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Development of Learning Devices Two Stay Two Stray Cooperative Model to Increase Social Skills and Learning Outcomes

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Abstract: Development Of Development Development Of Two Stay Two Stray Type Cooperative Models To Improve Social Skills And Learning Outcomes. The purpose of this research is to develop and produce a valid, practical and effective two stay two stray cooperative learning model on the subject of ecosystem the fifth grade elementary school and to describe the results of the implementation of lesson plans, student learning outcomes, social skills, student responses, and the obstacles encountered in implementing learning. This research is conducted in two steps, first is the development of cooperative learning models Type Two Stay Two Stray which refers to the four-D development model but until development stage. Second is try learning models that has been developed, in students. The subjects of this study were VA and VB grade students at Ngagelrejo I / 396

SDN Surabaya. Testing was conducted using One Group Pretest-Posttest Design. Data collection is done by validation, observation, tests, and student questionnaire responses. The data analysis technique uses descriptive technical analysis. The results of this study indicate that the Two Stay Two Stray cooperative learning model is very valid, practical, and effective for ecosystem material.

Keywords: Two Stay Two Stray, Social Skills, Learning Outcomes.

Abstrak:Pengembangan perangkat pembelajaran model kooperatif type two stay two stray untuk meningkatkan keterampilan social dan hasil belajar siswa. *Penelitian ini bertujuan untuk mengembangkan dan menghasilkan perangkat pembelajaran model kooperatif tipe Two Stay Two Stray yang valid, praktis, dan efektif pada pokok bahasan ekosistem kelas V sekolah dasar; dan untuk mendeskripsikan hasil keterlaksanaan RPP, hasil belajar siswa, keterampilan sosial, respon siswa, serta Kendala-kendala yang dihadapi dalam pelaksanaan pembelajaran. Penelitian ini dilakukan dalam dua tahap, yaitu tahap pertama pengembangan perangkat pembelajaran model kooperatif Tipe Two Stay Two Stray yang mengacu pada model pengembangan four-D tetapi hanya sampai pada tahap pengembangan. Tahap kedua yaitu mengujicobakan perangkat pembelajaran yang telah dikembangkan pada siswa. Subjek penelitian ini adalah siswa kelas VA dan VB SDN Ngagelrejo I/396 Kota Surabaya. Uji coba dilakukan dengan menggunakan One Group Pretest-Posttest Design. Pengumpulan data dilakukan melalui validasi, pengamatan, tes, dan angket respon siswa. Teknik analisis data menggunakan teknis analisis secara deskriptif. Hasil penelitian ini menunjukkan bahwa perangkat pembelajaran model kooperatif tipe Two Stay Two Stray sangat valid, praktis, dan efektif untuk materi ekosistem.*

Kata kunci: *Two Stay Two Stray, Keterampilan Sosial, Hasil belajar.*

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▪ INTRODUCTION

The Educational institutions that hold an important contribution to prepare for the transition of the younger generation in the future, especially in 2045 where Indonesia is 100 years old and is estimated to be ranked 7th of the largest economic power in the world. Therefore, education is an absolute necessity that must be obtained by every individual. As written in Law No. 20 of 2003 concerning the National Education System which mandates equal distribution of educational opportunities, relevance and quality improvement, facing challenges in accordance with provisions of changing local, national and global civilizations within the framework of education management is something that must be done conceptually, in an orderly and sustainable manner.

The time we face today requires anyone to be prepared to face all challenges. in other things, this era also provides an opportunity for anyone to get optimal benefits from technological advancements that have entered the industrial revolution of the 4.0 era. Developments in any field, including education, teaching, learning will be obtained by anyone who is good at adjusting and taking the best benefits with rapid changes at any time. Therefore, it is necessary to improve, innovate, perfect the implementation of national education in accordance with the times at that time. According to Hosnan (2014, p.87), in the 21st century, there are four skills that must be possessed in order not to be left behind by the times and to be able to compete, including (a) communication skills, (b) collaboration skills, (c) critical thinking and problem-solving skills, (d) creativity and innovation skills. These various skills must be possessed by someone to be able to compete with the outside world. Humans who are able to survive are those who can communicate in various ways, both in writing and orally. At this time we are required to be able to understand, control and produce effective communication in various forms of oral, written, and multimedia. With good communication, we will be very easy to adapt, socialize and build various collaborations with others. Besides, we no longer depend on the competition. Indeed, successful people in this century are people who can work together with others on various needs. In this era we must be able to apply expertise in collaboration in groups and leadership, adjust in various positions, responsibilities, work optimally with others, put empathy in its place, respect dissenting opinions, carry out personal responsibilities and flexible in the workplaces and public relations. Therefore, whether we like it or not, we must be able to deal with it, so we must equip ourselves to live in the 21st century.

