Journal of Science and Social Research ISSN 2615 – 4307 (Print)
May 2025, VIII (2): 2010 – 2014 ISSN 2615 – 3262 (Online)
Available online at http://jurnal.goretanpena.com/index.php/JSSR

THE IMPACT OF EMPLOYING INTERACTIVE WORDWALL MEDIA AND THE TGT (TEAMS GAMES TOURNAMENT) COOPERATIVE LEARNING MODEL ON RAISING STUDENT MOTIVATION AND LEARNING OUTCOMES ON THE REACTION RATE MATERIAL

Ela Riana Br Ginting
Universitas Negeri Medan, Medan
e-mail: elariana1111@gmail.com

Abstract: *The purpose of this study was to determine learning achievement, learning motivation, and the relationship between the two. This study was conducted at Santa Maria Kabanjahe Private High School. Based on the results of the study, the posttest learning achievement value of the experimental class was 85.417 with a gain of 0.810, so it is included in the moderate category. While the learning achievement value of the control class was 77.083 with a gain of 0.709, so it is included in the high category. After being given treatment, the learning motivation value of the experimental class was 78.955 with a gain of 0.342, so it is included in the moderate category. These results correlate with learning motivation, with an r count of 0.794 and an r table of 0.349. In the control class it was 75.635 with a gain of 0.309, so it is included in the moderate category. Based on the results of the study, students who were taught using the Teams Games Tournament learning model with Interactive Wordwall media had better learning outcomes and motivation compared to students who were taught using the traditional method with Interactive Wordwall media.*

Keywords: *Reaction Rate, Teams Games Tournament, Learning Outcomes, Learning Motivation, Wordwall*

INTRODUCTION

Education is an important vehicle and effective media to teach norms, socialize values, and instill work ethics among citizens. Education can also be part of an instrument to build and foster national personality, strengthen national identity and establish national identity (Putri & Dinda, 2021). The development in the current era is very rapid. Along with the advancement of science and the use of technology. Application and adaptation of technology in learning spaces is a must in facing changes in the era of globalization, technological developments have influenced the world of education, especially in the learning proces. One of the main topics in chemistry subjects in high school is the reaction rate. The reaction rate is intended for grade XI students of high school/vocational school/Islamic high school and equivalent (Tabarani & Junedi, 2021).

Based on the results of observations and interviews conducted with chemistry teachers for class XI IPA at Santa Maria Kabanjahe Private High School. it was found that there were problems in the chemistry learning process, especially in the reaction rate material. The problem is that the results of learning chemistry in the reaction rate material are less than optimal, as seen from the low level of students' daily grade complete, namely 50% of the class whose learning outcomes remain below the 72-point KKM. Teachers continue to provide content in a traditional manner. There has not been any active learning; all that is required of the students is silence, focus, taking notes, and memorization. According to the problem description, in order to improve learning outcomes and student motivation, teachers must provide

students with more creative learning options and captivating ideas.

Observing the learning model and media utilized is one method that can be applied. Wordwall media and cooperative learning models of the TGT (Team Games Tournament) variety are examples of active learning tools. Science facts and ideas, as well as the calculation and application of chemical characteristics, have all been taught using the TGT cooperative learning methodology (Mamangkai et al., 2019).

METHOD

This kind of study employs a quantitative methodology, a quasi-experimental design, and a pretest-posttest control group design (Salehha et al., 2021). This quasi-experimental study aims to ascertain how the TGT cooperative learning approach, aided by interactive wordwall media, affects class XI students' motivation and academic performance. There are two classes in this kind of quasi-experimental study: the experimental class and the control class (Rosita, Hidayat & Yuliani, 2021).

The second class was given an initial test (pretest), and the two classes were given different treatments. The experimental class was taught the TGT type cooperative learning model with the help of Interactive Wordwall media, while the control group was taught a conventional approach. At the end of the posttest, students in both the experimental and control groups completed a questionnaire to gauge their reactions to the learning model and Interactive Wordwall media.

