Environmental Approach with Science Kit Seqip to Enhancing Students' Scientific Process Skills, Learning Motivation, and Cognitive Learning Outcomes

Erwinsyah Satria¹

¹Elementary School Teacher Education Program, Faculty of Teacher Training and Education, Bung Hatta University, Padang West Sumatra Indonesia, erwinsyahsatria.rr@gmail.com

ABSTRACT

This classroom action research was motivated by the students' low scientific process skills, learning motivation, and cognitive learning outcomes in natural science. One of the reasons is the lack of teachers' ability in choosing appropriate learning approach and using of Kit or learning science equipments in natural science learning. Thus, the implementation of Environmental approach with science Kit Seqip to students of class V at SD Negeri 13 Salak Sawahlunto city is one of the ways to solve this problem. The objective of this research is to describe the improvement of the students' scientific process skills, learning motivation and cognitive learning outcomes in natural science at class V at SDN 13 Salak Sawahlunto by using Environmental approach with science Kit Seqip. The instruments of this research were the observation sheets of students' scientific process skills and teachers' activities, the test sheets of students' cognitive learning outcomes, and the questionnaire sheets of student' learning motivation. The results showed that there was a significant improvement of students' scientific process skills, cognitive learning outcomes and learning motivation in natural science class V by using Environmental approach with science Kit Seqip from the first cycle to the second cycle.words.

Key Words: Environmental Approach, Science Kit Seqip, Scientific Process Skills, Cognitive Learning Outcomes, Learning Motivation

1. Introduction

Education extremely plays important roles in building capacity and improving the quality of generation of our nation. Thus, our government formulates the regulation regarded to national education as an effort to improve this nation's human resources. The published regulation is named as The Regulation of National Education System No. 20 Year 2013 [1] which clearly states the objections of education. It is obviously mentioned that every child in Indonesia has their right to access good quality education that they may develop their potentials toward a better progress. Education can be defined as a process of changing learners' behavior and attitude to become independent human beings and part of a community who can adapt with their environment. Qualified education will involve children to actively learn from any resources. Teachers are functioned to facilitate learners in teaching process that they possess good learning outcomes and life skills needed by the students in their life settings. The children's potentials, skills and creativity can be well-developed when teachers realize that using varied teaching approach may motivate learners to study. Learning outcomes will be obviously improved when contextual teaching and learning process is conducted and the availability of teaching media is guaranteed.

Natural Science belongs to a compulsory subject taught in Elementary School aimed at developing students' potentials that students might be motivated, active, and joyous in maximally obtained needed skills and learning outcomes. Natural science is related to finding and understanding the surrounding scientifically and systematically through observations. This subject is not merely about mastering factual knowledge, concepts, or principles but also finding process that it will develop learners' scientific concepts, skills and attitude. Further, this subject is expected to become a vehicle for the students to learn themselves and their physical surroundings. It is also objected that learners' are able to implement their knowledge in their real life.

Learning process is emphasized on giving direct experiences that the expected competencies can be developed. There are some objectives of subject of natural science in elementary schools determined by National Education Assurance Board in KTSP [2]. It is to develop learners' knowledge and understanding of scientific concepts which are beneficial and applicable in daily life basis. Moreover, it is expected that learners' curiosity, positive attitude and awareness are elevated that they understand that science is mutually related to learners' environment, technology, and community. It is objected that learners' are able to expand their scientific skills to study their physical surroundings, to solve scientific problems and to find the solution of problems. This subject is targeted to improve students' awareness and roles in preserving their environment and overall nature and its regularity as one of God's creation. Last, but not the least, it is expected that learners will possess the knowledge, concepts and skills of Natural Science as one of the basis for their advanced level of education (SMP/ MTs).

To achieve the objectives of the subject, it is highly recommended that teachers should pay a massive attention to appropriate approaches and learning strategies, learning environment, learning medium and infrastructure and to recognize learners' intellectual, psychological and biological development that must support teaching and learning processes. Moreover, it is expected that teachers are able to motivate students that they can be very active and enjoy their learning process that their potentials can be optimally developed.