Beginning study that conducted on students of 5th ABCD SDN Ngagelrejo I / 396 Surabaya show 80% of students could not reach the minimum learning completeness criteria (KKM) set by the school, 75 in Natural Sciences (IPA) subjects. The problem of students at SDN Ngagelrejo I / 396 class V is to regard science as a difficult rote science so that it makes students less interested in learning science.

Based on interviews and monitoring in the science learning process at SDN Ngagelrejo I / 396, it was exposed that the learning implemented by teachers was still

teacher-centered. Passive students to ask the teacher about what is not yet understood; there are still many who are careless in completing tasks; students are inclined to only accept the material taught without wanting to analyze further without furthering; when asked by the teacher, no one wants to answer personally but they answer together so that the voice is not clear; when doing the exercises in the source book, there are still those who do it by guessing without wanting to read it first; if asked for examples in daily life, it will be answered in accordance with what is given by the teacher; there are still those who do the task carelessly; the ability of teachers to prepare and apply challenging learning is still low; and applied to learn is less meaningful based on unpreparedness in giving a quiz at the end of learning (Husna, 2012).

The cooperative learning model is a series of learning activities that are applied to create learning activities based on students (student-oriented), develop thinking skills, improve character attitudes and social skills especially to prevent the facts found by teachers in activating students, who are unable to correlate with others, students who are aggressive and apathetic to others. According to Nur (2011) that the cooperative learning model is a practical classroom method that teachers can apply in their daily lives to help students gain knowledge in each subject area, from basic skills to complex problem solving. based on the 2013 curriculum which is a revision and development of KTSP. The theme of the 2013 curriculum is to produce people who are: productive, creative, innovative, affective; through strengthening attitudes, skills and knowledge that are connected to each other. To realize this, teachers are required to organize effective and meaningful learning in a professional manner, sort out learning, determine the right learning approach, choose learning steps and develop abilities to be achieved efficiently, and set benchmarks of success (Mulyasa, 2013) .

The Two Stay Two Stray (TSTS) Cooperative Model is one of a series of learning activities that is appropriate to use because the TSTS Type model can facilitate students in collaborating and will improve their communication in deliberation. The discussion that takes place does not only take place in one group but also connects the results of their deliberations to other groups in pairs. According to Lie (2006, p.61), "The TSTS learning method (two left two guests) is a method for teaching where students learn to solve problems with group members, then two people from the group rotate information to the two other members who live". Meanwhile according to Komalasari (2014, p.69) said that the TSTS learning

model is a model of group learning patterns by providing opportunities for groups to share information and products produced by their groups with other groups.

The teacher can use the TSTS learning model on all lessons for the age level of students. This model is applied to create student oriented learning where students are the focus of learning. The use of this learning model is to stimulate students to be enthusiastic and involved in groups both during discussions, conducting question and answer, probing answers and information and listening to the material that has been expressed by his friend. Cooperative learning type TSTS will stimulate to solve the given problem and be able to discuss the problem with his friends so as to be able to increase learning activities and outcomes (Celikten, 2012).

The learning process to reach KD 3.5. Analyzing the relationship between ecosystem components and food webs in the surrounding environment and 4.5 Making work on the concept of food webs in an ecosystem to explain ecosystem phenomena as well as the actions needed to maintain ecosystem balance, in SDN Ngagelrejo I / 396 Surabaya. The teacher has used a cooperative model, where students do not focus on

group learning, other than that they are not given the opportunity to see the work of other groups, group members choose themselves so there is no transfer of knowledge. To achieve the above competencies, learning models are needed, one of them is Type Two Stay Two Stray cooperative learning, which can increase academic achievement, increase tolerance and respect for differences, and build social skills (Kagan, 2009).

