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Improving Science Learning Outcomes Through CORE Learning Model Based on SETS

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A R T I C L E I N F O
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A B S T R A K
Penelitian ini didasarkan adanya temuan permasalahan rendahnya hasil belajar IPA yang diakibatkan oleh pelaksanaan pembelajaran yang belum mampu menumbuhkan suasana pembelajaran aktif, menyenangkan dan memotivasi siswa pada saat pembelajaran, sehingga berimbas pada hasil belajar IPA siswa. Penelitian ini bertujuan untuk menganalisis adanya pengaruh model pembelajaran Connecting Organizing Reflecting Extending (CORE) berbasis Science Environment Technology Society (SETS) terhadap hasil belajar IPA siswa di SD. Jenis penelitian adalah eksperimen semu dengan desain penelitian yakni Posttest Only Control Group Design. Populasi dalam penelitian ini terdiri dari 216 orang siswa kelas V. Data hasil belajar IPA diperoleh melalui metode tes dengan instrumen pengumpulan data berupa soal pilihan ganda. Data yang diperoleh dianalisis menggunakan statistik deskriptif dan statistik inferensial. Berdasarkan hasil analisis data yang telah dilakukan dengan menggunakan Uji-T diperoleh thitung sebesar 2,992 sedangkan ttabel sebesar 2,000. Sehingga dapat disimpulkan bahwa terdapat pengaruh model pembelajaran Connecting Organizing Reflecting Extending (CORE) berbasis Science Environment Technology Society (SETS) terhadap hasil belajar IPA siswa di SD.

A B S T R A C T
This research is based on the findings of low science learning outcomes caused by the implementation of learning that has not fostered an active, fun, and motivating learning atmosphere for students at the time of learning to impact students' science learning outcomes. This study aims to analyze the effect of Connecting Organizing Reflecting Extending (CORE) learning model based on the Science Environment Technology Society (SETS) on students' science learning outcomes in elementary schools. This research is a quasi-experimental research design that is Posttest Only Control Group Design. The population in this study consisted of 216 fifth-grade students. Data on science learning outcomes were obtained through the test method with data collection instruments in multiple-choice questions. The data obtained were analyzed using descriptive statistics and inferential statistics. Based on the data analysis results that have been done using the T-test, it is obtained that t count is 2.992 while t table is 2,000. So it can be concluded that there is an influence of the Connecting Organizing Reflecting Extending (CORE) learning model based on the Science Environment Technology Society (SETS) on students' science learning outcomes in elementary schools.

1. Introduction

The learning process is carried out interactively, inspiring, fun, challenging, and motivating students to play an active, independent, and creative role according to students' talents and interests. Creating an interactive, inspirational, fun, challenging, and motivating learning atmosphere greatly affects student motivation in participating in learning and knowledge acquisition by students. It is due to the student's readiness to learn. A good learning atmosphere must be adapted to students' development, following elementary school students' mental and cognitive development. A suitable learning atmosphere is an inspiring and fun learning atmosphere (Mukhlis, 2016; Rahmawati et al., 2014; Sulthon, 2016). An inspirational and fun learning atmosphere can usually be done with various activities, such as games, experiments, or learning activities outside the classroom. It aims to create a new learning atmosphere so

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that students don't get bored quickly when facing a lesson (Pane, 2013; Suprijono et al. al., 2007; Suwarna & Jatirahayu, 2013).

However, in reality, schools' learning process still uses the same learning at every learning meeting. At a certain time, the monotonous learning process can certainly affect students' motivation for learning because it is considered unattractive. The monotonous learning process that is meant is a learning process that only uses the same learning process repeatedly. For example, learning only uses textbooks obtained from schools. It can reduce student activity in the learning process and tend to master learning only.

In contrast, other students are not active in learning because they do not master learning well. The lack of interaction or student activity during the learning process can impact low student learning outcomes. Students do not have an interest in learning activities so that students' curiosity tends to be low in every lesson.