When the real condition of teaching and learning process of the subject is observed, it can be admitted that the learning outcomes does not achieve the prior stated objectives. Teachers skills and knowledge still does not meet the expectation that students cannot complete the learning objectives stated in learning instruction. Pursuant to observation conducted in grade V of SD Negeri 13 Salak Sawahlunto, the implemented approach is regarded conventional. Teaching learning process is centralized by the teachers. Students are passively listening to the teacher, taking their notes and waiting for teachers' further instruction. Teachers rarely provide an opportunity for the students to do learning activity independently that the process becomes monotonous. The lack of teachers' control makes students in chaos that some of them start playing or bothering their other classmates. Monotonous learning process is the result of teachers who keeps asking students to read the textbook without giving further explanation that students have lack of understanding of the concepts of what they are learning. Another issue is that the teachers mostly do not make use of teaching and learning kit or media. There are some reasons why this happens; teachers' lack of understanding and skills in using the kits and teachers' reluctance to train themselves in using the media. Another reason is that teachers feel complicated in using the kits in their teaching and learning process. Further, teachers' anxiety to benefit the kits becomes another reason. They are mostly afraid that the students will broke the kits while students are not able to replace them due to the kits' high costs. Teachers rarely provide the opportunity to the students to questions and to conduct a research or observation of scientific phenomena through experiments and report writing. As a matter of fact research activities conducted by the students are extremely vital in the subject to train learners' scientific process skills. It can be concluded that the existed teaching and

learning process has not yet made the learners active, motivated, challenged, enjoyable and meaningful for the students.

Pursuant to an initial observation, it is found that students' motivation in learning natural science is low. It is showed that some of the students are reluctant to learn; they do not take into an account when they are assigned to do the tasks, they feel shy to ask the teachers some questions when they are confused, learners' are afraid that their friends will laugh and bully them. Learners' capacity in conducting the observation, writing the report of the findings of their research or observation, and conducting the experiment is regarded low. All of these obviously affect the learners' scientific process skills and learning outcomes. This can be observed from the result of their third daily exams that of 26 students, only 15 (57,69%) whose grade above the standard while other 11 students are below the minimum standard score determined by SD Negeri 13 Salak Sawahlunto. The minimum standard score in SD Negeri 13 Sawahlunto for the subject of natural science is 75.

Based on the observation it can be concluded that learners' low motivation and learning outcome in subject of natural science might be caused by the lack of optimality of learners scientific process skills. The teachers should stimulate the students to actively use their scientific process skills in learning process through making use of the kits or media in their science class. One of the approaches that might improve learners' scientific process skills and elevate their motivation and understanding of scientific concepts and principles is Environmental approach through Science Kit Seqip. This approach is believed to be motivating and enjoyable that all concepts and materials will be saved in learners' long term memory or in other words, the learners will always remember the concept taught by the teachers through the use of science Kit Seqip. Environmental approach belongs to an approach that is conducted outside the classroom that it will energize learners' motivation in learning. Learners' interest is usually determined by learning environment factors. This approach is expected to reduce students' boredom of learning their classroom. This will be a factor that might influence learners' learning outcome which has been determined in the objectives of teaching.

Murni [3] states that "Environment plays important roles in constructing learners' concept. It stimulates learners' respond. Learners' skills are developed through their interaction with the surrounding." Further, Murni [3] says that the environment will presents learners with concrete situation and will improve learners' appreciation toward scientific concept and their environment.

The Ministry of National Education (in Uno and Mohammad [4] proposes that " Learning through the environment will enable learners to find out the meaningful correlation between abstract notions and practical concept in real life context. The concept will be understood through findings, utility and correlation process." Husamah [5] also states that there some steps implemented in making use the environment as learning sources and media, namely: (1) determining the object, (2) conducting the observation, (3) inquiry, (4) classifying the result of the observation, (5) composing the report, (6) presenting the findings , (7) reflecting, (8) evaluating.

