Poor" rating, accounting for 10%. 2 questions with a "Fair" rating, accounting for 4%. 2 questions with a "Good" rating, accounting for 4%. 41 questions with an "Excellent" rating, accounting for 82%.

Validity Testing

Validity is a measure that indicates the level of validity or authenticity of an instrument. A valid or authentic instrument has high validity. Conversely, an instrument that is less valid means it has low validity (Arikunto, 2006: 168). Formula:

$$Vi = \frac{U - L}{N}$$

Information

Vt = The validity of the items
U = Upper group students who answered correctly (upper group 25% of the total test takers)
L = Lower group students who answered correctly (upper group 25% of the total test takers)
N = 27% of the number of test takers

Table 6 Validity Index Criteria

No	Validity	Criteria
1	0,00 – 0,20	Bad/Ugly
2	0,21 – 0.29	Enough
3	0,30 – 0,39	Good
4	0,40 and above	Very well

Based on the calculation of the validity of the questions with predetermined criteria, the following results are obtained.

Table 7 Question Validity Recapitulation

No	Question No	Criteria	Total	%
1	27,28,31,40,45	Bad	5	10%
2	-	Enough	0	0%
3	-	Good	0	0%
4	1.2,3,4,5,6,7,8,9,10,11, 12,13,14,15,16,17,18,19,20, 21,22,23,24,25,26,29,30,32,3,34, 35,36,37,38,39,41,42,43,44,46,47,48,49,50	Very good	45	90%
	Total		50	100%

Reliability Test

In determining whether an instrument is said to be reliable, a comparison of the results of the reliability coefficient test is carried out with a standard value of 0.60 (Hanggara and Darsih, 2018: 42). This means that the instrument is said to be reliable if the coefficient value is more than 0.60. The reliability analysis of the items using the Kuder-Ricardhson formula (KR-20) is as follows:
Formula:

$$KR20 = \frac{K}{K-1}\left[1 - \frac{2n\sum(WL+WH) - \sum(WL+WH)2}{0,677\ (WL-WH)2}\right]$$

Information :
K = Number of question items
WL = The lower group who answered incorrectly
WH = The upper group who answered incorrectly
n = 27% of participants in all tests

The Reliability Index is as follows:

Table 8 Reliability Criteria

No	Reliability	Criteria
1	0,00 – 0,19	Very low
2	0,20 – 0,39	Low
3	0,40 – 0,59	Enough
4	0,60 – 0,79	Tall
5	0,80 – 1,00	Very high

Enter with the following formula:

$$KR20 = \frac{K}{K-1}\left[1 - \frac{2n\sum(WL+WH) - \sum(WL+WH)2}{0,677\,(WL-WH)2}\right]$$

$$KR20 = \frac{50}{50-1}\left[1 - \frac{2x9\sum(383) - \sum(3125)2}{0,677\,(207)2}\right]$$

$$KR20 = \frac{50}{49}\left[1 - \frac{6894 - 3125}{0,677\,x\,42849}\right]$$

$$KR20 = 1,0204\left[1 - \frac{3769}{29.008,773}\right]$$

$$KR20 = 1,0204\,[1 - 0,1299262123]$$

$$KR20 = 1,0204\,x\,[0,8700]$$

$$KR20 = 0,887551021$$

Based on the results of reliability test calculations, the instrument used in this study is declared Reliable, because 0.88 > 0.60 and belongs to the Very High Category.

Statistical Requirements Test
Data Normality Test
In order to test the research hypothesis, a test for the normality distribution of research class data must be carried out as a prerequisite for parametric calculations. Testing for the normality of pre-test and post-test values is calculated by the chi square statistic $\llbracket(x)\rrbracket$ ^2) The test criteria are:

If the $x^2_{count\ value} < x^2_{table\ value}$, then it is declared normal
If the $x^2_{count\ value} > x^2_{table\ value}$, then it is declared abnormal

Table 9 Pre Test Value Normality Test Results

Statistics	Experiment	Control
x^2_{count}	2,808094	5,606316
x^2_{table}	7,814728	7,814728
$x^2_{count\ value} < x^2_{table\ value}$ **NORMAL** / NO		

Based on the table above, it is known that the pre-test values for the experimental class use the Team Games Tournament (TGT) model and the control class use the lecture method with normal distribution. This is because the x^2count value $<$ x^2table value

Table 10 Post Test Value Normality Test Results

Statistics	Experiment	Control
x^2count	7,783398	5,60821
x^2table	7,814728	7,814728
x^2count value $<$ x^2table value		
NORMAL / NO		

Based on the table above, it is known that the post-test values for the experimental class use the Team Games Tournament (TGT) model and the control class use the lecture method with normal distribution. This is because the x^2count value $<$ x^2table value

Data Homogeneity Test

The results of the homogeneity test were carried out using the F test. The homogeneity test criteria were if $F_{count} < F_{table}$, then both groups were declared homogeneous.

