



## Development of the Two Stay Two Stray and Jigsaw Model with Learning Videos to Improve Learning Outcomes

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### Abstract

Social studies education in elementary schools is still teacher-centered; it appears that no models or media are employed in social studies education, and learning results have not yet reached the Minimum Competency Criteria (KKM). This study aims to examine the validity, design, and efficacy of the stay-two-stray and jigsaw learning models utilizing learning video media. This is a development study (Four-D Models) comprised of defining, designing, developing, and disseminating stages. Data collection methods are questionnaires, exams and interviews. This study was conducted in grade V SD Negeri Pakuncen and grade I SD Negeri Wonosari in the Pegandon District of the Kendal Regency. The findings demonstrated that establishing two stay-two-stray and jigsaw learning models with video learning to enhance social studies learning outcomes was highly valid, with a syntactic validation score of 92%, content of 87%, and RPP of 95%. The effectiveness of the offering indicates that learning outcomes have improved. Based on the pre- and post-test results, the N-gain test was classified as moderate with a score of 0.60. In addition, the student's emotional and psychomotor learning outcomes improved with excellent criteria. The benefits of research results make it simpler for students to comprehend the material presented by the teacher, improving student learning outcomes. This research concludes that establishing the stay-two-stray and jigsaw learning models with learning videos can increase learning outcomes and that students can collaborate, be responsible for helping one another solve problems, and motivate one another to excel.

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## INTRODUCTION

Education is a person's most valuable asset. Without education, one cannot progress toward a greater life objective. Consequently, the education industry requires substantial concentration and prioritization. Ki Hajar Dewantara underlined that the image of Indonesian cultural values must be reflected in traditional Indonesian education.

According to Ki Hajar Dewantara, the founder of Indonesia's national education system, education is necessary for the development of students. The purpose of education is to direct students' innate abilities so that they, as people and members of society, can attain the highest level of happiness and security possible (Ki Hajar Dewantara, 2013:20).

Elementary school education must be given special consideration because elementary schools constitute the foundation for accomplishing future educational objectives. The success of education in elementary schools can be indicative of the future success of education. Playing activities also reveal a pattern of expressive growth in elementary school students (Putri, 2020).

Families and schools are examples of institutions that can impart values. Planting values in educational institutions may take the form of various activities, both in the form of rules and as part of the classroom learning experience. In this instance, social studies disciplines are appropriate for teaching Pupils social ideals. Learning can be adapted to existing fields to impart value. This is consistent with the purpose of the friendship test, which is to cultivate students who can form connections and promote social collaboration in light of sociological values, standards, and concepts (Atmaja, et al., 2016).

According to Warsiti's (2011) research, elementary school students typically exhibit the following characteristics: 1) They are scientifically interested in the world; 2) They enjoy having fun and playing; 3) They also

enjoy self-regulation, investigating new situations, and experimenting; 4) They are motivated to participate so as not to fail, and 5) they learn effectively; 6) They advance by paying attention, working, and stepping up to the plate, and showing different kids when they are happy with everything that is going on.

In addition, the findings of interviews with teachers from grade V at Pakuncen Elementary School and SD Negeri I Wonosari, Pegandon Regency, and Kendal Regency confirmed the existence of numerous issues in Social Studies education: (1) Education is still imparted by the teacher, and (2) students lack initiative in their talents. Ask questions, but students remain silent when asked to do so, (3) the teacher still lacks the ability to create learning and leverage the surrounding environment, (4) memorization is emphasized more in learning, and (5) RPP is merely administrative completeness (6) Other than that, the majority of social studies learning still occurs outside of the classroom. This is due to the limits and hurdles that students face during the learning process, such as the teacher's exclusive focus on books and existing text content, and the fact that the teacher's choice of media does not make and does not understand the dialogue. Techniques utilized during learning and learning Educators employ engaging learning media infrequently, although they have used conversational tactics to cultivate patient (interesting) students. It merits special consideration because it significantly impacts how much students learn from their teachers. This is consistent with the teachers of Agung's (2011) study, which indicates that, in order to aid the learning process, teachers continue to employ less attractive and teacher-dominated conventional approaches in the classroom.

Through cooperative learning models, students are able to engage in interactions that facilitate cooperative learning. This model has multiple types. Two Stay Two Stray and Jigsaw are types that can increase student self-

confidence and participation (Fahad Maonde et al., 2015).

Using the cooperative learning model, teachers must adapt and modify learning to overcome learning challenges, such as the Jigsaw learning model (Sebayang, 2021).