Based on the results of interviews conducted with fifth-grade teachers in Gugus I, Kecamatan Buleleng, it was found that science learning material is one of the subjects that need special attention. The difficulty in recalling students' memories regarding previous teaching materials is one of the things that need special attention. Students rely more on learning at school and do not do repetitive learning outside of school. Lack of parental attention to the student learning process results in students still being left behind in the learning process. Parents' attention to the student's learning process, which is still low, directly impacts students' inability to build self-motivation in learning activities, resulting in low learning outcomes. Incomplete learning support facilities and infrastructures such as textbooks and learning media are also factors in low student learning outcomes.

Based on observations that have been made in learning activities in fifth-grade of Gugus I, Kecamatan Buleleng, which consists of SDN 1 Kalibukbuk, SDN 2 Kalibukbuk SDN 3 Kalibukbuk, SDN 4 Kalibukbuk, SDN 1 Anturan, SDN 2 Anturan, SDN 3 Anturan, SD Triamerta, obtained results that the learning process has not yet created an active, fun and motivating learning atmosphere for students. Students use memorization more than understand the meaning of the subject matter. It is evidenced by the frequent use of students opening notebooks when given a question or practice question. Learning uses more methods of discussion, question and answer, and group activities during the learning process. The use of the group learning method that is carried out does not work effectively. At the time of giving assignments, only smart and active students will solve the problems given.

Based on the results of interviews and observations made, the importance of discussing science problems in education is strengthened by document studies that have been carried out in Gugus I, Kecamatan Buleleng fifth-grade students. It is found that the science learning process of fifth-grade students still needs special attention. Based on the results of the Middle Semester Assessment for fifth-grade students in Gugus I Kecamatan Bulelelen for the 2019/2020 Academic Year, it was found that the results of the Mid-Semester Assessment in the fifth-grade student science subject were still not optimal. Student learning outcomes have not been maximized, as evidenced by the percentage of students who have not completed as many as 59% with a total of 216 students, with the average score of the mid-semester assessment results of 61.64. The five-scale benchmark reference guidelines (PAP) show that the average of 61.64 is at the low criteria. It is because students are less active in participating in learning activities

Learning activities that involve students actively interacting with concrete models are the key to learning achievement. However, the subject matter is still understood in memorization to affect student learning outcomes within a certain period (Megawati, 2018; Mintarto, 2007; Nurmitasari, 2016). Active and creative learning is currently very demanding and must be instilled in students. It is in line with the statement that learning outcomes will be better if a sense of pleasure immediately follows the student's response to a stimulus. However, there are still many applications of learning that seem tense and monotonous. (Hayati & Lailatussaadah, 2016; A. Hidayat et al., 2020). The factors that influence cognitive learning outcomes include environmental, instrumental, and psychological conditions of students (Rosdianto, 2017; Rusdi et al., 2018; Tendrita et al., 2017). The learning process is carried out through activities, processes, reflection, and follow-up processes. The learning process will run well if a lesson can guide students through process activities and obtain products to achieve a learning goal.

Natural Science (IPA) is one of the subjects that can train students to hone the ability to think, behave, and hone students' skills in everyday life related to the surrounding environment's symptoms (Hadinata et al., 2017; Novitasari, 2018; Suparlan, 2017). The statement emphasizes that Science attempts to understand a phenomenon in the environment by using reasoning or critical thinking skills. It shows that Science is a science that has various stages of understanding a phenomenon in the environment. The essence of Science includes four main elements that cannot be separated from one another, first, an attitude of curiosity about objects, natural phenomena, living things, and causal relationships that cause new problems that can be solved through correct procedures; second, the process: problem-solving

procedures through scientific methods; third, products: in the form of facts, principles, theories, and laws; fourth is the application of scientific methods and science concepts in everyday life (Burhanah Farida, 2015; Kusumah et al., 2020; Suarmika & Faliyandra, 2016). Based on this statement, the essence of Science is a subject that discusses or learns about nature and its contents through stages consisting of processes, products, and scientific attitudes, which are systematically obtained during the science learning activities.

