

Increasing Students' Learning Outcomes Through the Script Model of Cooperative Learning in Secondary School

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ARTICLE INFO

Keywords:

Cooperative learning;
Learning Outcome;
Script Model;
Secondary School

Article history:

Received 2022-12-12

Revised 2023-03-26

Accepted 2023-05-03

ABSTRACT

This study aims to improve student learning outcomes majoring in Social Sciences at Wawotobi High School through the application of scripted cooperative learning. This learning model is applied to determine student learning outcomes on the topic of Indonesian Natural Resources Management because students are less active during learning and are always teacher-centred, especially in student collaboration activities. The experimental research method used in this study was a one-group experimental design. This research includes pre-test and post-test. It was carried out at Wawotobi State High School in the 2021-2022 academic year. Participants were taken from the social studies major in third grade. That's about 30 students. Data collection methods include observation, tests, and documentation. The data findings conclude that $t\text{-stat} < t\text{-table}$ ($-21.973 < 2.045$), so it can be said that cooperative learning through a script model significantly increases the overall value of student learning outcomes. Learning outcomes on the subject of population dynamics in Indonesia have increased and 30 students have met the Minimum Completeness Criteria scores with a percentage of completeness learning outcomes is 100%. The results of this study recommend teachers apply a script-type cooperative learning model as alternative learning that can be done online and offline. The results of this study also have implications for teachers' understanding of the learning approach that should be used according to the needs and characteristics of students or the learning objectives to be achieved.

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1. INTRODUCTION

Student learning outcomes do not only depend on the students themselves, but teachers, students, facilities and learning methods are aspects that cannot be separated. This means that internal and external factors unite to achieve learning objectives. However, the unity of these factors does not always work well, and learning activities face various obstacles. Especially since learning activities during the COVID-19 pandemic, face-to-face learning activities have been changed to online (Dhawan, 2020; Alsarayreh, 2020; Daniel, 2020; Rismawati, Hanafi & Zulaikha, 2022). These learning activities also face many obstacles. Students reported increased stress and anxiety and difficulty concentrating, suggesting that barriers to online learning are entirely not only technological and instructional challenges but also social and affective challenges of isolation and social distancing (Lemay, Bazelais, & Doleck, 2021; Azhari & Fajri, 2022).

One of the concerns felt by teachers is building cooperation during online learning activities. Learning that leads to cooperative interactions between students or teachers is inseparable (Ivone et al., 2020). The results of observations and interviews at the State High School 1 Wawotobi at the end of the 2020-2021 school year concluded that learning activities still face obstacles, especially in student collaboration activities. In addition, students are less active during learning and are always teacher-centred. When active during learning, students are cool to play alone and less enthusiastic about participating in learning. Discussion activities or group work takes place passively, few students pay attention and are responsible for working on group assignments, so there are active and inactive group members. Meanwhile, the average value of students' abilities is also still below the standard, so it has not reached the Minimum Criteria Completeness applied in the school, which is 75.

From the findings of these problems, the learning activities carried out require an innovative learning model as an effort to help overcome learning difficulties and improve student learning outcomes. The cooperative learning model is one of the appropriate learning models that need to be developed and applied in the Social Science class at State Senior High School 1 Wawotobi. The selection of this learning model is based on the reasons; namely, the learning model must be able to encourage student involvement in learning and improve teacher creativity and skills. Moreover, cooperative activities between students also began to decrease. Cooperative learning is one of the learning methods that is believed to increase students' activities, motivation, and understanding use. This learning is student-oriented (Wibisono, Kartiko & Hartoto, 2018; R. Gillies, 2017). Even the online learning syntax also supports the process of interaction and communication in implementing cooperative learning (Ginaya, Somawati, Agung, & Mataram, 2022; Rohyami & Huda, 2019).