According to Marlin et al., (2020), some experts feel that the Jigsaw model has successfully changed norms regarding learning outcomes and improved academic performance. Academically ambitious students are frequently stigmatized by youth culture. In the jigsaw model, there is an expert group. The first group of students is referred to as the "home group". It comprises an equal number of individuals from the expert group, taking their diverse experiences into account. In contrast, an expert group comprises students assigned to explore a specific topic and present their results to the home group. In this case, the role of the teacher is to help experts comprehend the content and motivate them to complete it.

Consequently, the objective of this study is to create a cooperative learning model based on the stay-two-stray and jigsaw cooperative learning models using learning video media. The media utilized in the learning process must be acceptable and relevant to the topic being taught. One of them is video-based learning media. For instance, video-based simulations have made the learning process easier to comprehend (Nickl et al., 2022).

Understanding the significance of learning models and creating learning models utilizing learning video media can be used as a solution to these issues because learning media acts as a conduit for knowledge transmission. The outcomes of this study would lead to the implementation of learning models and films so that students can interact, be responsible for assisting one another in problem-solving, and encourage one another to accomplish active, innovative, creative, and enjoyable learning.

The study's objectives were to assess the validity of collaborative learning models and

the efficacy of collaborative learning models of the Two Stay Two Stray and Jigsaw cooperative learning models with learning video media in fifth grade elementary school.

## **METHODS**

This research was designed with a research development design or Research and Development. The design of this study follows the path of Thiagarajan et al., (1974) namely 4-D (Four-D Models) which consists of four stages, namely the define, design, develop and disseminate stages.

### **Defining Stage**

At this point, an analysis of the learning resources utilized in SD Negeri Pakuncen and SD Negeri I Wonosari, Pegandon District, Kendal Regency, was conducted, and the fifth-grade teacher was questioned. An analysis of learning resources was conducted to identify the availability of various types of sources utilized to assist the study of social studies, particularly interaction material between humans and the natural world. Analyze the important ideas that students must know. The concept is intended to facilitate students' understanding of the presented information. The intended learning outcome is determined by incorporating learning videos into the Two Stay Two Stray and Jigsaw models.

### **Design Stage**

Based on the information gathered during the defining stage, determine a method for developing a more effective and efficient initial product design.

### **Development Stage**

Developing products in the form of a collaborative syntax of the two stay two stray and jigsaw learning models with videos on social studies subjects as valid and practicable learning steps and resources for fifth grade elementary schools.

After consultation with the supervisor and revisions, the development results will be validated by subject matter experts, curriculum experts, and practitioners. Later, after material experts, curriculum experts, and practitioners have evaluated the product's validity, advice or ideas will be received and used to improve the product.

### Dissemination Stage

The purpose of this study's product dissemination stage was to obtain the teacher's assessment of the product being developed. Students were given a questionnaire to assess the collaborative syntax of the two stay two stray learning model and jigsaw with learning videos, in addition to the teacher's response. This step seeks to refine the cooperation syntax of the stay-two-stray and jigsaw learning models using learning videos and to determine whether students are satisfied with the generated products and can readily comprehend the subject.

In this study, the One-Group Pretest-Posttest Design was used. The sample was selected based on the average learning results of the students. According to Arikunto (2012: 104), if the number of students is fewer than 100, all the samples are combined. The sample of this investigation is 67 students. Students in the fifth grade at SD Negeri Pakuncen and SD Negeri I Wonosari participated in the trial.

Product feasibility analysis uses descriptive percentage test analysis data utilizing the formula from Eka, et al., (2013), which is as follows:

$$P = \frac{S}{N} \times 100 \%$$

Note:

P = component percentage

S = total score of the components of the results of the study

N = maximum total score

The criterion is deemed valid if the score is > 61%.

In addition, the N-gain test was used to evaluate the efficacy of the collaborative

learning model two stay two stray and jigsaw with learning video media. The objective of the N-gain test is to compare the pre-test and post-test readings. The test results reflect the students' abilities after learning has occurred. The N-gain test demonstrates that students' knowledge increases. In the N-gain test, the formula below is utilized:

$$G = \frac{\text{skor posttest} - \text{skor pretest}}{\text{skor ideal} - \text{skor pretest}}$$

The N-gain test has 3 categories namely low, medium and high.