Learning tools are valuable points of the learning process. Learning devices are a set of instruments or means that can support teachers to facilitate teaching and learning. For a teacher / teacher learning equipment is an important tool produced by the teacher before teaching. According to Nieveen (1999), good and appropriate learning tools used in learning must be valid, practical and effective.

Cooperative Learning Model

The cooperative learning model is a learning approach that focuses on using small groups of students to work together in maximizing learning conditions to achieve learning objectives. The ability of people to get along and interact effectively with others is often the same or more important for their success and happiness. Inevitably, social development is an important goal of schools (Eggen & Kauchak, 2012). Cooperative learning is designed to assist students in improving student performance on academic assignments that are important in changing norms related to achievement. In accordance with these benefits, then through Two Stay Two Stray cooperative learning, it is expected to be able to practice social skills and improve student performance.

Elements of Cooperative Learning

According to Roger and David Johnson (Lie, 2004 in Rusman 2012), there are five elements in the cooperative learning model, namely: Positive Interrelation, Individual Responsibility, Face-to-face Interaction, Participation and Communication and Evaluation of Group Processes.

Objectives of Cooperative Learning

Cooperative learning strategies are developed to achieve at least three learning goals (Ibrahim, 2000), namely: Improving academic learning outcomes, Accepting individual differences, and Developing social skills.

Learning Theories which Support Cooperative Learning

1. Constructivism Theory According to Piaget and Vygotsky

Learning according to constructivist learning theory not only relies on memory but also builds knowledge through the experience of gaining knowledge. Science is not a "gift", but a product of the concept-building stage carried out by each individual. Knowledge gained from "giving" does not mean much. Intelligence obtained through the stage of constructing concepts by each individual will produce meaning that is deeper or more understood and longer stored/remembered in each individual.

2. Behavior Learning Theories

According to Thorndike, learning is the process of interaction between stimulus and response. A stimulus is something that stimulates learning activities including thoughts, feelings, or other things that are able to be captured through the sense organs. While the response is the reaction displayed when students learn, which can also be thoughts,

feelings, or movements /actions. So changes in behavior caused by learning activities can be in the form of concrete, i.e. those that can be seen, or those that are not concrete, that cannot be seen. Although the flow of behaviorism prioritizes measurement, it cannot reveal how to measure behavior that cannot be observed. Thorndike's theory is also called connectionism theory (Slavin, 2000).

3. Bandura's Social Learning Theory

Social learning theory describes the behavior of ongoing mutual interactions of cognitive, behavioral, and social impacts. A person learns through monitoring other people's behavior, attitudes, and results from this behavior. "The majority of human behavior is analyzed by observation through modeling, namely from observing other people. Then the results are useful as a reference for action. Bandura believes in" mutual determinism ", ie the environment does shape behavior and behavior shapes the environment, whereas behaviorism basically states that a person's environment cause one's behavior.So the core of social learning is modeling.Other important principle in this learning is self-regulation (Ibrahim, 2014).

Cooperative Model Type Two Stay Two Stray

The Two Stay Two Stray (TSTS) Model "two staying two guests" was developed by Spencer Kagan in 1992. The type of cooperative learning is a learning centered learning model. This learning model can mobilize all students to be active when learning activities take place as well as in the structured implementation process.

According to Lie (2006, p.61), "Two Stay Two Stray learning method is a learning method in which students learn to solve problems with group members, then two people from the group exchange information with two other living members". This learning activity expects student activity and participation that places emphasis on applying certain steps designed to influence students' creative patterns, and gives students the duration of thinking and reacting to help solve specific problems

According to Suprijono (2013, p.91) & George et al, (1996) the syntax of the TSTS type of cooperative learning model is as follows:

Table 1. Syntax of the TSTS Cooperative Learning Model

Phases	Teacher and Student Activities
Phase 1 Conveying goals and motivating students	Convey all learning objectives and provide student motivation
Phase 2 Presentation of information / material	Presents information to students about the learning model used, the stages of the learning model and the time needed in learning. The teacher also gives outline
Phase 3 Organize students into groups	Divide students into groups of 4 people each
Phase 4 Giving assignments and group discussions	Give assignments / worksheets to each group to be discussed together with each group member