Cooperative learning is a well-documented pedagogical practice that promotes academic achievement and socialization, but many teachers have difficulty implementing it in their classrooms (R. M. Gillies & Boyle, 2010). The cooperative learning method is a learning method that provides opportunities for students to think critically, answer questions, share opinions and increase student learning activities and increase teacher activities in teaching even though learning activities are carried out online (Navarro-Pablo & Gallardo-Saborido, 2015; Segundo Marcos, López Fernández, Daza González, & Phillips-Silver, 2020; Prasetyawati & Prasetyawati, 2021; Hidayah, 2021). Even social media can be used as an integrated process for cooperative learning (Hamadi et al., 2021). In addition, activities in cooperative learning facilitate increased interaction among certain types of students who may not interact with classmates (Emerson et al., 2016).

From some previous research findings, it can be seen that cooperative learning provides opportunities for students to build an understanding of a concept through their activities and interactions with other students. From the literature review and previous research, it can be seen that cooperative learning can build a form of collaboration between students, and this situation leads to the need for competency outcomes in 21st-century education. So, the gap presented in this study can be seen in the application of cooperative learning carried out with the concept of online learning. The results of a comprehensive review of previous research, no previous research has proposed a framework that combines cooperative learning principles in online learning through a script model for

high school students. The selection of this model is adjusted to the learning topic for students in the Social Sciences major. The reason for choosing the script model for the application of cooperative learning is because this model provides support for students to exchange ideas, solve problems, think alternatively, and improve a student's language skills for discussions about population dynamics. So, the concept is a novelty that is different from previous research. This research is expected to provide a pattern of learning for Social Science majors in senior high schools.

So, this study aims to increase student learning outcomes using cooperative learning through a script model for students majoring in Social Sciences in Senior High Schools. This study can give benefit the teacher in using the learning strategy. Because it can help the students get the learning purpose.

2. METHODS

The research approach uses quantitative research, namely experiments, with the method design being a one-group experiment. So, in this study, pre-test and post-test were given to test cooperative learning through a script model and whether cooperative learning through a script model had an impact on increasing student learning outcomes. The one-group pretest-posttest research design is the most common type of research design used by researchers who need to assess the dependent variable before and after treatment (i.e, pretest-posttest design). The effect of the treatment was determined in the pretest-posttest research design by calculating the difference between the first assessment of the results of the second study (Allen, 2017). It was conducted at Public Senior High School Wawotobi in the academic year 2021-2022. Participants were taken from Social Science majors in the third grade. It was around 30 students. Methods of data collection include observation, testing, and documentation. Observation activities are recorded on the Student Activity Observation Sheet, tests are recorded on the Test Sheet, and documentation is derived from the syllabus, materials, and photographs. The observation sheet used is to observe the implementation of student activities while using cooperative learning through a script model. Observations were made to find out how far students can follow the steps in cooperative learning through a script model correctly. While tests are given to students related to Social Sciences subjects that have been adjusted to the achievement of learning objectives in the syllabus. Research validity data includes credibility, transferability, dependability, and conformability. The data analysis technique uses a paired t-test with two samples for the average.

3. FINDINGS AND DISCUSSION

The result of the test is to know the students' learning outcome at the end of treatment presented using statistic descriptive, the comparison between students' test scores, t-test, as follows;

Table 1. Result of Descriptive Statistic

	Pre-test	Post-test
Mean	48,7	82,6
Standard Error	1,388	0,776
Median	50	82
Mode	50	85
Standard Deviation	7,602	4,255
Sample Variance	57,803	18,11
Minimum	32	76
Maximum	61	90
Sum	1461	2478
Count	30	30

(Source: Main Data /Data Pre-test and Post-test)

Table 1 concludes that students' learning outcomes have increased after being given treatment for cooperative learning through a script model. From the data presented, the average value of learning outcomes has increased to 82.6, with a standard deviation of 4.255. Even the lowest score has met the value limit on the minimum completeness criterion value set by the school. While the highest score reached 90. The results of direct observation in class, also show that there is cooperation between students which is quite good during the process of discussing teaching materials or presenting the results of exercises. The students also showed a positive attitude towards the application of this learning model (Fitriyani et al., 2020; Simarmata et al., 2018; Wahyudin et al., 2018). Moreover, the supervisory activities carried out while implementing the cooperative learning model online are not easy and the teacher must show high intensity. This shows the gap between this study and previous research, so it can be understood that the teacher's role is very large in implementing learning models in the classroom. Overall, each student's score also experienced a significant increase, as shown in Graph 1 below.