## RESULTS AND DISCUSSION

This research produces a collaboration model syntax of two stay, two stray, and jigsaw that is implemented into the learning activities of lesson plans. Laguardo (2014:46) asserts that in the contemporary day, the suggested learning model is student-centered education in which the teacher functions as a facilitator for educational activities. Consequently, the active participation of students in learning is observed. The cooperative learning model is one of the learning methods that can foster cooperation between students. The 4D research design consisted of defining the problem through interviews with fifth-grade teachers at SD Negeri Pakuncen and SD Negeri 1 Wonosari, designing a collaborative learning model syntax, then inserting it into the steps of learning activities in the lesson plan, revising one curriculum expert validation of the syntax of the learning model (92%), material expert validation (87%), practitioner validation (96%), and teacher response appropriateness test (95%) to conclude. Implementation of the development of the two stay two stray and jigsaw learning models with learning videos to improve social studies learning outcomes with a sample of 67 students from SD Negeri Pakuncen and SD Negeri 1 Wonosari is quite effective after being tested for the effectiveness of student learning outcomes, namely 0.6 in the medium category and a percentage of 60% with interpretation.

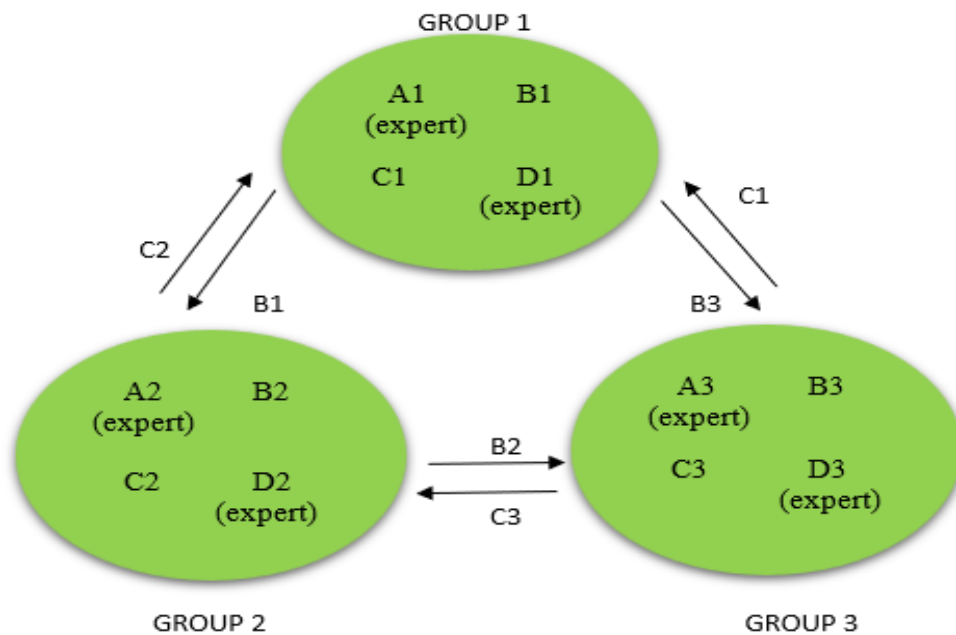
**Defining Stage**

According to the results of the interviews, the weaknesses of students in social studies learning were that they frequently failed to follow the learning process, that their ignorance and laziness frequently led to unsatisfactory results, and that some students found social studies lessons boring because they were required to understand the material and complete temporary practice questions. Still, many students would prefer to read. In addition, the final grade of IPS for grade V SD Negeri Pakuncen and SD Negeri I Wonosari still has a large number of scores that are below the average or have yet to reach the KKM that has been established, which is 75. Furthermore, the media used by the teacher in social studies learning is only worksheets and student books, so student interest in learning is lacking, and social studies learning materials

on human interaction with the environment are already sufficiently understood by the students. According to the Fifth Grade teacher, there are insufficient social studies learning materials, only written media, despite students requiring creative, innovative, and fun learning.

**Design Stage**

In the RPP design for learning activities, the two remain two stray and jigsaw learning models include a collaborative syntax. Collaborative learning approaches are applicable to all subjects and student degrees. A two-stay, two-guest structure enables groups to share findings and information with other groups. This is done because individual activities negate many educational and learning activities. The following is an illustration of the learning model's implementation stage.



**Figure 1.** Learning Model Stage

The stages of the learning model for each student in the collaborative learning model group are depicted in Figure 1.

A: Acts as the conversation leader and ensures that group members perform their assignments accurately and on time.

B: Acts as a recorder of the results of discussions currently taking place.

C: Acts as a technician who organizes the collection of resources.

D: Acts as a reflector who ensures that all questions pertaining to the topic of discussion have been answered and that group members have provided input or ideas.

