



Use Of The TGT (Teams Games Tournament) Learning Model To Improve Student Learning Outcomes On Colloid System Materials

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Abstract: Using The Tgt (Teams Games Tournament) Learning Model To Improve Student Learning Outcomes In Colloidal Systems Material At Sman 1 Lhoknga Aceh Besar. The learning model is one of the important things that must be prepared by an educator in learning process. One effort to achieve value in understanding concepts and learning outcomes can be done by implementing active, creative, fun and effective learning models in the classroom. The innovation that can be carried out is by implementing the Teams Games Tournaments (TGT) learning model. The purpose of this research to improve learning outcomes, determine student activities and responses to the subject of colloid systems using the teams games tournament (TGT) learning model in class XI at SMAN 1 Lhoknga Aceh Besar. The design used in this research was nonequivalent control group design. The sampling technique used was purposive sampling. The subjects of this research were class XI IA¹ and class XI IA², totaling 24 students. Research data was obtained from learning outcomes tests, observation of student activities, and provide student response questionnaires. The research results show that 1) The use of the teams games tournament (TGT) learning model can improve student learning outcomes in the Colloid System material at SMAN 1 Lhoknga Aceh Besar with an average score of 79,54%. 2) Student activity in teaching and learning activities through the use of the teams games tournament (TGT) learning model at the first meeting obtained a percentage of 75%, while at the second meeting student activity increased with a percentage of 90%. 3) Student responses to the use of the teams games tournament (TGT) learning model in the questionnaire distributed at the end of the lesson were obtained sequentially, namely strongly agree 28%, agree 58% and disagree 14%.

Keywords: Teams Games Tournament (TGT) learning model, learning outcomes, colloid system

Abstrak: Penggunaan Model Pembelajaran Tgt (Teams Games Tournament) Untuk Meningkatkan Hasil Belajar Siswa Pada Materi Sistem Koloid Sman 1 Lhoknga Aceh Besar. Model pembelajaran merupakan hal yang penting harus disiapkan oleh seorang pendidik dalam proses pembelajaran. Salah satu upaya pencapaian nilai dalam pemahaman konsep dan hasil pembelajaran dapat dilakukan dengan cara penerapan model pembelajaran yang aktif, kreatif dan menyenangkan serta efektif di kelas. Adapun inovasi yang dapat dilakukan yaitu dengan penerapan model pembelajaran Teams Games Tournaments (TGT). Penelitian ini bertujuan untuk meningkatkan hasil belajar, mengetahui aktivitas serta respon siswa pada pokok bahasan sistem koloid menggunakan model pembelajaran teams games tournament (TGT) pada kelas XI di SMAN 1 Lhoknga Aceh Besar. Desain yang digunakan dalam penelitian ini the nonequivalent control group design. Teknik pengambilan sampel yang digunakan adalah purposive sampling.

Subjek dari penelitian ini adalah kelas XI IA¹ dan kelas XI IA² yang berjumlah 24 orang siswa. Data hasil penelitian diperoleh dengan melakukan tes hasil belajar, observasi aktivitas siswa, serta memberikan angket tanggapan siswa. Hasil penelitian menunjukkan bahwa 1) Penggunaan model pembelajaran teams games tournament (TGT) dapat meningkatkan hasil belajar siswa pada materi Sistem Koloid SMAN 1 Lhoknga Aceh Besar dengan perolehan nilai rata-rata 79,54%. 2) Aktivitas siswa dalam kegiatan belajar mengajar melalui penggunaan model pembelajaran teams games tournament (TGT) pada pertemuan pertama diperoleh persentase 75% sedangkan pada pertemuan kedua aktivitas siswa meningkat dengan perolehan persentase 90%. 3) Respon siswa terhadap penggunaan model pembelajaran teams games tournament (TGT) dalam lembaran angket yang dibagikan pada akhir pembelajaran diperoleh secara berurutan yaitu sangat setuju 28%, setuju 58% dan kurang setuju 14%.

Kata kunci: Model pembelajaran Teams Games Tournament (TGT), hasil belajar, sistem koloid.

▪ INTRODUCTION

Education is the spearhead in developing a nation's future. Therefore, changes and improvements continue to be made in various educational sectors, starting from the education sector to the learning models used in teaching a lesson (Syafitri, 2019).

One of the means to form a quality next generation of the nation in the future is education. The development of the times has a great influence on human resources and the world of education. The world of education continues to experience significant changes, one of which is changes in the mindset of educators. The aim of education is so that human resources, especially students, become more qualified and characterized, so that education is able to provide motivation to become more in every aspect of life (Ati dkk, 2021).

So that learning can take place well, the teacher's ability to choose the right methods and models for learning is needed. The main key to successful science learning to meet curriculum demands is very dependent on the creativity of professional teachers in designing and managing the learning process. Teachers must be able to organize the learning environment as well as possible, master the material, use appropriate learning tools/visual aids, arrange learning materials and choose the right learning resources, and arouse students' motivation to be actively involved in carrying out their learning activities (Nuryanti, 2021).