RESULTS AND DISCUSSION

This study was carried out in class XI T/A 2024/2025 at SMA Swasta Santa Maria Kabanjahe. This study was carried out in an in-person environment. Prior to administering a pretest to the sample class in class XII-8, the researcher verified the validity of the study instrument. Purposive sampling was the method employed for sampling in this investigation. Class XI-5, an experimental class taught using a teams games tournament learning model aided by interactive wordwall media, and class XI-7, a control class taught using a traditional approach aided by interactive wordwall media, comprised the sample. To determine whether students are attending and engaging in the learning process, the researcher will begin the prayer and attendance activities prior to the commencement of the lesson.

After that, two distinct learning models will be used to instruct the two classes. The researcher distributed a learning motivation questionnaire to ascertain the students' first motivation for participating in chemistry learning and administered an initial test (pretest) to ascertain the students' initial abilities about the reaction rate material. According to the results, the experimental class's average pretest score was 22.361, while the control class's was 21.389. Additionally, the experimental class's students' initial learning desire was 66,531, while the control class's was 63,785. It is clear from the data that pupils in both classrooms continue to have very low levels of knowledge and passion for learning. The next stage is to implement the traditional method with interactive wordwall media in the control classes and the teams games tournament learning model with interactive wordwall media in the experimental class. Explaining the learning objectives and encouraging students to actively participate in problem-solving are the first steps in the experimental class's learning process.

Additionally, the researcher uses interactive wordwall media that is projected onto a screen to present information regarding reaction rates. Then, the researcher uses the spin the wheel feature to separate the students into a number of diverse groups. The

tournament table is separated by the researcher, who then instructs the students to sit in the groups that have been formed. After explaining the tournament's regulations and displaying questions on speaking cards and the game show quiz feature, the tournament reaction rate begins. After gathering data on team scores, the researcher presents prizes to the victorious team. The researcher evaluates the learning process at the end and allows students to ask questions. At the following meeting, the researcher will wrap up and verify the learning activities.

The learning process in the control group, on the other hand, begins with the researcher outlining the learning objectives and encouraging students to actively participate in problem-solving. The students only listen to the researcher's explanation of the material's rate of reaction and then take notes on key points from each lesson. After that, they work on questions on the interactive wordwall that is shown on the projector, and the answers are gathered and verified by the students themselves, rather than the other way around. After gathering score data, the researcher allows students to ask questions, wraps up the course material, and verifies the learning activities for the following meeting. The researcher administers a final test (posttest) and distributes a learning motivation questionnaire following the completion of the learning process in three meetings in both courses using various learning models. The average learning outcome value in the experimental class, which was taught using the team games tournament learning model with the use of interactive wordwall media, was 85.417, and the further learning motivation was 78.955. The average learning outcome value and motivation in the control group, which was taught using a traditional method with the use of interactive wordwall media, were 77.083 and 75.635, respectively.

The experimental class's improvement in learning outcomes was rated as high (0.810) in the N-gain test, but their improvement in learning motivation was rated as modest (0.342). In contrast, learning results and motivation levels in the control group were rated as moderate (0.709 and 0.342, respectively). Thus, based on the research, it can be said that the reason why learning motivation has not increased much is because chemistry instruction still uses inadequate learning materials, which makes students disinterested and unmotivated to learn.

When tcount is more than ttable in hypothesis test I, Ha is accepted and Ho is rejected. Ttable 1.697 is less than tcount 6.054. Thus, it can be said that students who were taught using the teams games tournament model with interactive wordwall media had better learning results than those who were taught using the traditional method with interactive wordwall media. According to earlier research, students who were taught using the teams games tournament learning model had better learning results than those who were taught using the traditional method (Ramadhan, 2023). Paulus, Tengker, and Teurah (2018) claim that using wordwall media in the classroom can boost students' enthusiasm to study. In hypothesis II, students were given a questionnaire to complete directly in order to gauge their motivation for learning both before and after class.

In order for Ha to be accepted and Ho to be rejected, the testing conditions for hypothesis II are tcount> ttable. With an average value of 66.531 in the experimental class and 63.785 in the control class, it is evident from the results that there was a shift before learning started (before treatment was administered). Following the implementation of learning motivation, students experienced an increase in experimentation grades with a mean of 78.955 and a control score of 75.653. For tcount 2,058 is larger than t table 1,697. It can therefore be concluded that student motivation for learning that is taught in an experiential learning environment using the Teams Games Tournament model of

instruction with Interactive Wordwall media is higher than that of students learning in a traditional classroom setting with Interactive Wordwall media. According to research by Amni and Ningrat (2021), using media in the teaching process can increase student motivation, while established a paradigm for teaching that relies on interactive media. Students' motivation to learn is positively impacted by the tournament learning paradigm.