Science learning has the goal of being able to train spiritual attitudes, being able to train the ability to apply science concepts to everyday life, to develop curiosity and sensitivity to the relationship between theory and real life, the environment, society, and technology, to train thinking skills critical, schematic and logical in solving a problem and making decisions, can train a caring attitude towards the surrounding environment, can be used as a basis and provision for continuing education levels (Murwanto, 2020; Puspa et al., 2019; Suatri, 2015). The statement emphasizes the purpose of science learning to train students to interact with nature and gain new knowledge, attitudes, and skills through learning activities related to nature to be used in everyday life. Natural Science in SD aims to train and develop critical thinking knowledge and skills in solving environmental science problems and the relationship between Science, environment, technology, and society (Efendi et al., 2019; Saputra, 2017; Wati et al. , 2018). Based on this statement, the purpose of learning science is to emphasize the use of Science in everyday life. There is a balance between theory and application in everyday life to facilitate understanding and provide solutions to problems in the surrounding environment.

Based on the problems that have been described, the Connecting Organizing Reflecting Extending (CORE) learning model based on the Science Environment Technology Society (SETS) can be used as a solution in overcoming the problems that have been described. The Connecting Organizing Reflecting Extending (CORE) learning model is an innovative learning model with student-centred learning. This learning model guides students to systematically carry out learning by linking existing knowledge with new knowledge (Hidayati & Roesdiana, 2019; Nugroho, 2019;). In addition, the CORE learning model is a learning model that expects students to design and build their knowledge by connecting and organizing new knowledge with old knowledge, thinking about or analyzing the knowledge that has been obtained (reflecting), and expanding knowledge. Students during the teaching and learning process (extending) (Deswita & Kusumah, 2018; Haenilah, 2017). By applying the CORE learning model, the teacher can train students to do everything systematically, logically, and critically towards knowledge.

(Anggrain & Veronica, 2015; Retnowati & Aqiila, 2017), stated that the CORE Learning model consists of four stages, Connect (connecting knowledge), Organize (organizing material by making graphs or concept maps to make it easier to learn material), Reflect (reflects what is obtained at the organize stage on something that is being studied and checks again) and Extend (deepens or broadens knowledge), besides that the CORE Learning model is a learning model based on constructivism theory that students must be able to construct their knowledge, through self-interaction with the environment. The CORE learning model can influence a person's cognitive to be able to determine an action. The CORE learning model can train maximum cognitive utilization through critical, logical, and systematic thinking activities on a problem. Indirectly, a person's attitude will also be affected because cognition is related to one's ability to use the mind. Likewise, solving a problem will increase through connecting, organizing, reflecting, and developing activities.

Each learning model certainly has its advantages, just as the CORE learning model also has advantages. The CORE learning model's advantages are that students are active in learning, train students 'memory about a concept/information, train students' critical thinking about a problem, and provide students with meaningful learning. The advantages contained in the CORE learning model are the use of cognitive abilities (M. Y. Hidayat et al., 2014; Jahring, 2020). Cognitive abilities underlie a person in taking action so that it is the cognitive aspect that gets the most attention without neglecting other aspects in determining the achievement of student learning outcomes. According to (Purwati et al., 2018; Putri et al., 2020) states the advantages and disadvantages of the CORE Learning model, developing student activeness in learning, developing and training students' memory about a concept or in learning materials, developing thinking power critical and at the same time developing problem-solving skills, providing learning experiences to students because they play an active role so that learning becomes meaningful. This statement confirms that the advantages of the CORE learning model are in the optimal activity of students and the thinking power of students after learning using the CORE learning model. Based on this statement, it was concluded that the CORE learning model has advantages, that it can train students in critical thinking, memory and train students to have the ability to do something systematically, logically, and sustainably. Critical thinking is needed in the learning process because critical thinking will certainly activate the learning process. Student motivation will emerge when the learning conditions or situations are active and enjoyable. Critical thinking can also train students to understand something in-depth and indirectly guide them toward a meaningful learning process. Maximum cognitive utilization will certainly

affect other aspects that support the achievement of student outcomes. Therefore, it needs to be supported with an approach so that learning can run more optimally. One approach that can be used is the SETS approach.