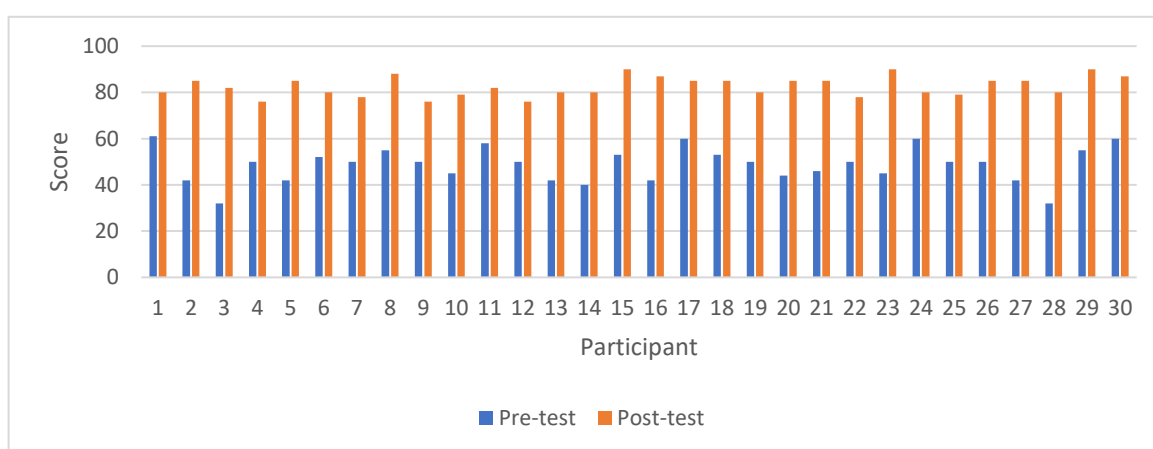


Figure 1. Comparing Students' Learning Outcome Before and After Using Cooperative Learning Through Script Model

(Source: Main Data /Data Pre-test and Post-test)

The positive influence of cooperative learning through a script model on student learning outcomes can also be seen from the results of the t-test presented below.

Table 2. t-Test: Paired Two Sample for Means

	Pre-test	Post-test
Mean	48,7	82,6
Variance	57,803	18,11
Observations	30	30
Pearson Correlation	0,069	
Hypothesized Mean Difference	0	
df	29	
t Stat	-21,973	
P(T<=t) one-tail	6,31	
t Critical one-tail	1,699	
P(T<=t) two-tail	1,262	
t Critical two-tail	2,045	

(Source: Main Data /Data Pre-test and Post-test)

Table 2 concludes that $t\text{-stat} < t\text{-table}$ ($-21.973 < 2.045$), so it can be said that cooperative learning through a script model significantly increases the overall value of student learning outcomes. This means that cooperative learning through a script model affects increasing student motivation, even though conditions are still in the adjustment period from the co-19 pandemic. The right strategy can have a considerable impact on student learning performance.

Based on the results of observations in learning to describe student learning activities in the teaching and learning process on the subject matter of Population Dynamics in Indonesia, which is taught by applying a script-type cooperative learning model, it shows an increase in student activity and creativity better. The increase in student activity shows the interest and enthusiasm of students in participating in the learning process on the subject matter of Population Dynamics in Indonesia. Some findings of student activities were still relatively enough, including (1) students listening to the motivation and learning objectives/competencies to be achieved, (2) students determining who plays the role of speaker and acts as a speaker and listeners, (3) students who act as listeners help students who act as speakers to remember/memorize the main ideas by connecting the previous material or with other material, and (4) students doing the question and answer activities about the material being taught. It is shown by the creativity and innovation of students while learning to use cooperative learning.

