

The Influence of the STAD Type Cooperative Learning Model Based on Canva Media on Student Learning Outcomes in the Public Relations and Protocol Management Automation Subject

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Abstract

This study aims to determine the effect of the Student Teams Achievement Division (STAD) cooperative learning model assisted by Canva media on the learning outcomes of class XI OTKP students in the Public Relations and Protocol subject at SMK Negeri 1 Dolok Sanggul in the 2024/2025 academic year. This study uses a quantitative approach with a quasi-experimental design. The sample consists of two classes, namely class XI OTKP 2 as the experimental class that applies the STAD model based on Canva media, and class XI OTKP 3 as the control class that uses the STAD model without the aid of media. Data collection was carried out through an initial test (pre-test) and a final test (post-test) to measure student learning outcomes. The results showed that the average post-test score of students in the experimental class was 84.70 with a standard deviation of 6.49, while the control class obtained an average of 76.67. Statistical tests using the Independent Sample t-test and the Mann-Whitney U test produced a significant value.

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1. INTRODUCTION

Education plays a strategic role in enhancing the nation's intelligence and improving the quality of human resources (HR) in facing development challenges. An effective educational process requires teaching and learning activities that are not only oriented towards mastery of material, but also towards developing students' potential, critical thinking skills, and adaptive abilities to changing times (Masgumelar & Mustafa, 2021). Schools, as formal educational institutions, hold the primary responsibility for implementing a structured, systematic learning process that meets quality standards. However, the reality on the ground shows that the effectiveness of learning in schools remains a challenge. The learning process, which tends to be teacher-centered and memorization-oriented, often hinders students' active involvement in learning activities (Haryanto, 2021). This impacts the low academic achievement of students who have not yet met the Minimum Completion Criteria (KKM). Initial observations at SMK Negeri 1 Dolok Sanggul indicate that in the subject *Public Relations and Protocol Management Automation*, most 11th-grade OTKP students have not demonstrated adequate learning outcomes. Data shows that only 48.5% of students achieved scores above the Minimum Competency (KKM), while the remainder were still below the standard.

This issue reflects the need for innovation in the learning models used. Learning models that maximize student participation need to be developed to improve the quality of learning. One relevant approach is the implementation of a cooperative learning model. *Student Teams Achievement Division* (STAD). This model emphasizes the importance of teamwork, individual responsibility within a group, and interaction between students to achieve optimal learning objectives (Rohmah & Jannah, 2023). The STAD model also provides space for students with diverse abilities to support each other, creating inclusive learning, and improving academic outcomes. With the development of digital technology, the use of learning media has become an important component in supporting the teaching and learning process. Engaging and interactive media can increase student interest and concentration in understanding the material (Azzahra & Muslim, 2024). One potential learning media is the application. *Canva*, a graphic design platform that enables teachers and students to design visual learning materials practically and creatively. Canva offers easy-to-use design features and various visual elements that can enhance students' interest and understanding of the subject matter (Citradevi & Paramita, 2023). By combining the STAD learning model and Canva media, the learning process is expected to be more interactive, collaborative, and enjoyable, thereby improving student learning outcomes. This integration not only supports cognitive achievement but also develops students' social skills and creativity. Therefore, this study was conducted to examine the effect of implementing the STAD learning model assisted by the Canva application on the learning outcomes of grade XI OTKP students in the subject *Public Relations Communication Media* at SMK Negeri 1 Dolok Sanggul. This research aims to contribute to innovation in technology-based and collaborative learning that aligns with the needs of 21st-century education. Furthermore, the research findings are expected to serve as a reference for teachers and educational institutions in selecting relevant, effective, and adaptive learning strategies.

2. RESEARCH METHOD

This research is a quasi-experimental study with a design of *pre-test post-test control group*. The aim is to determine the effect of the STAD learning model based on Canva media on the learning outcomes of class XI OTKP students in the subject *Public Relations and Protocol Management Automation* at SMK Negeri 1 Dolok Sanggul in the 2024/2025 academic year. The study population consisted of 100 students from three classes of XI OTKP. The sample was taken by purposive sampling: XI OTKP 2 as the experimental class (33 students) and XI OTKP 3 as the control class (33 students). The independent variable was the Canva-based STAD model, while the dependent variable was student learning outcomes. Data collection was carried out through observation, interviews, documentation, and a learning outcome test in the form of 25 multiple-choice questions. Both classes were given a pre-test to measure initial abilities, then the experimental class was taught with Canva-based STAD, and the control class with conventional STAD. After the treatment, a post-test was given to determine the effect of the treatment. Data were analyzed using statistical tests: normality, homogeneity, and t-test.