The SETS approach is one approach in the student-centred learning process so that students can have the ability to think globally and solve problems using the concepts they have (Eliyanti et al., 2013; Ghofur & Raharjo, 2018). Students can hone their critical thinking skills to solve a problem that may arise due to the influence of science, environment, technology, and society. The advantages of the SETS approach are that the discussion of material contains community problems locally, nationally, and internationally, as a provision for students to face the modern era, equipping students in problem-solving, learning to be more meaningful, developing cognitive abilities, attitudes, and psychomotor as well as student creativity, develop tolerance, cooperation and mutual respect among students, can apply the knowledge gained into something useful both for themselves and others (Listyono, 2012; Ragil & Sukiswo, 2011). The meaningful learning process means students build their knowledge in various ways during the learning process. In this case, it can be done by utilizing the relationship between Science, technology, environment, and society.

According to (Amaliya et al., 2011; Sumarno, 2012; Wijayati & Sari, 2011) states that the advantages of the SETS learning model, can improve inquiry skills, solving skills, and process skills, emphasizing good learning methods that cover the realm of cognitive, affective, and psychomotor, emphasizing Science within and between fields of study; When viewed from a learning perspective, emphasizing student success, it can be combined with various sources of information, if viewed from an evaluation point of view, there is a relationship between objectives, processes and learning outcomes, differences between skills, maturity, and student background and program functions are also evaluated. The statement emphasizes three aspects of the SETS approach's advantages: skills acquired, in terms of learning, and aspects of evaluation. The SETS approach can guide students in implementing meaningful learning. Meaningful learning is very necessary because students can get their knowledge so that this knowledge can be stored properly and can be raised at any time easily.

The combination of the CORE learning model and the SETS-based learning model will lead students to carry out meaningful learning activities, and meaningful learning means that students experience and do their activities and experiences related to learning, so students are expected to have long-term memory (Haenilah, 2017; MY Hidayat et al., 2014). Students will still remember the material being taught with this long-term memory even though it has not appeared for a long time. Still, the material given remains in the students' memory. Due to the ease and sophistication of technology, sometimes a person becomes insensitive to their environment and tends to dissolve in the comfort of the technological sophistication provided. Someone will tend to have an individualistic attitude. Using SETS learning design, it is hoped that students will understand the problems/issues that are happening by thinking globally and acting locally. This model can also train students to be able to think critically, creatively, and innovatively. Thus, it is expected to improve student learning outcomes, especially in science learning. Thus, this study aimed to determine the effect of the Connecting Organizing Reflecting Extending (CORE) learning model based on the Science Environment Technology Society (SETS) on fifth-grade elementary school students' science learning outcomes Gugus I, Kecamatan Buleleng.

There is a difference between the Connecting Organizing Reflecting Extending (CORE) learning model based on the Science Environment Technology Society (SETS) and other models. This model emphasizes the use of Science, the technology environment, and society as a medium or means of learning. Students can also gain the ability to think and act automatically. Active and creative through the stages of connecting, organizing, reflecting, and expanding knowledge (Anggrain & Veronica, 2015; Nugroho, 2019). Thus, the purpose of implementing this study was to determine the effect of the Connecting Organizing Reflecting Extending (CORE) learning model based on the Science Environment Technology Society (SETS) on the science learning outcomes of fifth-grade elementary school students in Gugus I, Kecamatan Buleleng.

This research is supported by several other studies that are relevant to this research, such as (1) research conducted by (MY Hidayat et al., 2014), which obtained research results that the mathematical abilities of students in classes whose learning uses the CORE approach are classified as high category compared with expository learning classified as a medium category; (2) research conducted by (Deswita & Kusumah, 2018), which obtained research results that the increase in mathematical communication skills of students who received the CORE model learning with the scientific approach was better than students who received ordinary learning; (3) research conducted by (Firdaus et al., 2020), which obtained research results that the interactive multimedia based on the SETS approach developed was feasible, practical, and effective to use to improve students' critical thinking skills.

This study's purpose was to analyze the Connecting Organizing Reflecting Extending (CORE) learning model based on the Science Environment Technology Society (SETS) on students' science learning outcomes in elementary schools.