Thus, both teacher-student and student-student exploration can be beneficial to students' educational experiences and cognitive growth (Chan, 2020; McWilliams et al., 2021). Even more research shows that students' attitudes towards online collaboration and their online collaborative learning behaviour are impacted by interculturally enriched collaboration scripts, but not their learning performance (Popov et al., 2019). There has been a rise in interest in cross-cultural learning collaboration in recent years. Students from a variety of cultural backgrounds are encouraged to contribute to the learning process by actively participating in this model (Fosua Gyasi & Zheng, 2023). However, the researcher discovered that there are roadblocks to the teacher's attempts to foster interaction and communication. They work harder and come up with new ways to employ instructional materials and conduct cooperative learning procedures. When working on teacher-assigned projects, students are more likely to work together, particularly in the areas of mindset development and information sharing within groups. The idea behind the cooperative learning approach is the same as that behind the think-pair-share method. For the reason that through working together, students can better enhance their critical thinking skills (Haryanti, 2019). So, the instructor creates a group study space, which may incorporate modern tools, to give students a new educational experience (Xu et al., 2023).

This finding also raises the concept of developing cooperation during the discussion process adapted to the student personality type (Emerson et al., 2016). Moreover, the application of cooperative learning in online classes has provided different challenges than offline classes. Online Cooperative Learning (OCoL) provides a different experience compared to Conventional Cooperative Learning (CCoL). OCoL implementation uses various web-based tools to support Cooperative Learning elements such as face-to-face interactions (Mohamad et al., 2014). Using cooperative learning in the classroom provides several potential advantages for a teacher. This can ease the burden on the teacher in communicating information, thus enabling the teacher to actively monitor and identify students who have difficulty with the material (Donnell et al., 2018). Teachers have a high level of innovation and creativity in building interactions with students. This condition is certainly influenced by the role of digital technology and its relevance in the curriculum; designing and implementing harmonious pedagogy is a challenge (Meroño et al., 2021).

Thus, cooperative, small-group learning is widely recognised as a pedagogical practice that promotes learning and socialisation across a range of subject areas from elementary schools to universities. Cooperation teaches youngsters to be helpful to one another, to share and listen to the thoughts and opinions of their peers, and to seek out novel approaches to resolving conflicts and expanding their understanding. As a result, students are more invested in their academic success and produce better outcomes than they would on their own (R. M. Gillies, 2003). The findings make sense

in light of the setting of the jigsaw technique (Moskowitz et al., 1985) or the Student Team Achievement Division (Chim, 2015) form of cooperative learning. Students' critical thinking skills also benefit from cooperative learning use of the discussion and sharing of knowledge that characterises learning activities (Istiara & Lustyantje, 2017; Lee et al., 2016).

To achieve student-centred teaching and learning (student-oriented), teachers often turn to cooperative learning to engage students who aren't naturally extroverted or who struggle to get along with their peers. Alignment in the acquisition of 21st-century skills is made possible through cooperative learning. Since this method of instruction fosters cooperation and analytical thinking. This suggests that, even in the face of modern global concerns, high school students can benefit from engaging in cooperative learning (Febriani et al., 2020)

4. CONCLUSION

Based on the collected evidence, it was determined that the script model of cooperative learning improved students' grasp of social science concepts. The acquisition of the mean value and the t-test outcomes both show this improvement. This indicates that the script-type cooperative learning methodology is effective in raising students' knowledge acquisition. Thirty students in Indonesia met the Minimum Completion Criteria for Learning by Accomplishing 100% in the Subject Area of Population Dynamics. As a result, the script model's cooperative learning approach has an effect on students' final grades, and it may be used successfully in both virtual and traditional classroom settings. The findings of this study have consequences for educators' knowledge of the most effective methods of instruction, which vary with the requirements and characteristics of individual students and the goals of the lesson. Based on the findings of this study, it is recommended that educators implement the script-type cooperative learning model as an alternate form of learning that may be done both online and offline. Learning other subjects that can be coupled with technology media can be produced using the script-type cooperative learning model already in use in schools. Researchers with an interest in the area of cooperative learning assessment can still benefit from this study's findings. The results of future studies can be used to design hybrid online-offline cooperative learning methods.

Acknowledgements: We would like to thank all participants, namely students, teachers and collaborators at State High School 1 Wawatobi, who have assisted in the implementation of this research. Thanks are also extended to all fellow researchers who have jointly completed this research on time.

Conflicts of Interest: no conflict of interest

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