In the modern era, the preferred learning model for teaching and learning activities is the teacher as a facilitator and student-centered learning. Consequently, the active participation of students in learning is

observed. Learning models that can foster student cooperation. The learning model can be utilized effectively and to its full potential, hence improving the educational experience. Students must take responsibility for each task and teach their students in accordance with the learning model so that they can comprehend mutual understanding. The collaborative learning model created is shown in the table below.

**Table 1.** Syntax of the Two Stay Two Stray and Jigsaw Collaborative Learning Model

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Two Stay Two Stray and Jigsaw Learning Model Collaboration

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The teacher divides students into heterogeneous groups of four in order to facilitate peer tutoring.

The video presents academic material to students, and each student is responsible for learning a portion of the subject.

Two members of each group travel to the group of another member. Two members of the expert group are responsible for sharing their work and knowledge with visitors.

Guests return to their own group to compare their findings with those of the other groups.

After discussion and presentation, the group next evaluates the situation collectively.

The teacher gives appreciation.

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Syntax of the Two Stay Two Stray and Jigsaw Collaborative Learning Model is shown in Table 1. The cooperation of the Two Stay Two Stray and Jigsaw learning models entails the following: (1) The teacher divides the students into heterogeneous groups of four students. The objective is for students to collaborate and discuss the assigned material. What are heterogeneous groups, particularly those composed of students with varying abilities and genders? This helps educate students to accept the diversity of others and to collaborate with peers from other backgrounds. In the movie, students are exposed to academic material, and it is up to each student to study a portion of it. The objective is to direct students to be accountable for their job and study the assigned academic material. (3) Two members of each group leave in order to visit other groups. Two individuals (expert groups) are responsible for presenting their results and knowledge to the visitors. The objective is to help each other succeed and teach students to

interact effectively. In one instance, students are tasked with listening to explanations from visiting friends, leading them to indirectly listen to explanations from the host. (4) Guests return to their original group and compare their results to those of other groups. The objective is to direct students to listen, match material discovered from peers' explanations, and train students to talk and argue more actively. (5) Following discussion and presentation, they are collectively appraised. The objective is to assess students' capacity to comprehend the acquired material and to encourage them to participate in both question-and-answer sessions and conversations with their students. (6) The teacher expresses gratitude. The objective is for students to be excited about learning; appreciation can take the shape of praise or other incentives.

In the RPP design for learning activities, there is a collaborative syntax for the two stay, two stray, and jigsaw learning models, which is supplemented by YouTube

learning videos centered on human interaction with the natural world. The video contains 6 minutes videos of materials and examples of daily life connected to the human connection with the natural environment by the fifth-grade social studies curriculum. The movie features an introduction consisting of subject material on human engagement with the natural environment and images of common examples of human interaction with the natural environment. When students use video media to learn, their understanding of the subject matter also improves. This learning video's ability to serve as a complement (reciprocal) in training learning (Kurniawan et al., 2018). For this reason, interactive learning through learning media is required to improve students' motivation and conceptual understanding (Iwantara et al., 2014). Consequently, video-based content can be utilized for both face-to-face and online learning.

Yusriya, et al., (2014) Explain that learning videos can complement abstract animal classification biology teaching resources. This study aims to determine if and how animal classification learning videos may be used as additional teaching resources.

Hibra et al., (2019), states that learning media in teaching and learning activities is very necessary to support learning outcomes and student enthusiasm for learning and is very helpful for teachers in conveying messages well to students.

Lange, et al., (2020), states that the use of media in online learning has been proven to help the learning process by delivering information through various formats. And media can be delivered so that the overall online learning experience can be improved.

### **Development Stage**

The stage of developing the collaborative syntactic product of the two stay, two stray, and jigsaw learning model using videos that test the validation of material experts, curriculum experts, practitioners, and

teacher responses. Syntax validity of the learning model obtained from Semarang State University lecturers with a score percentage of 92% and very valid criteria, material validity from Semarang State University lecturers with a score percentage of 87% and very valid criteria, and senior teacher practitioners from SD Negeri Pakuncen with a score percentage of 96% and valid criteria.

### **Disseminate Stage**

This stage is the dissemination of the collaboration syntax of the two stay-two-stray and jigsaw learning models with video learning and a questionnaire testing the feasibility of student responses with a percentage score of 90% included in the very feasible criterion. To determine the effectiveness of grade V students, a pretest and posttest were administered with student learning outcomes of 0.6 with a moderate category and a percentage of 60% with a fairly effective score. So that it can be concluded that the two stay two stray and jigsaw learning model with this learning video is quite effective for enhancing student learning outcomes, the lesson plan containing the two stay two stray and jigsaw learning model with learning videos is distributed to elementary schools, in particular grade V SD Negeri Pakuncen and SD Country I Wonosari.