2. Method

This research was conducted in Gugus I, Kecamatan Buleleng, 2019/2020 academic year. This research is quasi-experimental. Quasi-experiment can be defined as a research procedure carried out by examining a relationship by providing a sample treatment not only one subject but a collection of subjects who have previously owned natural backgrounds. Quasi-experiment is a research procedure used to determine certain conditions on a situation, activity, or individual or group behavior carried out intentionally or planned (Anggrain & Veronica, 2015; Jahring, 2020). The design of this research is using Posttest Only Control Group Design. Post-test Only Control Group Design's research design is a research design that only provides treatment to provide the SETS-based CORE learning model in the experimental group. In contrast, the control group does not apply the SETS-based CORE learning model. The experimental and control group treatment was given seven times, with one meeting to post-test on students in the experimental and control groups.

The research subjects in this study are described in the population and research sample. The population is all groups that are in one particular area. This study's population consisted of 216 fifth grade students of SD in Gugus I, Kecamatan Buleleng, with eight schools consisting of SDN 1 Kalibukbuk, SDN 2 Kalibukbuk SDN 3 Kalibukbuk, SDN 4 Kalibukbuk, SDN 1 Anturan, SDN 2 Anturan, SDN 3 Anturan, SD Triamerta. The population has been declared equal because the equivalence test has been carried out on the results of the study of the Mid-Semester Assessment document in science learning using the One Way Anava test with the help of SPSS Statistics 20.0 for Windows at a significance level of 5% with the acquisition of a significant value greater than 0.05 so that the data can be stated as normally distributed. The test results are used as evidence that there are no superior schools in Gugus I, Kecamatan Buleleng.

The sample is the smallest part of the population that is used as an object of research. The sampling method used in this study was the Intact Group Random Sampling technique. The Intact Group Random Sampling technique is a sampling method by randomizing classes that have naturally formed in a population used as research samples. The research samples used were fifth-grade students of SD Negeri 3 Anturan as the experimental and fifth-grade students of SD Negeri 4 Kalibukbuk as the control group.

The data collection method used the test method with data collection instruments using 25 multiple-choice questions. The items have been tested for validity, reliability, difficulty, and distinction before being used in research as a data collection method. The data collected is in the form of science learning outcomes data obtained after giving the post-test to students. The data collection grid used for implementing the post-test is at the cognitive level C4 (analyzing) and C5 (evaluating). The grid of multiple-choice test instruments is presented in Table 1.

Table 1. Multiple Choice Test Instrument Grid

Basic Competency		Indicators of Competence Achievement		Cognitive Level						Question number
				C1	C2	C3	C4	C5	C6	
3.7	Menganalisis pengaruh kalor terhadap perubahan suhu dan wujud benda dalam kehidupan sehari-hari.	3.7.1	Menafsirkan sifat-sifat benda cair					√		1, 2, 3, 4
		3.7.2	Menafsirkan sifat-sifat benda padat					√		5, 6, 7, 8
		3.7.3	Menafsirkan sifat-sifat benda gas					√		9,10, 11, 12
		3.7.4	Membuktikan terjadinya proses perpindahan kalor					√		13,14, 15,16
		3.7.5	Menganalisis ciri-ciri perubahan wujud benda membeku pada kehidupan sehari-hari				√			17,18, 19, 20
		3.7.6	Menganalisis ciri-ciri perubahan wujud benda mencair pada kehidupan sehari-hari				√			21,22, 23,24
		3.7.7	Menganalisis ciri-ciri perubahan wujud benda menguap pada kehidupan sehari-hari				√			25,26, 27, 28
		3.7.8	Menganalisis ciri-ciri perubahan				√			29,30,

Basic Competency	Indicators of Competence Achievement	Cognitive Level						Question number
		C 1	C 2	C 3	C 4	C 5	C 6	
	wujud benda menyublim pada kehidupan sehari-hari							31
	3.7.9 Menganalisis ciri-ciri perubahan wujud benda mengkristal pada kehidupan sehari-hari				√			32,33, 34
	3.7.10 Menganalisis ciri-ciri perubahan wujud benda mengembun pada kehidupan sehari-hari				√			35,36, 37
	3.7.11 Membuktikan kemampuan kalor dalam merubah suhu benda					√		38,39, 40