Chemistry develops through experimentation so that it contains scientific products and processes and their application to improve human welfare. Chemistry is studied and developed using scientific methods. Therefore, chemistry has an important role in improving the quality of education, especially producing quality students, namely students who are able to think critically, creatively, logically and take the initiative in studying the structure, properties and changes of matter, as well as the energy that accompanies material changes (Suardana, 2017). Therefore, to study chemistry, it is necessary to link the material studied with events that occur in everyday life as well as utilize chemical compounds according to their respective uses and needs, so that students can discover the facts and concepts they have studied. Chemistry learning emphasizes providing direct learning experiences through the use and development of process skills and scientific attitudes.

One effort to achieve grades in understanding concepts and learning outcomes can be done by implementing learning models that are active, creative, appropriate to student character, and fun and effective in the classroom. Because most students now like learning

related to games. The problem solving efforts carried out by researchers in this case are implementing an appropriate learning model (Dewi, 2017). Innovation in the learning process is very necessary to increase student activity in learning, namely with group discussions, thereby creating an atmosphere of cooperation and responsibility in receiving lessons and the learning process becomes more effective and efficient. One model that can overcome student problems is the TGT (Team Games Tournament) type cooperative model (Mauliana, 2020).

The TGT learning model is a model that emphasizes a cooperative approach between groups by developing interpersonal cooperation that involves all students without having differences in status, students can learn more relaxed while fostering responsibility, honesty, cooperation, healthy competition, learning involvement and adding a dimension of joy. obtained from using the game (Nurhanisah dkk, 2020). Apart from that, TGT is a model that can attract attention and make the learning atmosphere more enjoyable so that students can be motivated to study chemistry (Zumaroh, 2017).

In using this learning model, students are grouped with 3 to 5 people with different levels of ability, gender and socio-cultural background. Each team member will work together in their respective groups (Rozaliha, 2014 dalam Sulorante, 2023). The teacher delivers the lesson, then students work in their teams to ensure that all team members have mastered the lesson. Next, a tournament is held, where students play academic games with other team members to contribute points to their team's score (Kesuma, 2013).

The TGT learning model consists of five steps, namely: class presentation stage, learning in groups, games, competitions and group awards. In the TGT learning model, learning can be done while playing. This model is an effort to create activity for all students in the class. Games can stimulate students' interest in class activities so that students become motivated and have an interest in learning (Sugiati, 2018).

In this lesson, learning can be done while playing. Presentation of material that actively involves students in learning and playing with their groups, so that students will be more motivated to study chemistry which will ultimately improve student learning outcomes (Murwindra, 2017).

In cooperative learning, students are expected to be able to construct and organize their own knowledge. The goal to be achieved is not only academic ability in the sense of mastery of teaching materials, but also an element of collaboration to mastery of the material. Previous research conducted regarding the implementation of the TGT (Teams Games Tournament) type cooperative learning model equipped with destination cards stated that student creativity and learning outcomes increased as seen from the percentage in cycle I of 52.94% increasing to 70.59% in cycle II and the results student learning in cycle I was 42.12% increasing to 82.35% in cycle II on colloid system material (Noviyanti, 2017).

Based on pre-test score data, it is known that the average student score is 28.88. Based on the post-test score data obtained, the students' average score was 85.89. The difference in the average post-test and pre-test scores which can be seen from the average post-test score above the KKM, namely 70, is the impact of using chemistry playing cards using the TGT learning model (Sukarsih, 2018).

Based on the description above, the researcher wants to conduct research on colloidal materials using the Teams Games Tournament (TGT) learning model to improve student learning outcomes.

▪ METHODS

The design used in this research was nonequivalent control group design. This design is no different from the pre-test and post-test group design, except regarding subject grouping. In this quasi-experiment, samples are not grouped randomly but the researcher accepts the conditions of the subjects as they are and are grouped with similar characteristics or goals. The sampling technique used was purposive sampling.

The research carried out was descriptive qualitative research, so to obtain the necessary data data collection techniques were used including documentation, observation, questionnaires and tests. The instruments that will be used include syllabus, learning plans, teaching materials, student worksheets, pre-test and post-test questions, affective observation sheets, and student questionnaires.

The data obtained will be processed using the t test statistic. Before the distribution formula is used, first calculate the average value, standard deviation or standard deviation for each group of students and calculate the combined standard deviation of the two groups.

Learning was carried out in four face-to-face meetings, where the first meeting was a pretest for 90 minutes, the second and third meetings were learning using the TGT model for experimental classes for 90 minutes and assignments were given to see students' understanding of the material that had been presented, and the fourth meeting was held posttest for 90 minutes. The data that will be processed is based on the results of the pretest and posttest. The value obtained will be calculated using the t-test. The research subjects were students in class XI-IA1 as the control class and XI-IA2 as the experimental class in the even semester. Each class consists of 24 students. The test given is in the form of multiple choice with 25 questions.