Phase 5 Two Stay Two Stray	a. Each group after completing the assigned task, each group determines two members who will stay and two members who will deviate from ther groups. b. Students share what they have done to complete the assignment from the teacher c. Students are expected to explain each other, ask questions and confirm then record what they get from other groups. d. Two group members who live in the group are assigned to share information and work with two guests from other groups who visit their group.
Phase 6 Return to the original group	All group members return to the original group and report what they find from other groups
Phase 7 Class discussion	Each group then compares and discusses the results of their work all in a class discussion facilitated by the teacher
Phase 8 Clarification of concepts and Strengthening	The teacher provides reinforcement and clarification of concepts obtained by students through discussion to avoid concept errors

Cooperative Learning Model

Social skills are one of the goals of cooperative learning. Social skills are learned behaviors that individuals use in interpersonal situations in the environment. Teenagers with social skills will be able to express positive and negative feelings in interpersonal relationships, without having to hurt others (Hargie, Saunders, & Dickson in Gimple & Merrel, 1998).

Social skills that must be possessed by students are communication and collaboration skills Depdiknas, 2006). As will be explained as follows:

1. Communication Skills

Communication according to Benny Kaluku (in Citrobroto, 1982) explains that communication is the process of delivering understanding and containing all elements of a procedure that can unite thought with other thoughts. Aspects of cooperative skills that can be clarified in communication skills are: (a) inviting others to speak, (b) naming and seeing the speaker, (c) showing respect and sympathy, (d) expressing disapproval in an acceptable way, (e) actively listening, (f) asking questions, (g) interpreting, and (h) asking the truth (Rosandi, 2014).

2. Cooperation Skills

Cooperation is defined as the centralization of various businesses directly for separate purposes. The aspects of cooperative skills that can be clarified in cooperative skills are: (a) using agreements, (b) assessing contributions, (c) taking turns and sharing tasks, (d) being in groups, (e) being in assignments, (f) encourage participation, (g) respect individual differences, (h) regulate, (i) elaborate, (j) set goals, and (k) compromise (Rosnandi, 2014).

Learning Outcomes

Learning outcomes are the level of student success in learning learning material and are expressed in scores obtained based on test results related to certain subject matter (Susanto, 2016). According to Jihad and Haris (2013) learning outcomes are changes in student behavior in the cognitive, affective, and psychomotor domains after the learning

process is carried out in accordance with the learning objectives. So the achievement of learning outcomes is not only measured in the realm of science mastery but also in the realm of attitudes and skills possessed by students.

1. The Domain of Learning Outcomes

According to Purwanto (2013) learning outcomes are divided into three domains, namely knowledge, attitudes, and skills.

a. Knowledge

Cognitive learning outcomes or knowledge are behavioral changes that involve the brain's ability to solve problems. The six cognitive domain

levels include memorization (C1), comprehension (C2), application (C3), analysis (C4), synthesis (C5), and evaluation (C6).

b. Attitude

The results or affective learning attitudes are focused on student behavior during learning activities. According to Sardiman in Susanto (2016) attitude is the tendency to do something in a particular way, method, pattern, or technique to the world around him, both the interaction between individuals and certain objects that refer to one's actions, behavior, and actions.

c. Skills

Psychomotor learning outcomes or skills provide learning outcomes in the form of skills.

Relationship between type Two Stay Two Stray cooperative learning models with social skills and learning outcomes

In the current era of globalization, everyone is demanded to be more able to empower themselves and work together in living life. Especially humans as individual and social creatures. They can't just prioritize their own egos to meet their needs. Of course, every human always needs the help of others. Schools as a place for children's growth and development are expected to be able to provide the optimal situation that children need. Therefore, to create optimal learning for children in school, there are many models or methods that are made.

Cooperation and collaboration skills are important goals of cooperative learning because in reality there are many complex problems that must be faced by this nation, so we must prepare students to compete and win the competition in the global era. There are three reasons why cooperative learning models are developed, namely: (1) the product of diversity, (3) development of knowledge, (2) awareness of social skills.