3. RESULTS

Description of Research Results

This study aims to determine the influence of the cooperative learning model type *Student Teams Achievement Division* (STAD) based on Canva media on the learning outcomes of class XI OTKP students in the subject of Public Relations and Protocol Management Automation (OTK) at SMK Negeri 1 Dolok Sanggul. The study used a quasi-experimental design (*quasi-experiment*) with two classes: the experimental class (XI OTKP-2) which

was given the STAD model treatment based on Canva media and the control class (XI OTKP-3) which used the STAD model without media. The research instrument was a multiple-choice test consisting of 25 questions that had previously been tested for validity, reliability, discriminating power, and level of difficulty. The validity test showed that 20 questions were declared valid with $r\text{-count} > r\text{-table}$ (0.338), and 5 questions were invalid. The reliability of the instrument used in the test of *Cronbach's Alpha* produces a value of 0.689 which is in the fairly high category, indicating that the instrument is suitable for use in data collection.

Furthermore, the discriminatory power analysis showed that of the 20 questions, 9 were categorized as "very good," 10 as "good," and 1 as "fair." In terms of difficulty level, 13 were categorized as "difficult" and 7 as "moderate." The results of this analysis indicate that the questions used can measure student abilities quite well and can differentiate between high-ability and low-ability students.

Pre-test and Post-test Result Data

The pre-test data showed that the average score of students in the experimental class was 57.88 with a minimum score of 45 and a maximum of 75, while in the control class the average was 54.70 with a minimum score of 30 and a maximum of 65. After the treatment was given, there was an increase in post-test scores in both classes. The average post-test score in the experimental class increased significantly to 84.70 with a maximum score of 95 and a minimum of 70. Meanwhile, the control class experienced an increase to 76.67 with a maximum score of 90 and a minimum of 60.

The standard deviation for the experimental class post-test was 6.488, indicating a relatively stable distribution of data. The control class had a higher standard deviation of 8.354, indicating greater variation in student learning outcomes compared to the experimental class. These data support the hypothesis that learning with the aid of Canva not only improves learning outcomes but also stabilizes the distribution of student scores.

Prerequisite Analysis Test

Before conducting the hypothesis test, the researcher conducted prerequisite tests in the form of normality and homogeneity tests. The normality test was conducted using the method *Shapiro-Wilk* because the sample size was < 50 people. The results showed that the pre-test and post-test data in most groups were not normally distributed (significance value < 0.05). Therefore, the researcher used a non-parametric test (*Mann-Whitney U*) to test the hypothesis.

Homogeneity test using *Levene's Test*, shows that both groups have homogeneous variance. This is evidenced by a significance value > 0.05 across all approaches (based on the mean, median, and trimmed mean). This condition indicates that the comparison of the two groups can be conducted equally and fairly because the data distribution is similar.

Hypothesis Testing

Hypothesis testing is carried out using the test of *Mann-Whitney U* because the data is not normal. The results show that the average value of the student learning outcome ranking in the experimental class is 42.65, much higher than the control class at 24.35. *Mann-Whitney U* of 242,500 and the significance value of Asymp. Sig. (2-tailed) < 0.001 (< 0.05) indicates that there is a statistically significant difference between the two groups.

These results indicate that the use of the Canva-based STAD model is significantly more effective in improving student learning outcomes than STAD learning without media. This model has been shown not only to improve average learning outcomes but also to create a more structured and engaging learning experience for students.

These findings reinforce cooperative learning theory, which states that active student involvement in groups and engaging media visualizations can increase student motivation and understanding. Canva serves as a visual aid that simplifies material and clarifies

concepts in learning. This aligns with Arends' (2012) finding that visual learning media is highly effective in strengthening student retention.

In addition, these results are also in line with previous studies which stated that the use of graphic design-based digital media (such as Canva) can increase students' learning activity, group interaction, and deeper conceptual understanding.

4. DISCUSSION

This research was conducted at SMK Negeri 1 Dolok Sanggul involving two classes that received different learning treatments. Class XI OTKP 2 served as the experimental class that implemented the Student Teams Achievement Division (STAD) cooperative learning model supported by Canva media. Meanwhile, class XI OTKP 3 served as the control class that used the STAD model without additional media assistance. The purpose of this different treatment was to evaluate the extent to which the use of the Canva-based STAD learning model influenced student learning outcomes in the public relations communication media material. Before the treatment was given, a pre-test was conducted to measure the initial abilities of students in both classes. The pre-test results showed that the average score of students in the experimental class was 57.88, with the highest score being 75 and the lowest being 45. The standard deviation of 6.499 indicated that the distribution of student scores was quite even. On the other hand, the control class had an average score of 54.70, with the highest score being 65 and the lowest being 30. The standard deviation in the control class was 7.389, indicating a slightly larger variation in scores compared to the experimental class. From these results, it can be concluded that the initial abilities of students in both groups were relatively equal, making the comparison of learning outcomes after the treatment fairer and objective. After the learning treatment was implemented, both classes were given a post-test to measure improvements in their learning outcomes.