Based on the results of the normality test, it showed that the two classes were normally distributed, so further tests were carried out on the homogeneity of the data. The results of the homogeneity test for the pre-test and post-test values of the experimental class can be seen in the following table

Pre Test Value Homogeneity Test Results

F = Vb : Vk	2,22164

note:
Vb, the large value variance
Vk, Small value variance

F_{table} value	4,13

F_{count} value $<$ F_{table} value
HOMOGEN / NO

Based on the results of the normality test, the pre-test values for the experimental class and control class were normally distributed

Post Test Value Homogeneity Test Results

F = Vb : Vk	3,072815

note:
Vb, the large value variance
Vk, Small value variance

F_{table} value	4,13

F_{count} value < F_{table} value
HOMOGEN / NO

Based on the results of the normality test, the post-test values for the experimental class and control class were normally distributed

Hypothesis testing
Hypothesis testing can be done if it is known that both research data are taken from populations that are normally distributed and the variance is also homogeneous. Because the data in the study are normal and homogeneous, the t test is used to test the hypothesis.

Table 11 Post Test Hypothesis Test Results

Class	Tcount	T table	db	Information
Experiment				There is a difference between the experimental class and the control class
Control	1,961	1,6667	70	

Based on the results of calculating the hypothesis test post test values in table 4.3 obtained tcount 1.961 and dk-70, obtained ttable 1.6667 and thus tcount > ttable. This shows that hypothesis I which reads "There are differences in the post test of critical thinking skills between students who take part in learning using the cooperative learning model of the Team Games Tournament (TGT) type compared to the lecture method" can be accepted

Table 12 Gain Value Hypothesis Test Results

Class	Tcount	T table	db	Information
Experiment				There is a difference in the increase between the experimental class and the control class
Control	3,9689	1,6667	70	

Based on the calculation of the gain value test in table 4.4, the Tcount value is 3.9689 with dk – 70, Ttable is 1.667 and with Tcount (3.9689) > Ttable (1.667) This shows that the hypothesis reads: "There is a difference in the increase in critical thinking skills between students who take part in learning using the cooperative learning model of the Team Games Tournament (TGT) type compared to the lecture method" can be accepted.

N-Gain Test

N-Gain is used to determine whether there is or is not a difference in the improvement of students' critical thinking skills in the TGT class and classes that use the Limit Lecture learning model and the n-gain level category, while the formula for calculating N-Gain is as follows:

$$N\ Gain\ = \frac{Postest\ Score - Pretest\ Score}{Total\ Score - Pretest\ Score}$$

The N-Gain value acquisition category is shown in the following table:

Table 13 N-Gain Level Category

Value Limit	Value Interpretation
Gain > 0,70	Tall
0,30 < Gain < 0,70	Currently
Gain < 0,30	Low

The Gain value is obtained from the difference between the post test and pre test to determine the increase in critical thinking skills in the experimental class using the Team Games Tournament (TGT) model and the control class using the lecture method. A summary of the N-Gain values is presented in table 4.6 below

Table 14 N-Gain Value

Class	The number of students	Average Gain	Criteria
Experiment	36	0,34	Currently
Control	36	0,14	Low

Table 13 above shows that based on the N-Gain for the experimental class using the Team Games Tournament (TGT) model, an average gain value of 0.34 is included in the medium criteria. The control class that uses the lecture method obtains an average gain value of 0.14 which is included in the low criteria.

DISCUSSION

The hypothesis testing results indicate that there is a difference in critical thinking abilities between students who undergo learning using the Team Games Tournament (TGT) cooperative learning model compared to the lecture method. Furthermore, there is a difference in the improvement of critical thinking abilities between students who undergo learning using the Team Games Tournament (TGT) cooperative learning model compared to the lecture method. This is because the t-values (1.961 and 3.968) obtained from the hypothesis test are greater than the critical t-value (1.667).

Based on the description, it can be concluded that the implementation of the Team Games Tournament (TGT) cooperative learning model is suitable as an alternative to enhance students' critical thinking abilities in the Economics class of Grade X at SMAN 2 Kuningan.

However, there are constraints in this research, such as requiring a considerable amount of time for group distribution and organization, as well as the time spent on discussions. Additionally, this learning model needs to consider the creation of tournament table questions based on the students' rankings from highest to lowest.