Science Kit Seqip is making used that the teaching and learning process through environmental approach enable to motivate learners that they actively use their scientific process skills in conducting an experiments and observation. Kit of Natural Science is a box contained some tools to help learners to learn science. A set of the kits will be used continuously. The kits is designed and similarly manufactured like experiment kits in scientific experiment in Natural Science subject. Science Kit Seqip relates to scientific kits designed and produced as the result of bilateral cooperation between both governments Indonesia and German. The project is aimed at improving the outcome quality of natural science subject matter. Scientific process skills are some steps used by scientists in conducting their researches. A scientist should possess some skills that enable him/her to

conduct a research namely: observation, measurement, questions, making a hypothesis, classification, guessing, presentation, experiment, etc.

Related to effort of the development of learners' potentials, the study of the implementation of Environmental approach by using Science Kit Seqip to improve learners' scientific process skills, motivation and cognitive learning outcomes on grade V is relevant and crucial. An action research is conducted to find out whether and how Environmental approach by using science Kit Seqip enable to improve learners' scientific process skills, motivation and cognitive learning outcome on grade V in SDN 13 Salak Sawah Lunto. The research is limited on learners' cognitive learning outcomes in knowledge and understanding levels, learners' motivation, reward in learning and the availability of conducive learning environment and learners' scientific process skills obtained when they are conducting an observation, questioning, experimenting, and presenting their findings (communicating) in the subject of natural science by using Environmental approach in grade V.

2. Research Method

The method of the study is class action research of two cycles in which each cycle consists of some steps, namely planning, action, observation and reflection. The location of the research is SDN 13 Salak Sawahlunto West Sumatera. Subject of the research is 26 learners of grade V. Of 26 learners, thirteen are girls and the rests are boys. The research was conducting within six meetings collaboratively in Jnauary 2014. The resources of the data are teachers and students which directly involved in teaching and learning process. Data of the research was obtained through the observation of Natural Science teaching and learning process by using Environmental approach though the use of science Kit Seqip, data of observation result of learners' scientific process skills, learners' cognitive learning outcomes and students' learning motivation. The data was collected through observation, test and questionnaire. The data was analyzed through qualitative and quantitative models.

The procedure of the action research is described as the followings. In Planning steps, discussing with the teachers and principle of the school regarding to the time allocation, determining that Forces as materials included in the research, composing a lesson plan, preparing the science Kit Seqip, teaching materials and media (concept mapping related to Forces), teaching practicing by using Environmental approach, preparing test cycles and explaining the use of observation instrument and questionnaire related to students' learning motivation. The researcher explained the use of the observation instrument to the teachers and the observer. He and the observer were also in charged to arrange the learners' name, making group work and tasks, writing learners' working sheets, composing observation sheets, creating a test and the key answer of the test ad well as composing a questionnaire. Moreover, the researcher also prepared the camera to document the process of the research and explaining the use of observation instruments to the teacher and observer.

The conducting of actions relates to the implementation of the designed lesson plan that use Environmental approach through using science Kit Seqip which was started by motivating and appreciating the learners that they were interested in learning, then stimulating learners' background knowledge by presenting the concept map related to the targeted materials at the beginning of the class activities. Teachers related the teaching and learning materials to learners' experiences or their real life with an interesting and enjoyable ways as an initial activity. Teachers requested the learners to observed and research related to the expected materials in the meeting by using their working sheets and science Kit Seqip which were provided collectively. Teachers actively helped the learners to find out and obtain the knowledge as well as to use scientific process skills through various ways. After all groups finished their work in conducting the observation, the teachers asked them to discuss and to clarify their findings. They were also asked to write their observation report and present their

work in front of the class. Other groups actively responded and questioned the presenter. The teacher will conclude the teaching materials and gave the reinforcement for what they had learned. Reward was addressed to the group that had good achievement. During the teaching and learning process, the teachers facilitated, directed, and guided the students. Learners' cognitive learning outcomes were obtained through test and answering the questionnaire by the end of each cycles.

