

The Activeness Improvement and Natural Science Learning Achievement using the SEQIP Teaching Model on the Students of Fourth Grade at Elementary School

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Abstract—The purpose of this research is to increase the learning activeness and natural science learning achievement by using the Science Education Quality Improvement Project (SEQIP) learning model in students fourth grade CI MIPA of SD Muhammadiyah Sapen Yogyakarta school year 2017/2018. The subject of this research is a students Grade 4 CI MIPA of SD Muhammadiyah Sapen Yogyakarta school year 2017/2018. This research conducted by research design class action. Data collection is done through the observation method and test. Data analysis techniques that done descriptive analysis to illustrate the achievements of learning and emphasize student in the following science lessons. The results of the study showed that there is increasing student learning activeness in the subject matter of natural science on enough category and less with the number of students in the category as much as 11 people or 39.29% on each category. At cycle II, activeness on the majority of the group of students rose to the category of both with the number of students in the category as much as 26 people or 92.86%. There is increasing students learning achievements in Natural Science subjects through the implementation of the SEQIP learning. At the Cycle I, learning achievements increased from an average of 69.26 with settled on the cycle I, learning achievements increased from an average of 54.29 with settled by 14.81% to an average of 71.96 with learning in line with of 55.56%. At cycle II, learning achievements return has increased the average become 79.82 with settled by 85.19%.

Keywords—*Learning activeness, Learning achievements, SEQIP learning.*

I. INTRODUCTION

The effort to improve the quality of education in elementary schools can not be removed from the role of a professional teacher, the professional teachers must be able to give their ideals, build to develop the potential as well as their creativity through the education process of learning to the learning paradigm of learning that centered on teachers to learning that centered on students. In other words, the professional teachers are individuals who have the ability and special expertise educations so that he could perform the task and function as teachers with maximum capability.

To achieve the education goal, main things that need to get attention is the learning process. Dimiyati and Mudjiono [1] stated that learning is a complex internal process and involves the entire mental that covers the jurisdiction of cognition, affective, and psycho motoric aspects. The complexity of the learning of course can be seen

from the two subjects, namely the students and teachers in terms of the students learning experience as a process. Students experiencing mental processes in the face of learning materials. In terms of teachers, the learning process is seen as the behavior of learning about a thing.

The learning process is the main things that need to get attention to achieve the goal of learning. The learning process would also involve some components of learning. Learning component consists of learning aims, learning materials, teaching and learning activities, methods, the appliance and resources, and evaluation. These factors related to each other and relate to each other in the teaching and learning activities.

The role of the teacher as the class manager in the learning process is a very important factor. The teacher's activity and creativity in the delivery of the subjects is one of the aspects that determine the success and smooth the teaching and learning activities. Learning variations that can be done by the teacher in addition to the use of learning media also in the use of learning model. The model of teaching which varied can bring students into the learning experience is more meaningful to the students to avoid the situation of boring learning.

In fact, the learning process that often occurs in elementary school to up to the moment is still centered on the teacher and the book as a main source. Learning Model used namely lectures model as the main choices. This condition also occurs in learning Natural Sciences (IPA). Djauhar [2] stated that natural science lessons (science) still oriented on the teacher as the main source of information so that the science lessons deemed boring. Therefore, needed a new breakthrough and learning strategies that empower students. needed a strategy to encourage the students to construct own knowledge, experience themselves, find themselves with the skills of the process [1]. This also happened in natural science lessons that require learning model that can encourage students to be more active in learning.

One of the teaching models that can improve emphasize student in the following natural science lessons is the model of learning Science Education Quality Improvement Project (SEQIP). The SEQIP learning is learning model that is centered on students. The SEQIP learning also known with the project to improve the quality of education of Natural Sciences. In the SEQIP learning, there are 3 main elements that must be implemented, namely the introduction of the class discussions and experiments. The implementation of

the SEQIP learning aims to create the atmosphere of learning science is more enjoyable active, creative and effective way to improve the achievement of student learning. The SEQIP learning model can help students mastering the concept, feel happy and more challenged in following lessons, so that emphasize student and student learning achievement especially for natural science loads increased.

Teachers must be able to apply the appropriate natural science learning approach and in accordance with the characters electrostatic of natural science as a professional education. Based on the results of the initial observation, research in learning that has taken place in elementary school Muhammadiyah Sapen Yogyakarta obtained the information that the process of learning in grade 4 using thematic learning integrative and the media used is still many refers to the book (text book). In addition, the method used in the process of the learning still many is repetition. Researchers make observations of natural science lessons conducted in fourth grade of CI MIPA of SD Sapen Muhammadiyah Yogyakarta.

At the time of observation, fourth grade of CI MIPA of elementary school Sapen Muhammadiyah Yogyakarta. Implement natural science lessons with the teaching lectures model. In the learning activities, seen that students are less active because only pay attention to the teacher describe the learning materials. Most of the students are not actively participate in learning. Students who do not actively participate in the learning activities can be seen from the various indicators. In the learning activities, still many students passive and never reveal their opinions on the subjects who delivered by the teacher. This is because students fear one and shame to the opinion. Students who do not actively participate also dare not give response to the opinion of his neighbor. The students are also visible is not active to answer the questions from the teacher.