The product moment correlation test criteria, tcount> ttable, were applied in the hypothesis test III to ascertain the connection between the outcomes and students' learning desire. This resulted in the rejection of Ho and the acceptance of Ha, indicating a relationship between the two variables. Although rcount must be bigger than rtable, the correlation calculation value is not evident from the rise in learning outcomes with increased learning motivation. Ha was approved and Ho was rejected in the study for N = 36 because rcount = 0.794> rtable 0.329 and the coefficient of determination was 63.0%. Based on these computations, it was discovered that learning outcomes increased with student motivation.

Therefore, it can be said that there is a good correlation between the learning motivation and the outcomes of students who were taught the Teams Games Tournament learning model with the help of Interactive Wordwall media on the class XI reaction rate material. This is corroborated by earlier studies, such as Budiariawan (2019), who found a positive and substantial association between student learning motivation and learning results. Simatupang (2021) also found that learning motivation has been shown to enhance student learning outcomes..

CONCLUSION

The findings of the conducted research allow for the following deductions to be made:

1. Compared to the traditional technique with interactive wordwall media, learning outcomes taught with the teams games tournament learning model demonstrate superior learning outcomes.
2. Compared to learning motivation taught using the traditional technique with interactive wordwall media, learning motivation taught using the teams games tournament learning model is higher.
3. Student motivation and learning outcomes are significantly correlated with the TGT.

BIBLIOGRAPHY

Amni, Z., & Ningrat, H. K. (2021). The Effect of the Cooperative Learning Model of the Teams Games Tournament (TGT) Type Assisted by Destination Media on Motivation and Learning Outcomes in Buffer Solution Material. Journal of Chemical Education Innovation, 15(2), 2840-2848.

Fitria, T. N. (2023b). Creating Educational Games Using Wordwall: Interactive Learning Media for English Language Teaching (ELT) (Vol. 4, Issue 2).

Khofifah, A. N. (2021). Development of a color blind-friendly chemistry lab manual for acid-base material. Journal of Tropical Chemistry Research and Education, 3(1), 18-27.

Mamangkai, J. C. (2021). Teachers' Efforts in Overcoming Students' Learning Difficulties in Science Subjects in Grade V of Gmim I Woloan Elementary School. Edu Primary Journal, 2(2), 13-21.

Putri, J. R., & Dinda, Y. A. (2021). Educational Innovation: Developing Teacher Professionalism in Realizing Quality Education in Indonesia.IJEC: Indonesia Journal Of Elementary and Childhood Education, 2(2), 259 265.

Rosita, E., Hidayat, W., & Yuliani, W. (2021). Validity and reliability test of prosocial behavior questionnaire.

FOCUS: Guidance and Counseling Study in Education, 4(4), 279-284.

Ruhama, I. A., & Erwin, E. (2021). The effect of implementing the mind mapping learning model on the science learning outcomes of elementary school students during the Covid-19 pandemic. Basicedu Journal, 5(5), 3841-3849.

Santosa, J. A. (2021). Student Motivation in Participating in Physical Education Learning during the Covid-19 Pandemic. Undiksha Sports Science Journal, 9(2), 75-81

Sitohang, T., Simanjuntak, E. D. Y., & ... (2024). The Use of Wordwall Websites as Learning Media to Improve Student Learning Motivation at SMK Bima Utomo. Positive: Journal of Results 2(1), 11–24.

Tabrani, M. B., Puspitorini, P., & Junedi, B. (2021). Pengembangan multimedia interaktif berbasis Android pada materi kualitas instrumen evaluasi pembelajaran matematika. Jurnal Inovasi Teknologi Pendidikan, 8(2), 163-172.

Warinangin, A., Barus, H., & Gulo, R. (2020). Differences in Student Learning Outcomes Taught by Elaboration Learning Models with Conventional Approaches. Journal of Physicists Research, 3(1), 43–50.