Observation was conducted by two observers who checked the learners' scientific process skills and the implementation of Environmental approach in teaching and learning process of natural science subject matter. The implementation of the approach was recorded in an observation sheets by the observers. The observation was intensively, objectively and systematically conducted. In this observation step, the researcher and the observers tried to identify and note whether the action and result of changing activity occurred on the teachers and the learners during the teaching and learning process using environment approach by making use of science Kit Seqip was improving or not. Regarding to learners' scientific process skills, the observers checked the learners ability in conducting the observation, questioning, experimenting, and presenting their findings. The observation was continuously conducted started from Cycle I to Cycle II. The observation done in Cycle I could influence the arrangement of the action in the following Cycle. The result of the observation was discussed with the observer and reflection was conducted for further planning. By the end of the cycle, a test was conducted to find out the learning cognitive learning outcome on knowledge and understanding levels.

Reflection was conducted when each action was done. In this step, the researcher and the observer discussed the further action that would be implemented. Analysis of teachers' activities, learners' scientific process skills, learners' cognitive learning outcome as well as learners' motivation after the action was implemented were those which were discussed by both the researcher and the observers. Moreover, their discussion and explanation was also related to the differences between the plans and the implementation of the research that had been conducted as well as conclusion of the obtained data. The result of the reflection was benefited as an input for the following action. Reflection was conducted by the end of the teaching process. Reflection was aimed at to check to what extent the expected indicator was fulfilled. When the succeeding indicators have been achieved, the cycle was limited to the Cycle I. If the indicators have not been achieved, the action was needed in the next cycles and so on. In discussion parts, the researcher would describe the weaknesses found in teaching and learning process during the first cycle and efforts that should be done to overcome the weaknesses in the next cycle. The discussion was based on the result of observation and the evaluation.

The data of learners' test result was analyzed qualitatively by counting the means of the class and the percentage of the students who already achieved the expected minimum score, namely 80% of the students obtained 75 or more out of 100. The data related to teachers observation, learners' scientific process skills and learners' motivation were analyzed by counting the score, means and percentage of the indicators out of the overall indicators which were observed or the number of students with succeeding indicator was 75%.

3. Findings and Discussion

A. Cycle I

In cycle I, the learning materials were about the Force. The materials delivered in the first and second meeting of cycle I were Magnetic Force. They were taught to the students by using Environmental approach assisted with Science Kit Seqip. The time allocated for each

meeting was 2 x 35 minutes. The results of the observation on the treatment given were as follows.

1. The Result of the Observation on the Students' Scientific Process Skills

The result of the observation in Cycle I toward the development of learners' scientific process skills during the teaching and learning process though Environmental Approach by using science Kit Seqip is described in Table 1.

Table 1. The Students' Scientific Process Skills in Cycle I

No	Indicators of Scientific Process Skills	Meeting		Average
		1	2	
1	Observing	47.83%	50.00%	48.91%
2	Asking	43.48%	54.55%	49.01%
3	Doing/Experimenting	56.52%	72.33%	64.62%
4	Communicating	39.13%	59.09%	49.11%

The Table 1 indicates that:

1. The students' scientific process skills in doing observation increased slightly from cycle I to cycle 2. The percentage of the students who were able to do this activity was 48.91% or 11 students in the second meeting. It's showing that almost half of the students were able to do observation in groups based on the tasks given. However, there were still many students who were not able to do observation (on observation and inquisition phase), they instead looked confusedly at the activities done by their friends. This was caused by the students who did not understand about what should be observed and they were not accustomed to Natural Science learning process of Environmental approach assisted with science Kit Seqip. In addition, the students had lack of understanding on the assignments contained in the Student Worksheet. The teacher also gave less guidance and motivation to the students to do observation on experimenting Magnetic Force and Magnets Properties required in the Student Worksheet.
2. The development of the students' scientific process skills in asking questions in the two meetings was not yet satisfactory (this could be seen in initial activity, core activity, and end activity). The percentage of the students' who were able to do this activity was 54.55% or 12 students in the second meeting. In the first cycle, the students had been willing to ask questions during the learning process about Magnetic Force and Magnets Properties, and the application of magnet in daily life. Some students, however, were still ashamed, unwilling and did not understand about the task and the materials given. In this cycle, the teacher seemed unable to stimulate the students to ask questions about the materials taught and the activities in the Student Worksheet about Magnet and it's properties. The teacher gave less motivation to the students to ask questions about the activities they did not understand.
3. The improvement of the students' scientific process skills in the indicators of practicing or doing experiment in the second meeting was also still low. The number of the students who were able to do this activity was 64.62% or 16 students in the second meeting. The students' lack of understanding on the instructions given in the Student Worksheet was assumed as the cause of the problem. Many of the students also felt afraid of doing experiment of magnetic force and properties. Furthermore, some of them used the learning props as toys. Meanwhile, the teacher also given less guidance and motivation to the students doing the experiment for the learning process.

4. The students' scientific process skills in communicating the learning activities in cycle I was also still low. This result showed that many students did not understand about the learning materials and the activities being done. The number of the students who were able to do this activity was 49.11% or 13 students in the second meeting.. This number suggests that there were only a half of the students who were able to deliver or write the result of their observation on the Student Worksheet, and there was also similar number of students who were able to draw conclusion. A large number of students were also unable to see the application of magnet in their daily life.

In cycle I, it seemed that many students were not able to perform scientific process skills as the learning approach applied by the teacher was different from the previous ones. They were not accustomed to such approach and did not understand the meaning of concept map posted by the teacher. The students were also not accustomed to their new teacher. They felt also not yet comfortable learning outside of their class.

2. The Students' Cognitive Learning Outcome

The result of the test in cycle I at third meeting revealed about the students' learning outcome, the number of the students who were able to achieve the Minimum Standard Score, the number of the students who were not able to achieve the Minimum Standard Score, the students' average score and the percentage students' learning mastery classically. The results were presented in Table 2.

Table 2. The Students' Cognitive Learning Outcome in Cycle I

No	Description	Total
1	The number of students who were able to achieve the score above the Minimum Standard Score	16
2	The number of students who were not able to achieve the score above the Minimum Standard Score	8
3	The students' average score	74.37
4	The percentage of the students who were able to achieve the score above the Minimum Standard Score	66.67%
5	Target	80%

From Table 2, it was revealed that the students' cognitive learning outcome in cycle I was still low, and there were many students who were not able to achieve the score above the Minimum Standard Score. The number of the students who got score above the Minimum Standard Score was 16 indicating that the target of 80% students achieving the standard score was not yet achieved. This problem was trigged by the students who were not familiar to the learning process of Environmental approach with Science Kit Seqip. The teacher was less skillful in explaining the learning materials by making use of clues contained in concept mapping so that the students could not memorize the materials longer. In the initial activity, the teacher rarely correlated the learning materials to the students' real experience which was concrete and easy to be understood. In the end activity, the teacher did not yet verify thoroughly whether the students had understood the materials or not. The students' scientific process skills which were low in asking questions, doing observation and communicating the learning materials had made the students got low mastery/understanding on the materials being learned. Many of them were not able to answer questions in the test of the cycle I. The students' low learning outcome was also caused by the teacher who was not good at managing

the time and class, stimulating the students to actively use their scientific process skills in the learning process. In addition, the teacher was not fully proficient in applying the steps suggested in Environmental approach with Science Kit Seqip.

3. Students' Learning Motivation

Based on the result of questionnaire data analysis in cycle I, it was concluded that the students' motivation in learning Natural Science with Environmental approach with Science Kit Seqip was still low in which their average score was 73.55%. The use of Environmental approach assisted with Natural Science props and reward that was given to the most active group and students at the end of learning were not yet able to increase the students' learning motivation. Shortly, in cycle I, the students had less concern and lack of interest in learning.