The data analysis method was carried out using descriptive analysis and inferential analysis. In the descriptive analysis, the analysis consists of calculations to determine the mean, median, mode, and standard deviation of the data, converted into a five-scale PAP assessment and converted into a graph. In the inferential statistical analysis stage, it consists of prerequisite tests and hypothesis testing. First, the prerequisite test in this study consists of the normality test and the homogeneity test. Second, after the data is normal and homogeneous, the analysis can be carried out by hypothesis testing. Hypothesis testing is done to test the hypotheses that have been made to be accounted for in implementing this research hypothesis test using t-test analysis. The t-test can be performed if the two compared data groups are normally distributed and homogeneous. In the t-test analysis, the researcher took the t-test type polled variance. Further analysis was carried out by concluding. The significance level used is the 5% significance level. If t count> t table, H0 is rejected, and H1 is accepted and vice versa. If t count <t table, then H0 is accepted, and H1 is rejected.

3. Result and Discussion

The research findings in the descriptive analysis of the recapitulation of the post-test data analysis results of the experimental group are presented in Table 2.

Table 2. Recapitulation of the Results of the Posttest Data Analysis for the Experimental Group

Recapitulation data	Experiment Group
Mode	82,27
Median	76,50
Mean	76,00
Standard Deviation	10,58
Highest Score	92
Lowest Score	56
Total sample	**36**

Table 2 shows that the group of students taught with the SETS-based CORE learning model had an average value of 76.00 when converted to a 5-scale PAP assessment stated to have a fairly good category. When converted into a mean, median, and mode relationship graph, the graph shows that Mo> Md> Me or 82.27> 76.50> 76.00. Thus the results of data analysis on student learning outcomes are included in the negative deviating curve. It means that the score of student learning outcomes in the experimental group tends to be high. The research findings in the descriptive analysis of the recapitulation of the control group's results post-test data analysis are presented in Table 3.

Table 3. Recapitulation of Control Group Posttest Data Analysis Results

Recapitulation data	Control Group
Modus	58,86
Mode	60,75
Median	62,85
Mean	10,26

Recapitulation data	Control Group
Standard Deviation	80
Highest Score	44
Lowest Score	40
Total sample	

Table 3 shows that the group of students who were not taught using the SETS-based CORE learning model had an average value of 62.85 when converted to a PAP scale five assessment stated to have a low category. When converted into a mean, median, and mode relationship graph, the graph shows that Mo <Md <Me or 58.86 <60.75 <62.85, thus the results of data analysis on student learning outcomes are included in the positively skewed curve. It means that the score of student learning outcomes in the control group tends to below.

The inferential statistical analysis results that have been carried out, testing the T-test hypothesis, show that H0 is rejected and H1 is accepted. The following is a recapitulation of the results of the hypothesis test analysis. Recapitulation of Hypothesis Test Analysis Results can be seen in Table 4.

Table 4. Recapitulation of Hypothesis Test Analysis Results

Group	Variants	N	Db	t_{hitung}	t_{tabel}	Conclusion
Experiment	111,86	36	74	2,992	2,000	H1 diterima
Control	246,11	40				

Based on table 4, the t-test analysis results show that the t-value of 2.992 is greater than the t-table of 2,000 or 2.992> 2,000, at the degree of freedom of 74 at the 5% significance level. Thus, this study's results indicate an effect of the Connecting Organizing Reflecting Extending (CORE) learning model based on the Science Environment Technology Society (SETS) on the science learning outcomes of fifth-grade elementary school students in Gugus I, Kecamatan Buleleng. The results of this study are supported by the results of research conducted by (M. Y. Hidayat et al., 2014), who obtained research results that the application of the CORE learning model (Connecting, Organizing, Reflecting, and Extending) can increase student learning activities that affect student learning outcomes.