Based on the explanation above that the cooperative learning model can complete learning outcomes and train students' social skills. In accordance with the results of Ni Luh Eka Swantari Dewi's research, Ketut Dharsana (2018) explained that the cooperative learning model of the TSTS type is able to improve student learning outcomes and be able to create a pleasant classroom atmosphere so that students feel comfortable to learn. Social skills in question are the skills to work together and communication skills. The implementation of the TSTS type of cooperative learning will place students in small groups to discuss the problems given by the teacher. After students are placed in discussion groups, students will visit other groups to share the results of their group

discussions, and after discussions with other groups, they will return to their groups. By practicing social skills, cognitive aspects are also improved because during TSTS group discussions students will try to read textbooks and exchange information with their themes about the findings of the worksheet answers, with these activities students' knowledge will increase.

When students are in a group, students' cooperation and communication skills will be trained, because in a group it is very necessary cooperation and communication that are interconnected between fellow group members and other groups. Students' communication skills will be trained when working in groups, visiting other groups and presenting the results of discussions to their peers, so students will be trained to ask questions, invite others to talk, express opinions. Student collaboration skills will be trained when students are placed in small groups to solve a problem given by the teacher. Cooperative skills that are trained include being active when listening and participating in assignments and being present in groups.

▪ RESEARCH METHODS

The design of this study used a one-group pretest-posttest design. The population and sample used were fifth grade students of Surabaya elementary schools in 2019/2020. Data collection techniques used in this study were observation, tests and student questionnaire responses. The instrument developed by the researcher was in the form of a device validation sheet, an RPP observation sheet, an observation sheet about students' attitudes and skills, a questionnaire sheet about student responses, and an observation sheet about the obstacles encountered during the learning process. The data analysis technique used by researchers in this study is descriptive analysis.

▪ RESULT AND DISCUSSION

There are four results of this study, namely: the validity of learning tools, the implementation of lesson plans, student learning outcomes, social skills and student responses.

Table 2. Validity of Learning Devices

Learning Devices	Result of Validation		
	Average	Modus	Category
Syllabus	3.6	4	Very Valid
RPP (Lesson Plan)	3.6	4	Very Valid
BAS (Student Texbook)	3.6	4	Very Valid
LKS (Worksheet)	3.8	4	Very Valid
Knowledge Test	3.7	4	Very Valid
Attitude Test Instrument	3.9	4	Very Valid
Skill Test Instrument	3.7	4	Very Valid

Table 2 shows that the results of the development of learning tools developed by researchers are appropriate for use in learning. The feasibility of learning tools can be seen based on the results of the validity of the devices that get a very valid category.

Implementation of RPP

Table 3. Implementation of Learning

No	Aspects Observed	VA			VB		
		Average Meeting Score	Modus	Criteria	Average Meeting Score	Modus	Criteria
1	Preliminary activities	4	4	Very good	4	4	Very good
2	Core activities	3,9	4	Very good	3,9	4	Very good
3	Closing Activity	3,7	4	Very good	3,6	4	Very good
4	Atmosphere	3,6	4	Very good	3,7	4	Very good
Average Performability		3,8	4	Very good	3,8	4	Very Good

All stages of activities in the RPP are very well implemented

Student Social Skills

During the learning process that takes place in class, students observe communication and collaboration skills. The following are Tables 4 about observing student communication skills.

Table 4. Implementation of Learning

No	Observed social skills	VA		VB	
		Average	%	Average	%
Communication Skills					
1	Invite others to talk	33	84	33	85
2	Respond actively	34	86	35	90
3	Asking	35	89	35	91
Cooperation Skills					
4	Respect for Contributions	34	88	35	89
5	Being in a group	38	96	36	92
6	On assignment	35	91	35	90

Based on the above data of VA it can be seen that the communication skills of students of the highest frequency are the presentation is asking questions (89%),%), inviting others to talk (86%) and responding actively (84%). While graph 2 illustrates that the collaboration skills of students from the highest percentage are in groups (96%), appreciating contributions (91%) and being in assignments (88%). While VB class data above it can be seen that the communication skills of students of the highest frequency are the presentations of asking (91%), responding actively (90%) and inviting people to talk (85%). While the collaboration skills of students from the highest percentage are in groups (92%), in assignments (90%) and appreciating contributions (89%).