After the action stage and observation were done, reflection activity with the teacher and observers was carried out to discuss the results of the observation. The results of the observation revealed that the teacher was still awkward/less proficient in conducting the steps suggested in Environmental approach with Science Kit Seqip. The teacher's performance should be more fun so that the students felt eager to learn. The teacher was not yet able to raise the students' learning motivation to make them more active in using their scientific process skill in the learning process. The teacher needed to improve her ways of teaching in initial activity, in core activity, in end activity. In order to increase the students' understanding and their learning motivation, the teacher should explain the lesson more clearly by using concept map and giving concrete examples to the students. The teacher was also required to stimulate the students to work actively by making use of Natural Science props provided for groups, and challenge them to ask questions. The teacher could give some helps especially to those who were shy and quiet. The teacher was also expected to guide the students in doing observation through the Student Worksheet which had been revised (accompanied by better pictures and instructions). In the next cycle, the teacher was expected to be more skillful/effective in making use of the time provided and to be able to explain the lesson more clearly by using concept mapping pictures. She was also demanded to give reinforcement in verification stage. By doing such improvement, it was expected that there would be many students who were able to answer the questions in the test. The teacher was demanded to guide her students to think about the application of the learning materials in their daily life. To the two observers, it was expected to do observation well and carefully during the learning process.

B. Cycle II

Based on the reflection result in cycle I, a better planning was remade regarding the way the teacher taught by using the Environmental approach with the Natural Science props and elected the environment where the students will learn. The teacher was asked to do better classroom management and instructional time. She was also asked to be more delighted by building positive relationships with her students in a way to greet and call the name of each student in the beginning of the class to make them feel safe physically, mentally, and emotionally, and feel that they were parts of the whole learning process. She was also asked giving more motivation to students at the beginning of learning. The improvement was also made by making concept map pictures with symbols, colors, and attractive words in order to create meanings for the students and help the teacher in explaining the concept map to enable students to understand more easily and remember the material that they studied longer. A better planning on how the teacher explained the material was also done in the initial and end activity by connecting the material to be taught with real-life experiences. It was helpful because the brain learned best from concrete experiences. The teacher guided and motivated

the students better in order to improve their will to observe, ask during the core activity as well as when they performed inquiry activities. The teacher also intensively guided and facilitated the students who wanted to try and to be able to communicate what they had learned. After discussing with the teacher, it was found that other aspect that needed to be improved in cycle II was the worksheets. It was hoped that the worksheets would help the students to understand easily and be active in doing the observation. The way the teacher provided reinforcement to the students towards learning in the end activity was also improved. She checked whether the students were already familiar with the material they had learned or not, so that it was expected that a lot of them obtained satisfactory learning achievement in the final test. She also provided good and exciting rewards for students who got good grades.

In the implementation of the natural science learning activities in cycle II, the material being taught was the Gravitation Force in the first meeting and the Friction Forces in the second meeting by using the Environmental approach with Science Kit Seqip. The observation was carried out by two observers using observation sheets. The result of the observation showed that the teacher was successful in motivating and building a positive relationship with the students, in implementing the Environmental approach, in presenting the subject matter by using the concept map and giving concrete examples. She was also successful in motivating and guiding the students to observe the activities and things learned by using available worksheets and Natural Science props as well as guiding them to ask questions in a group and communicate about their activities in the worksheets. She also succeeded in motivating and guiding groups of students in making observations and asking them to consider the applications of Friction Forces in daily life by giving few clues. In addition, she checked her students' understanding about the material that had been taught and reminded them to read more material about Gravitation Force and Friction Forces at home at the end of the second meeting. Thus, the students would be able to pass the cycle II's final test. She also gave rewards to the active group and students who got good marks in the test. The full descriptions of students' increased activities in cycle II were as follows:

1. The Result of the Observation on the Students' Scientific Process Skills

Based on the data obtained, it could be observed that the development of students' scientific process skills in cycle II was as follows:

Table 3. The Students' Scientific Process Skills in Cycle II

No	Indicators of Scientific Process Skills	Meeting		Average
		1	2	
1	Observing	81.82%	86.95%	84.38%
2	Asking	68.18%	82.61%	75.40%
3	Doing/Experimenting	81.82%	82.61%	82.21%
4	Communicating	72.73%	78.26%	75.49%

The data in Table 3 could be interpreted as follows:

1. There were 84.38% or 20 students who had been actively involved in doing observation at the end of the second meeting of Cycle II. They were able to describe the forms and the functions of gravitation force and friction forces. The students got much guidance from the teacher to actively observe experiment and investigation activities by using balls, papers, rocks, plasticine, steels, plastic base, wooden beams, plastic wheels and as it was required in the Student Worksheet. The students were motivated, pleased and highly interested to do observation during the learning process outside the class.
2. There were 19 students or 75.40% of them who were able to perform scientific process skills of asking questions in which they could ask questions either about gravitation force

and friction forces or about the materials they did not understand in initial, core, and end activities. There were also some students who asked questions to other groups during elaboration stage about the application of gravitation and friction forces. The teacher also had been proficient in motivating and stimulating the students to ask questions by using questioning technique.

3. The students' scientific process skills in doing experiment also increased at the end of the second meeting of cycle II in which 19 students were motivating and willing to do experiment by using balls, papers, rocks, plasticine, steels, plastic base, wooden beams, plastic wheels and doing experiment about the use of gravitation and friction forces in daily life. The students were guided by the teachers and they were able to apply gravitation and friction forces during the learning process so that they could answers very well the questions contained in the Student Worksheet.
4. The scientific process skills of communicating was done by 18 students at the end of the cycle II. It could be done actively by the students because they were guided by their teacher so that they were able to communicate the results of their investigations on the applications of the gravitation and friction forces on the Student Worksheet and presented the result of their observations in front of the class. This skill needed to be taught to the students so that they could think the examples of the gravitation and friction forces applications in everyday life. The teacher also helped the students to draw conclusion appropriately. In the future, students will need to be left alone to think about solving the problem or answering the question asked in the learning activities.

From these results, it can be concluded that all of the scientific process skills of students studied in this research had corresponded to the indicators set out. It could be concluded that the use of the Environmental approach assisted with Natural Science props could increase the fifth grade students' scientific process skills.

2. The Students' Cognitive Learning Outcome

Cycle II test was conducted after second meeting. The students' learning outcome was shown in Table 4. From the table, it could be seen that the students who passed were 83.33%, or 20 people. The percentage exceeded the specified passed score indicators. Learning science by using the Environmental approach and the Science Kit Seqip successfully improved the students' natural science learning outcome. This could not be separated from the teacher's corrective action efforts taken on the cycle II so that the students became more motivated and active in using their scientific process skills and understood about the lessons more easily. The improvement of the students' scientific process skills and learning motivations in the cycle II helped them to get better learning outcome. It could also not be separated from the number of students who motivated and got involved in the spirit of trying to use the Science Kit Seqip in the learning activities of cycle II, who were good at observing the activities performed, and who were active in asking questions. They could easily answer the cycle II's final test because they had observed well, had understood the material being taught, and they were motivated and pleased with the way their teacher taught also with te rewards that they were received from the teacher so that they became eager to follow the lessons. The test's questions were related to what they did in the activities of the first and second meeting in cycle II.

Table 4. The Students' Cognitive Learning Outcome in Cycle II

No	Description	Total
1	The number of students who were able to achieve the score above the Minimum Standard Score	20
2	The number of students who were not able to achieve the score above the Minimum Standard Score	4
3	The students' average score	84
4	The percentage of the students who were able to achieve the score above the Minimum Standard Score	83.33%
5	Target	80%

3. Students' Learning Motivation

Based on the analysis of the questionnaires filled out by the students at the end of cycle II, it could be concluded that the use of Environmental approach with the Science Kit Seqip successfully increased the students' motivation in learning science with the percentage of 83.33%. The teacher implemented the Environmental approach with the Science kit Seqip well so that the students became motivated and excited in learning, became active in using scientific process skills, and understood the material well. As a result, the questionnaires' average score achieved the target score (75%). The students' big attention, motivation, interest, and pleasure in learning in cycle II proved that the Environmental approach succeeded in catching their motivation since their teacher improved her teaching style compared to that in cycle I.