CONCLUSIONS AND RECOMMENDATIONS

Based on the research findings and careful data analysis conducted by the researcher, the following conclusions can be drawn:

1. There is a difference in critical thinking abilities between students who receive the Teams Games Tournament (TGT) cooperative learning model as the Experimental group compared to the lecture method as the Control group. In this context, the critical thinking abilities of students who received cooperative learning using the Teams Games Tournament (TGT) were higher than those of students who received lecture-based instruction.
2. There is an improvement in critical thinking abilities among students who received the Teams Games Tournament (TGT) cooperative learning model as the Experimental group compared to the lecture method as the Control group. In this context, the critical thinking abilities of students who received cooperative learning using the Teams Games Tournament (TGT) were higher than those of students who received lecture-based instruction.

As for some suggestions that can be conveyed by researchers based on research results are:

1. In applying the Team Games Tournament (TGT) learning model, the teacher must optimize the group preparation and divide the time to be used in discussions.
2. The teacher must consider making questions that will be used in the Tournament according to the characteristics and academic abilities of students.

ADVANCED RESEARCH

This research still has limitations so it is necessary to carry out further research related to the topic "The Influence of the Cooperative Learning Model Type of Teams Games Tournaments (TGT) with the Tournament Table Game on Students' Critical Thinking Abilities" to perfect this research, as well as increase insight for readers.

REFERENCES

Arikunto, Suharsimi. (2006). Prosedur Penelitian Suatu Pendekatan Praktik. Jakarta: Rineka Cipta.

Ariyana, Y., Pudjiastuti, A., Bestary, R., & Zamaroni. (2018). Buku Pegangan Pembelajaran Berorientasi pada Keterampilan Berpikir Tingkat Tinggi . Direktorat Jenderal Guru dan Tenaga Kependidikan Kementerian Pendidikan dan Kebudayaan

Demiral, S. (2019, January 29). Critical Thinking and Problem-Solving Skills of Visually Impaired Female National Judo Team Athletes. Journal of Education and Training Studies , 7(3).

Hanggara, Agie & Endang Darsih. (2018). Dasar Statistika; Manual dan SPSS. Bandung: Mujahid Press

Harahap, M. S. (2020). Pengaruh Model Pembelajaran Kooperatif Tipe Teams Games Tournament (Tgt) Terhadap Kemampuan Berpikir Matematis Siswa Smp Kelas Viii Smp Negeri 13 Pekanbaru:. Jurnal Ilmiah

Haryati, S. (2017). Belajar & Pembelajaran Berbasis Cooperative Learning. Magelang: Graha Cendekia.

Isjoni. (2010). Cooperative Learning. Bandung: Alfabeta.

Istarani. (2012). Model Pembelajaran Inovatif. Medan: Media Persada

Johnson, E. B. (2010). Contextual Teaching and Learning: Menjadikan Kegiatan Belajar Mengajar Mengasyikkan dan Bermakna. Bandung: Kaifa Learning

Nurdyansyah, & Fahyuni, E. F. (2016). INOVASI MODEL PEMBELAJARAN Sesuai Kurikulum 2013. Sidoarjo: INOVASI MODEL PEMBELAJARAN Sesuai Kurikulum 2013

Purwanto. 2010. Evaluasi Hasil belajar. Yogyakarta: Pustaka Pelajar

Slavin, Robert E (2005). Cooperative Learning: Teori, Riset dan Praktik (Alih bahasa: Narulita Yusron). Bandung: Nusa Media.

Slavin, R. E. (2007). Cooperative Learning. Bandung: Nusa Media.

Slavin, R. E. (2010). Cooperative Learning Teori, Riset dan Praktik. Bandung: Nusa Media.

Sugiyono. (2013 'Metode Penelitian Pendidikan Pendekatan Kuantitatif, Kualitatif, dan R&D:116, Bandung: Alfabeta.CV

Sugiyono. (2017). Metode Penelitian Kuantitatif dan Kualitatif. Bandung: Alfabeta

Syahfnidawati. (n.d.). MODEL PEMBELAJARAN COOPERATIVE LEARNING. Universitas Raharja. Retrieved Januari 14, 2023, from https://raharja.ac.id/2020/11/18/model-pembelajaran-cooperative-learning/

Thabroni, G. (2022, Maret 13). Berpikir Kritis – Pengertian, Karakteristik, Indikator & Manfaat. Retrieved Januari 13, 2023, from serupa.id

Vivian, A. (2022, June 23). Critical Thinking: Pengertian, Manfaat, Cara Membentuk, dan Contohnya. Retrieved from Ecrut Media