Readability of Textbooks by Students (BAS)

BAS readability assessment is done by giving questionnaires to students after learning using the TSTS cooperative model. The results of the BAS readability assessment are presented in Table 5.

Table 5. Readability BAS

No.	Measured aspects	Percentage of Respondents (%)	
		Yes	No
1	Winning the contents of student teaching materials	96 %	4 %
2	Enjoy the appearance of student teaching materials	100 %	0 %
3	Ease of understanding the description or explanation in student teaching materials	94 %	6 %

4	Ease of understanding the questions contained in student teaching materials	97 %	3 %
5	Clarity and ease of understanding illustrations/picture on student teaching materials	92 %	8 %
Percentage of student scores		**96 %**	**4 %**

Based on table 5 above, it can be concluded that students are able to understand the BAS that has been given. The level of readability of students can be categorized as very strong.

Obstacles during Teaching and Learning Activities

The implementation of Ecosystem learning science material using cooperative learning model TSTS type which is carried out during 3 meetings can be seen in table 6 as follows :

Table 6. Constraints During the Learning Process

No.	Obstacles	Alternative Solutions
1	The time spent when learning exceeds the time allocation planned in the lesson plan	a. The teacher informs the time available to carry out activities in each phase b. Tightening the time management and implementation of learning
2	Students are not yet accustomed to learning the Two Stay Two Stray (TSTS) cooperative model	a. The teacher provides information to students about the Two Stay Two Stray (TSTS) cooperative learning model in the learning process and reminds students to follow the stages that are directed so as to help students carry out the learning process b. The teacher accustoms students to implementing cooperative learning models.

Learning Outcomes

1. Learning Outcomes Aspects of Knowledge

A Student achievement test is done before learning and after learning. Data obtained and managed to calculate the completeness of student learning outcomes are seen in table 7 as follows:

Table 7. Result of Pre-test dan Post-test

Student Initial	VA						VB					
	Pre-test		*Post-test*		*N-gain*	*N-gain Criteria*	*Pre-test*		*Post-test*		*N-gain*	*N-gain Criteria*
	Score	K	Score	K			Score	K	Score	K		
A1	40	TT	85	T	0,75	g-high	40	TT	80	T	0,67	g-medium
A2	80	T	100	T	1,00	g-high	80	T	95	T	0,75	g-high
A3	55	TT	95	T	0,89	g-high	55	TT	85	T	0,67	g-medium
A4	40	TT	90	T	0,83	g-high	40	TT	90	T	0,83	g-high
A5	70	TT	90	T	0,67	g-medium	70	TT	100	T	1,00	g-high
A6	60	TT	85	T	0,63	g-medium	60	TT	85	T	0,63	g-medium
A7	55	TT	90	T	0,78	g-high	55	TT	90	T	0,78	g-high
A8	40	TT	85	T	0,75	g-high	40	TT	85	T	0,75	g-high
A9	30	TT	85	T	0,79	g-high	30	TT	100	T	1,00	g-high
A10	55	TT	90	T	0,78	g-high	55	TT	90	T	0,78	g-high
A11	75	T	100	T	1,00	g-high	75	T	100	T	1,00	g-high
A12	20	TT	85	T	0,81	g-high	20	TT	60	TT	0,50	g-medium
A13	15	TT	70	TT	0,65	g-medium	15	TT	95	T	0,94	g-high
A14	55	TT	100	T	1,00	g-high	55	TT	85	T	0,67	g-sedang
A15	60	TT	100	T	1,00	g-high	60	TT	90	T	0,75	g-high