According to the results of the test of the effectiveness of the implementation of the two stay two stray and jigsaw learning models with social studies learning videos on human interaction with the natural environment for grade V SD Negeri Pakuncen and SD Negeri 1 Wonosari Pegandon District, they have a positive impact on cognitive learning outcomes because the results of the test of the effectiveness of student learning outcomes are 0.6 with a moderate category and moderate category, with percentage of 60% fairly effective interpretation.

Because the two remain two stray and jigsaw learning models with video learning are appealing to students in the learning process

and have a significant impact on cognitive learning outcomes, here are some benefits of the learning model. The benefits of the learning model are as follows: (1) Can encourage students to work together and be eager to learn; (2) Increasing the motivation of fellow students and mutual respect; (3) Provide opportunities for open communication of ideas due to the small number of students in each group; (4) Teach students how to communicate clearly and effectively. Moreover, instructional video has the following advantages: 1) is tangible; 2) video can transcend the restrictions imposed by space and time; 3) can circumvent the limitations of observation; (4) can provide answers to a problem in any sector; 5) can be produced rapidly and affordably in the digital era; and 6) can be used in any field. 6) Able to describe objects using images and sounds (Rudi,2017).

Mikrayanti (2020) stated that jigsaw cooperative learning involves students to be responsible for their own work and to teach other group members so that they can communicate with one another. Subiyantari *et al* (2019) states that because students learn in smaller and more specific groups, the Jigsaw cooperative learning model can help students develop problem-solving skills.

Nurwulan, *et al.*, (2020) video-based learning media products are feasible to use and can improve student learning outcomes.

Bali (2020), explains that the Two Stay, Two Stray learning model not only emphasizes learning in groups, but also learning between groups through the sharing and discussing the results of group activities.

The learning videos are intended to engage students in demonstrations and practical learning. As a result of the teacher's efforts as a learning facilitator, students can participate more actively, view videos carefully, engage in thoughtful discussion, and engage in the meaningful practice (Huda *et al.*, 2015). Learning media is a channel or intermediary used to convey teaching

materials or learning materials (Devi, *et al.*, 2021).

Putriningtyas (2020) stated that video is an audio-visual needed in the learning process involving hearing and sight in a process or activity simultaneously. (Fadillah *et al.*, 2017) stated that the teacher's participation in the learning process must be distinct from the effective use of media in the classroom. The teacher acts as a guide, and students assist in understanding by interacting with media.

## CONCLUSION

Based on the results of the analysis and discussion that has been carried out, it can be concluded that the development design is 4-D (Four-D Models) which consists of four stages, namely define through teacher interviews, design stage by creating collaborative learning model syntax then loaded in the learning activity step with support video learning, the develop stage obtained a percentage score of 92% with very valid criteria (syntax validity of learning model collaboration), a percentage score of 87% with very valid criteria (material validity), a percentage score of 96% with very valid criteria (validity of lesson plans by practitioners), the percentage score was 95% with very appropriate criteria (teacher's response questionnaire), the disseminate stage obtained a score percentage of 95% with very feasible criteria (student response questionnaire), and student learning outcomes were tested for effectiveness, namely 0.6 with the moderate category and a percentage of 60% with interpretation is quite effective.

The validity and feasibility of collaboration of the two stay two stray and jigsaw learning models with learning videos for improving social studies learning outcomes in very valid criteria with a percentage score of 92% (curriculum expert), a percentage score of 87% (material experts), and a percentage score of 96% (practitioners ) while the feasibility of collaboration learning models two stay two



stray and jigsaw with learning videos in very feasible criteria with a score percentage of 95% (results of teacher responses), a percentage score of 95% (results of student responses).

Models of collaborative learning for improving social studies the cognitive learning outcomes of students receive a score of 0.6 in the moderate category and a percentage of 60% with a fairly effective interpretation, indicating that the outcomes are effective or that students can already use them. Researchers can provide students with suggestions that make it easier for them to understand learning content and recall learning material presented by the teacher, hence improving student learning outcomes. For teachers, providing creative ideas on learning media, particularly quartet card media, as well as motivating teachers to employ a range of learning methods and providing solutions for active and entertaining learning using learning media. It is envisaged that schools will recommend collaborative learning models to teachers so that students will be excited and motivated about learning. It is anticipated that future researchers will study additional sources and references about the collaborative development of the two-stay-two-stray and jigsaw learning models using learning videos.

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