Based on the results of the descriptive analysis that has been carried out, the results show that there are differences between the students' science learning outcomes who are taught using the Connecting Organizing Reflecting Extending (CORE) learning model based on the Science Environment Technology Society (SETS) and the science learning outcomes of students who are not taught with Connecting Organizing Reflecting Extending (CORE) learning model based on the Science Environment Technology Society (SETS). This difference shows that groups of students who were taught using the Connecting Organizing Reflecting Extending (CORE) learning model based on the Science Environment Technology Society (SETS) had higher scores compared to groups of students who were not taught using the Connecting Organizing Reflecting Extending (CORE) learning model. Based on the Science Environment Technology Society (SETS).

This research shows that the application of the Connecting Organizing Reflecting Extending (CORE) learning model based on the Science Environment Technology Society (SETS) affects students' science learning outcomes. This statement is reinforced by the findings obtained during the research activities in the experimental group's learning process, one of which is the findings based on the experimental group's science learning process. The first is the stage of connecting old knowledge with new knowledge. The experimental group that was taught using the Connecting Organizing Reflecting Extending (CORE) learning model based on the Science Environment Technology Society (SETS) carried out the activities of connecting old knowledge with new knowledge by introducing issues related to Science, environment, technology, and society using image media, videos and the environment around students. At the organizing stage, you can practice your analytical skills (C4). The analytical activity at the knowledge linking stage is intended; students distinguish and sort out the characteristics of changes in objects based on connecting old knowledge with new knowledge through the media used. Students are active in learning at the connecting stage by actively proposing opinions and asking questions. Each student must have prior knowledge to be able to carry out learning. It can motivate students to carry out learning activities for their initial knowledge. The Connecting stage can develop and train memory about the material that has been learned (Haenilah, 2017; Hidayati & Roesdiana, 2019).

Second, organizing activities, the knowledge that students have individually which is then combined into a group using LKS media with the presentation of problems related to the relationship between science, technology, environment, and society, guiding students to analyze a problem so that

students can find concepts or the right answer. At this stage, students can train their C4 (analyzing) abilities, deciphering, and sorting out the knowledge possessed by each individual in a group to obtain an initial concept in a group of students. At this stage, all group members express their opinions, which are then integrated with the student group. Organizing is done by conducting experiments with the help of LKPD. Through this activity, students can build their knowledge through observation or by doing a problem-solving process, as well as being able to train students' curiosity. Through the process of interaction, it allows students' abilities to develop both mentally and intellectually (Deswita & Kusumah, 2018; M. Y. Hidayat et al., 2014).

The third is the stage of reflecting on knowledge. The purpose of the reflection activity is to conduct an in-depth study of an initial knowledge or concept obtained by proving and evaluating knowledge. Activities of proving and evaluating knowledge can train students' ability to evaluate (C5). The evaluation stage is carried out by carrying out activities to prove and interpret an event. In proving activities, students can be faced with different problems during the proving process. The proving process is carried out by conducting experimental activities. In this activity, students and groups can strengthen students' knowledge based on the evidence results. In interpreting activities, students are allowed to argue about the findings obtained based on certain factors that support student findings (Haenilah, 2017; M. Y. Hidayat et al., 2014). The conclusion is obtained through equating existing concepts with teacher guidance so that a concept appears in the subject matter that has been carried out.

Fourth, expanding knowledge can be done by doing exercises in new learning problems and related to Science, environment, technology, and society. At this stage, students can retrain their abilities in conducting an in-depth evaluation or assessment of an event (C5). Based on the four steps that students have gone through, the results show that the experimental group's learning process proves that students have been led to construct their knowledge independently to gain a deeper understanding of learning through active student activities during learning. (Burhanah Farida, 2015; Novitasari, 2018) Learning science aims to develop reasoning power through the ability to solve problems, fostering scientific attitude, and applying science in everyday life.