A16	40	TT	85	T	0,75	g-high	40	TT	80	T	0,67	g-medium
A17	80	TT	100	T	1,00	g-high	80	TT	95	T	0,75	g-high
A18	55	TT	95	T	0,89	g-high	55	TT	90	T	0,78	g-high
A19	40	TT	90	T	0,83	g-high	40	TT	85	T	0,75	g-high
A20	70	TT	90	T	0,67	g-medium	70	TT	100	T	1,00	g-high
A21	60	TT	85	T	0,63	g-medium	60	TT	90	T	0,75	g-high
A22	55	TT	90	T	0,78	g-high	55	TT	100	T	1,00	g-high
A23	40	TT	85	T	0,75	g-high	40	TT	85	T	0,75	g-high
A24	30	TT	85	T	0,79	g-high	30	TT	85	T	0,79	g-high
A25	55	TT	90	T	0,78	g-high	55	TT	90	T	0,78	g-high
A26	75	T	100	T	1,00	g-high	75	T	100	T	1,00	g-high
A27	20	TT	85	T	0,81	g-high	20	TT	70	TT	0,63	g-medium
A28	15	TT	70	TT	0,65	g-medium	15	TT	85	T	0,82	g-high
A29	55	TT	100	T	1,00	g-high	55	TT	90	T	0,78	g-high
A30	60	TT	100	T	1,00	g-high	60	TT	100	T	1,00	g-high
A31	40	TT	85	T	0,75	g-high	40	TT	85	T	0,75	g-high
A32	80	T	100	T	1,00	g-high	80	T	100	T	1,00	g-high
A33	55	TT	95	T	0,89	g-high	55	TT	85	T	0,67	g-medium
A34	40	TT	90	T	0,83	g-high	40	TT	100	T	1,00	g-high
A35	70	TT	90	T	0,67	g-medium	70	TT	90	T	0,67	g-medium
A36	60	TT	85	T	0,63	g-medium	60	TT	100	T	1,00	g-high
A37	55	TT	90	T	0,78	g-high	55	TT	90	T	0,78	g-high
A38	40	TT	85	T	0,75	g-high	40	TT	85	T	0,75	g-high
A39	30	TT	85	T	0,79	g-high	30	TT	85	T	0,79	g-high
Rata-rata	51	TT	90	T	0,79	g-high	51	TT	90	T	0,80	g-high
The number of students who did not complete		35	**The number of students who did not complete**			2	**The number of students who did not complete**		**35**	**The number of students who did not complete**		2
Number of students who have completed		4	**Number of students who have completed**			37	**Number of students who have completed**		**4**	**Number of students who have completed**		37
Completion Percentage (%)		10,2 %	**Completion Percentage (%)**			94,8 %	**Completion Percentage (%)**		**10,2 %**	**Completion Percentage (%)**		94,9

Student learning outcomes of VA have increased to 93% with an average value of 90 meaning that most students have been able to exceed the applied KKM. Improved student learning outcomes were analyzed using the N-gain normality test. N-gain test is useful for showing differences in student learning outcomes before and after being treated. Calculation of N-gain and trial results show that the high category is 31 children and 8 children are in the moderate category. If calculated the average N-Gain as a whole will get 0.79 results, which means the N-Gain pretest and posttest is high. Based on the results of the N-gain, TSTS type of cooperative learning is effective in improving student learning outcomes. While improved student learning outcomes of VB were analyzed

using the N-gain normality test. N-gain test is useful for showing differences in student learning outcomes before and after being treated. Calculation of N-gain and trial results show that the high category is 32 children and 7 children are in the moderate category. If calculated the average N-Gain as a whole will get 0.8 results, which means the N-Gain pretest and posttest is high. Based on the results of the N-gain, TSTS type of cooperative learning is effective in improving student learning outcomes.

2. Learning Outcomes of the Realm of Attitude

Learning outcomes in the realm of attitude given to students in the form of self-assessment by each student. Self-assessment sheets consist of spiritual attitudes and social attitudes. The results on the spiritual attitude self-assessment are presented in table 8.

Table 8. Learning Outcomes of Spiritual Attitude

No	Statement	Percentage (%) of each meeting					
		VA			VB		
		1	2	3	1	2	3
1	I pray before and after doing an activity	91	94	96	90	94	96
2	I always answer greetings	97	96	98	95	96	98
3	I am grateful for all the gifts given by God	86	90	95	86	90	95
4	I maintain good relations with fellow creatures	86	85	94	88	89	94
5	I look after the environment in the school	80	82	81	83	90	81
P		**88%**	**90%**	**93%**	**88%**	**92%**	**93%**

Based on the results of table 8, it can be concluded that most students have a spiritual attitude with a very good category. While the results on social attitude self-assessment are presented in table 9.