The post-test results showed a significant improvement in the experimental class, with an average of 77 scores reaching 84.70 and a standard deviation of 6.488. Of the total students in the experimental class, 29 students managed to obtain scores above the Minimum Completion Criteria (KKM), which is 75. In contrast, in the control class that did not use Canva media, the average score obtained was 76.67, with only 14 students achieving scores above the KKM. This finding indicates that the use of Canva media in the STAD learning model has a positive impact on improving student learning outcomes. To test the differences in learning outcomes between the two classes statistically, the researcher used the non-parametric Mann-Whitney U Test. The selection of this test was based on the results of the normality test which showed that the data were not normally distributed, so parametric tests such as the Independent Sample T-Test could not be applied. The results of the Mann-Whitney U Test analysis showed that the average rank (mean rank) of student learning outcomes in the experimental class was 42.65, while in the control class it was 24.35. The U value obtained was 242.500, with Z of -3.956 and a significance value (Asymp. Sig. 2-tailed) of less than 0.001. Since this significance value is less than 0.05, it can be concluded that there is a statistically significant difference between student learning outcomes in the experimental class and the control class. The results of this study are in line with the opinion of Primartadu (2012) who stated that the STAD learning model is a cooperative approach that encourages students to work in small groups, help each other in understanding the subject matter, and achieve learning objectives together.

This model creates an active, enjoyable learning environment and fosters a spirit of cooperation among students. In practice, teachers form groups of 4 to 5 students to discuss and solve problems together. This study shows that the implementation of the STAD cooperative learning model supported by Canva significantly improves student learning

outcomes. This is in line with research by Azzahra and Muslim (2024), which revealed that the use of interactive learning media can increase student motivation and engagement in the learning process. Canva, with its attractive graphic design features, not only enriches the learning experience but also creates a more dynamic and collaborative learning atmosphere (Citra Devi & Paramita, 2023). Student involvement in discussions and group assignments provides an opportunity to process and deepen the material together, in line with the principles of constructivist learning that emphasize the importance of social interaction in strengthening understanding (Masgumelar & Mustafa, 2021). Furthermore, the use of Canva media allows students to express their understanding in creative and visual ways, making abstract material easier to understand and remember (Arsyad, 2023). Considering these factors, it can be concluded that the combination of the STAD learning model and the use of Canva media not only improves student learning outcomes but also creates an inclusive, interactive, and enjoyable learning environment. Therefore, it is important for educators to continue exploring and implementing innovative and effective learning methods in today's educational context.

However, the STAD model also has several weaknesses, such as the need for longer learning times, which can reduce the time available for delivering other materials. Furthermore, not all teachers have optimal abilities in managing cooperative learning, as this model demands more complex classroom management skills. For students, implementing this model also requires a cooperative attitude and a strong commitment to group work to achieve optimal learning outcomes. Overall, the results of this study prove that the use of the Student Teams Achievement Division model based on Canva media has a significant impact on improving student learning outcomes. Therefore, the application of visual technology-based learning media such as Canva is worth considering in the learning process, especially to support the implementation of active, collaborative, and enjoyable learning.

5. CONCLUSION

The results of this study show that the application of the cooperative learning model type *Student Teams Achievement Division* Canva-based STAD (Students' Action Plan) significantly improved student learning outcomes in the Public Relations and Protocol Management Automation subject for class XI OTKP at SMK Negeri 1 Dolok Sanggul in the 2024/2025 academic year. Pre-test data showed that students' initial abilities in the experimental and control classes were relatively balanced. However, post-test results showed a higher improvement in the experimental group. Statistical tests using *Mann-Whitney U* proves a significant difference between the two groups. Thus, Canva media has been proven to strengthen the effectiveness of the STAD model, especially in improving conceptual understanding, active engagement, and student academic achievement. Implementation of the Canva-Based STAD Model Teachers is advised to use the STAD model supported by Canva media to create a more interactive, engaging learning process and have a positive impact on learning outcomes. Teacher Training Schools need to provide training on the use of learning technologies such as Canva so that teachers can apply the method optimally. Development of Learning Media Teachers should continue to develop contextual and creative media and teaching materials to increase student interest and understanding. Similar research is recommended to be conducted in other subjects and levels of education to test the consistency of the effectiveness of the media-based STAD model. School Infrastructure Support. The provision of supporting devices such as computers and internet access needs to be improved so that the use of digital media such as Canva can run optimally and sustainably.

6. BIBLIOGRAPHY

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