The relationship between the learning process and science learning outcomes, the learning process that guides students to carry out active, fun, and motivating learning, of course, has an impact on curiosity and students 'desire to learn much deeper so that indirectly or directly, it can improve students' science learning outcomes, which tends to be low to be higher. It follows the opinion (Muharram et al., 2010; Sulthon, 2016), which states that real learning will occur when students carry out discussion activities, ask questions, practice, and teach others. The learning process of the SETS-based CORE learning model shows that students have carried out meaningful learning activities. In the learning process, students construct their knowledge through connecting, organizing, reflecting, and expanding knowledge by utilizing Science, environment, technology, and society. (Deswita & Kusumah, 2018; M. Y. Hidayat et al., 2014) stated that the CORE learning model could train students to speak actively, ask questions, argue, and add material. In the learning process findings, students have conducted debating, questioning, and talking activities so that students can be said to have carried out active learning activities during the learning process. Students have carried out seeking information and presenting the work as a determinant of the achievement of learning. (Haenilah, 2017; Retnowati & Aqiila, 2017), which states that learning has two characteristics. Learning involves students in the learning process through optimizing all senses possessed by students and building learning that can create students' ability to interact with each other during the learning process. to be able to build their knowledge. Implementing the Connecting Organizing Reflecting Extending (CORE) learning model based on the Science Environment Technology Society (SETS) in groups can motivate students to be more enthusiastic in the learning process. Students can exchange ideas in group activities and find new experiences resulting from discussion activities with each group. It is following (Jahring, 2020; Nugroho, 2019) states that the advantages of cooperative learning methods are forming a collaborative environment by motivating teammates to gain success. They were able to create opportunities for success. The opportunity to present oneself according to skills they in various fields, support permanent learning, being able to learn a teaching material easily so that students can easily understand the meaning of the material, develop a sense of responsibility, that the whole team has their respective responsibilities in learning activities together with the group. Thus the learning process in groups can optimize all student abilities and guide students to have learning experience. When implementing learning, students have experienced a learning situation, seeking the information at the linking stage, analyzing and verifying information at the organization stage, and expanding knowledge by carrying out group activities in dealing with a problem. It is also evidenced by the experimental group students' average score higher than the control group. Thus it can be said that students can construct their knowledge through group activities. (Anggrain & Veronica, 2015; Haenilah, 2017), states that learning will be more meaningful so students can deepen what they are going to learn. Meaningful learning can

improve students' cognitive, affective, and psychomotor abilities. CORE learning is a learning model that uses a constructivist approach with student-centred learning.

This research is supported by several other studies that are relevant to this research, such as (1) research conducted by (MY Hidayat et al., 2014), which obtained research results that the mathematical abilities of students in classes whose learning uses the CORE approach are classified as high category compared with expository learning classified as a medium category; (2) research conducted by (Deswita & Kusumah, 2018), which obtained research results that the increase in mathematical communication skills of students who received the CORE model learning with the scientific approach was better than students who received ordinary learning; (3) research conducted by (Firdaus et al., 2020), which obtained research results that the interactive multimedia based on the SETS approach developed was feasible, practical, and effective to use to improve students' critical thinking skills.

The implications of this research are; first, it is empirically proven that learning using the Connecting Organizing Reflecting Extending (CORE) learning model based on the Science Environment Technology Society (SETS) is better than the learning process that does not use the Connecting Organizing Reflecting Extending (CORE) learning model based on Science Environment Technology Society (SETS) in achieving student learning outcomes in Science. Second, the average score of student science learning outcomes taught using the Science Environment Technology Society (SETS) Connecting Organizing Reflecting Extending (CORE) learning model is higher than the learning process that does not use the Science Environment-based Connecting Organizing Reflecting Extending (CORE) learning model. Technology Society (SETS). Third, the implementation of learning in groups of students who are taught using the Connecting Organizing Reflecting Extending (CORE) learning model based on the Science Environment Technology Society (SETS) can guide students to obtain a meaningful learning atmosphere so that students can build their knowledge so that students' memories of learning become longer.

4. Conclusion

Based on the results of the hypothesis analysis that has been carried out, it can be concluded that there is a significant effect of the Connecting Organizing Reflecting Extending (CORE) learning model based on the Science Environment Technology Society (SETS) on the science learning outcomes of fifth-grade elementary school students in Gugus I, Kecamatan Buleleng. This research implies that learning becomes better. The average score of student learning outcomes obtained is higher, and learning can lead students to get a meaningful learning atmosphere to build their knowledge and students' memory of learning longer.

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