▪ RESULTS AND DISCUSSION

Based on the results obtained from learning activities and conducting student evaluations both in the form of pre-test and post-test, final test scores were obtained between the control class and the experimental class. The data obtained were analyzed using average, normality, homogeneity and significance tests as follows:

Table1. Mean, Normality Test, Homogeneity, and Significance

Data	N	Mean	Normality	Homogeneity	Significance Test
Eksperiment Class	24	Pretest: 51.3 Posttest: 80.5	Normal	Homogen	H ₀ reject (significantly different)
Control Class	24	Pretest: 51.5 Posttest: 67.8	Normal	Homogen	H ₀ reject (significantly different)

Statistical hypothesis testing is carried out at a significance level of 5%, with the following criteria for rejecting H₀: Reject H₀ if t count \geq table. From the results of data processing regarding the application of a scientific approach to colloid system materials at SMAN 1 Lhoknga Aceh Besar, tcount = 3.84 and ttable = 1.67. If t count > t table, then based on the decision criteria for rejecting H₀, reject H₀ and accept H_a. This means that

learning using the scientific team games tournament (TGT) approach is effectively used in the learning process of colloid system material, so it can be concluded that the application of the teams games tournament (TGT) method can improve student learning outcomes in understanding colloid system material in class XI at SMAN 1 Lhoknga Aceh Besar.

Based on the results obtained from the calculations carried out, it turns out that the application of teams games tournament (TGT) to the colloid system material at SMAN 1 Lhoknga Aceh Besar is better than the application of learning using ordinary methods. From the results of data processing, it was found that the application of scientific team games tournament (TGT) learning to colloid system material obtained an average value of 79.54.

While the learning process was ongoing, researchers saw that students' responses to chemistry learning on colloidal materials using the scientific teams games tournament (TGT) learning model were positive and students were interested in taking part in chemistry learning activities according to data obtained from questionnaires distributed to students after learning. this scientific. As a result, students become fond and enthusiastic about studying chemistry lessons on colloidal materials, so that students are expected to get better learning grades. This is in accordance with the results obtained (Sofeana, 2022), where chemistry learning using the Team Games Tournament (TGT) Cooperative Model with a Scientific Approach can improve learning outcomes and student activity.

The questionnaire resulting from student responses aims to find out how interested students are in the scientific learning model Teams Games Tournament (TGT) on colloidal materials. The student response questionnaire contains 10 statements that students must answer with 4 choices, namely strongly agree, agree, disagree and strongly disagree. Based on the questionnaire data obtained from student responses, it was concluded that the percentage of student responses obtained was 28% who said they strongly agreed, 58% agreed and 14% disagreed. This proves that students respond and are also active in learning scientific teams games tournament (TGT) on colloid system material. As stated by (Agustina, 2018), observation sheets are used to determine student activity and tests are used to determine student learning outcomes. Based on research, the average student activity in groups in cycle I was 53.43%, cycle II was 57.18% and in cycle III was 64.47%.

Student activity during the learning process is an indicator of students' desire or motivation to learn. Students are said to be active if they find behavioral characteristics such as frequently asking the teacher or other students, being willing to do the assignments given by the teacher, being able to answer questions, being happy to be given learning assignments, and so on (Rosalia, 2005 dalam Zaeni, 2017).

In observing student activity, an instrument in the form of an observation sheet containing aspects related to student activity is used, and is assisted by an independent observer. Then the data showing student activity is calculated for each meeting and the percentage is determined and qualified according to predetermined criteria to see student activity (Mulatsih, 2018).

The results obtained on the observation sheet for the first meeting were 75% and at the second meeting it was 90%, this shows an increase in student activity using the Team Games Tournament model. This is in accordance with the results obtained (Sani et al, 2015) where in cycle I there were 85.7% of the number of students who could be said to

be active, while in cycle II and cycle III the percentage of students who could be said to be active reached 100%, There was an increase in activity after using the TGT model.

This is in accordance with the results found by (Firdaus, 2017), where students' activeness in learning activities is none other than constructing their own knowledge, this has resulted in an increase in the number of experimental class students who experience increased learning outcomes and provide a significant influence, namely the effect size is 4.21 with a relatively strong interpretation.

▪ CONCLUSION

The research results show that the use of the teams games tournament (TGT) learning model can improve student learning outcomes in the Colloid Systems material at SMAN 1 Lhoknga Aceh Besar with an average score of 79.54. Student activity in teaching and learning activities through the use of the teams games tournament (TGT) learning model at the first meeting obtained a percentage of 75%, while at the second meeting student activity increased with a percentage of 90%. Meanwhile, students' responses to the use of the teams games tournament (TGT) learning model in the questionnaire distributed at the end of the lesson were obtained sequentially, namely 28% strongly agree, 58% agree and 14% disagree.

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