Table 9. Learning Outcomes of the Social Attitude Domain

No	Statement	Percentage (%) of each meeting					
		VA			VB		
		1	2	3	1	2	3
1	I invite others to talk	84	86	88	84	85	88
2	I respond actively when other people talk	86	89	90	86	90	90
3	I ask if you don't understand	89	92	93	89	91	93
4	I appreciate the contribution of friends	88	88	90	88	89	90
5	I am in a group	96	94	95	96	92	95
6	I am on assignment	91	93	93	91	90	93
P		**89%**	**91%**	**92%**	**89%**	**90%**	**92%**

Table 9 above shows that most students have good social attitudes.

3. Skills Learning Outcomes

Learning outcomes in the realm of skills are obtained from poster assessments that have been made by students in groups during learning activities. The results obtained from are presented in table 10 below.

Table 10. Skill Learning Outcomes

Group	V						V					
	Sc				Criteria	Category	S				Criteria	Category
	Meeting to			Average			Meetin			Average		
	1	2	3				1	2	3			
1	91,7	83,3	91,7	88,9	Very Good	Complete	83,3	83,3	91,7	86,1	Very Good	Complete

2	83,3	83,3	83,3	83,3	Good	Complete	91,7	83,3	91,7	88,9	Very Good	Complete
3	83,3	91,7	91,7	88,9	Very Good	Complete	83,3	91,7	91,7	88,9	Very Good	Complete
4	91,7	91,7	83,3	88,9	Very Good	Complete	91,7	91,7	83,3	88,9	Very Good	Complete
5	91,7	91,7	91,7	91,7	Very Good	Complete	83,3	91,7	91,7	88,9	Very Good	Complete
6	91,7	91,7	91,7	91,7	Very Good	Complete	91,7	91,7	91,7	91,7	Very Good	Complete
7	83,3	91,7	91,7	88,9	Very Good	Complete	83,3	91,7	91,7	88,9	Very Good	Complete
8	83,3	91,7	91,7	88,9	Very Good	Complete	91,7	91,7	91,7	91,7	Very Good	Complete

Based on table 10, the results are obtained that all students in the two repetition classes have reached the KKM in the learning outcomes of the realm of skills. This shows that most students can participate in learning activities well and can achieve learning goals. In learning activities, students work actively in their groups to make posters. According to DePorter, et al (2006) students who play an active role in groups when learning can achieve 90% memory, the more senses involved in learning interactions, the learning material will be more meaningful.

Learning Outcomes

Data on students' responses to teaching and learning activities with cooperative learning models of the TSTS type were obtained using the questionnaire responses provided to students after participating in learning activities. The recapitulation results of student responses are listed in the following table 11:

Table 11. Skill Learning Outcomes

No.	Measured aspects	Percentage of Respondents	
		Yes	No
1	Teaching materials, learning atmosphere, how to teach teachers and the stages of Two	100 %	0%
2	Teaching materials, learning atmosphere, how to teach teachers and the stages of Two	100%	0%
3	Teaching materials, learning atmosphere, how to teach teachers and the stages of Two	97%	3%
4	Teacher explanations and guidance are clear and easy to understand	96%	4%
5	The way teachers implement cooperative learning type Two Stay Two Stray (TSTS) is	99%	1%
6	The test results made learning quite easy to do	95%	5%
7	Item of the test results of learning that are made including new questions	100%	0%
8	Learning type Two Stay Two Stray (TSTS) cooperative model makes learning more	100%	0%
Percentage of student scores		**98%**	**2%**

Based on table 11 above, it can be shown that the implementation of the TSTS type of cooperative learning tools that have been developed get responses with a strong category of 98% of students. This is indicated by the percentage of student responses.

▪ CONCLUSION

Conclusion

Based on the results of the analysis of research data which is then described in the discussion of research results, it can be concluded that the cooperative learning model of the Two Stay Two Stray model developed by researchers is very valid, practical, and effective for ecosystem material in 5th Grade Elementary Schools.

Suggestion

The development of cooperative learning models of the Two Stay Two Stray type as a whole can improve social skills and student learning outcomes so that further research is expected to be carried out for other science subjects

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