Reflection was done after the observation activities. From the results obtained in cycle II and a discussion with the teacher, it was found that it was not necessary to continue the actions in the next cycle because the indicator of success for the scientific process skills, cognitive learning outcomes and students' motivation had been reached.

4. Conclusion

Based on the findings and the discussions of the research, it was revealed that the Environmental approach with the Science Kit Seqip was successfully implemented in the fifth grade of SDN 13 Salak Sawahlunto through which it could improve the students' scientific process skills, their cognitive learning achievement, and their learning motivation in Natural Science. Based on the results of the research, it was concluded that: (1) the fifth grade students' scientific process skills in doing observation increased from 48.91% in cycle I to 84.38% in cycle II, (2) the fifth grade students' scientific process skills in asking questions increased from 49.01% in cycle I to 75.40% in cycle II, (3) the fifth grade students' scientific process skills in doing experiment increased from 64.62% in cycle I to 82.21% in cycle II, (4) the fifth grade students' scientific process skills in communicating increased from 49.11% in cycle I to 75.49% in cycle II, (5) the fifth grade students' cognitive learning achievement increased from 66.67% in cycle I to 83.33% in cycle II, and (6) the fifth grade students' learning motivation increased from 73.55% in cycle I to 81.80% in cycle II.

5 Acknowledgement

The writer delivers his massive gratitude to Yუსlaini, S.Pd.. and Reflina Mesria Nofita, S.Pd. who have given constructive suggestions and significant contribution for improvement this paper.

6 References

- [1] Depdiknas. 2003. *Pengelolaan Kurikulum di Tingkat Sekolah*. Jakarta: BSNP.
- [2] Depdiknas. 2006. *Kurikulum Tingkat Satuan Pendidikan*. Jakarta: BSNP.
- [3] Murni. 2012. *Penggunaan Pendekatan Lingkungan Sebagai Sumber Belajar Dalam Meningkatkan Minat Dan Hasil Belajar IPA Siswa Kelas II SD Negeri 20 Sungai Limau*. Padang: Universitas Bung Hatta.
- [4] Uno, Hamzah.B. Nurdin Mohamad. 2012. *Pembelajaran Aktif Inovatif Lingkungan Kreatif Efektif dan Menyenangkan*. Jakarta: Bumi Aksara.
- [5] Husamah. 2013. *Pembelajaran Luar Kelas Out Doorlearning*. Jakarta: Prestasi Pustaka Raya.

KEYNOTE AND PLANERY SPEAKERS

Prof. Dr. Muhammad Nuh, DEA

*Former Republic of Indonesia Minister
of Education and Culture (2009-2014)*

Prof. Dr. Bill Atweh

*Adjunct Professor at Curtin University
Visiting Professor at Philippines
Normal University*

Prof. Dr. Fou-Lai Lin

National Taiwan Normal University

Prof. Dato' Abdul Rahman B, Ph.D

Universiti Utara Malaysia

Dr. Zeny Reyes

Philippines Normal University

UNIVERSITAS NEGERI SURABAYA

Kampus Ketintang

Jl. Ketintang, Surabaya 60231

T. +62 31 8280009, 8280383, 8280675

F. +62 31 8280804

Kampus Lidah Wetan

Jl. Lidah Wetan, Surabaya

T. +62 31 7532160

F. +62 31 7532112

Universitas Negeri Surabaya
UNIVERSITY PRESS

Ketintang Surabaya Gedung C-15

Email: unipressunesa@yahoo.com

Bank