The majority of the students only learn is limited to material science lesson that taught teachers. The lack of activeness students in learning protective procedures of course also has an impact on the achievement of student learning. The result of the study introduction through the documentation list widely anticipated the value of students shows that there is still a fourth grade CI MIPA which has a value of the average less than KKM on the year 2016/2017 lessons. The number of students with an average of less than KKM is approximately 8 from 25 students (32%). Students with an average of less than KKM is visible passively when the lesson. The problems that occurred in the learning of course requires improvement programs that need to be given to the students in the classroom IV CI MIPA.

Through the preliminary study, observation, interview with teachers and students documentation value found some core problem the need for initiating research, namely: (1) learning achievements reached by the students is not optimal because the lessons given still beyond the concepts of the subjects that is repetition and still rarely do activities that can improve emphasize student with experiment and observation, (2) learning model that is used is not completely scientific, so that in the process of learning has not been trained to learn independently and active, (3) learning that developed is textual with the book as a source of learning home, so that the other sources such as natural science KIT that has been assisted from the government and the media that is not used optimally, (4) learning in Grade 4 CI MIPA of SD Muhammadiyah Sapen has not been using the SEQIP learning model, (5) learning model that is used is still

centered on the teacher with the method lectures so that the students only passively accepting the subjects matter of teachers, and (6) the assessments developed still many reveals repetition or reiteration of the materials to be learned, so that the students are getting acute ability to think improves and knowledge that owned cannot be developed.

Natural Science learning should be done with centered on students so that the students themselves actively involved in learning. According to Sulistyorini [3] the fact of Education of Natural Sciences (IPA) is the reality of nature, namely the learning oriented toward the students as subjects who are able to read the symptoms and natural phenomenon, direct interaction between the students with objects in the environment and encourage the students more active in teaching and learning more meaningful. Through the quotation can be understood that the natural science learning conducted through a series of process skills that accentuate the creativity of the students through the model of teaching which is centered on students.

In order to upgrading the quality of natural science learning in the elementary school of the Directorate General of Primary and Secondary Education to work together bilaterally with the government of the Federal Republic of Germany through the SEQIP (Science Education Quality Improvement Project). The SEQIP program emphasizes the use of the strategy and in the learning activeness model with a variety of learning resources in elementary school through the construction of the performance of the professionalism of teachers equipped with the procurement of books for Science Teachers, science books students, books science experiment, science kit teachers and technical training on the use of the kit for science teachers and technical training on the use of science kits in the learning process in primary and maintenance training and repair science kit [4]. SEQIP program was organized to improve the quality of the learning process in the grade fourth of natural science to sixth grade.

Learning is focused on the students done to improve emphasize student during the learning process. In the SEQIP learning, students asked to carry out the experiment itself through a series of scientific activities that accompanied by teachers. This can increase students understanding about the concept of science in lessons, so that the subjects really can be controlled and can be applied students with better because the students are trained to highly skilled process. In learning science which centered on students the ability of students to complete the test related to the science skills are also developed, such as observed, build their own opinions and maintain rationally, and develop an alternative experiment and try it out. Through the SEQIP learning model that is centered on the students expected natural science lessons more interesting, so that the students actively involved in the teaching and learning achievements students will increase.

Motivated from the background of the problem, it needs to be done the efforts to increase activeness and achievement in learning natural science Through SEQIP learning model. The Learning that held by the teachers less interesting for the students, and learning has not yet been able to optimize independence and emphasize student. The results of this research is expected to provide information in the world of education, especially to help teachers produce the correct knowledge and relevant for their classes to improve the quality of learning in the short term.

This research is also intended to encourage the actualization of the learning process interesting and challenging, comfortable fun and involve students because the implementation of appropriate learning methods and selected seriously. For education practitioners, this research is expected to improve the quality of teaching by applying SEQIP learning models on the following aspects:

- a. How to increase activeness and the learning achievement of student through SEQIP learning models in fourth grade CI Hasan Al Rammah of elementary schools Muhammadiyah Sapeh?
- b. This research aims to increase activeness and the student learning achievements through the SEQIP learning model in the fourth grade CI Hasan Al Rammah DS Muhammadiyah Sapeh school year 2017-2018.

The rest of this paper is organized as follow: Section II describes the literature review. Section III describes the proposed research method. Section IV presents the obtained result and following by discussion. Finally, Section V concludes this work.

II. LITERATURE REVIEW

A. Understanding of Learning achievement

Literally activeness is derived from the active which means busy, zealous [5]. Active get the prefix to- and -an, so to emphasize that has the meaning of the activities or busy. So, how learning activeness is an activity or busy learners in teaching and learning activities in the school and outside the school to support the success of student learning.

Sardiman [6] argues that the activity here is good that is physically and mentally. In the second learning activities that activity must be interconnected. The Relationship between the two will initiate some optimal learning activities. Many activities that can be done by student's dissemination. Learning activities is a function of the interaction between the individual and the surroundings of the situation that is determined by the indicator. The continuous interaction causes the experiences and the desire to understand a new, which has not been understood or that have not yet been experienced.

B. Learning Achievements

According to the achievement can also be understood as a result achieved by someone after performing activities. Achievements show more on the results of the assessment of skill someone after attempting. Usually learning achievements can be measured through test. The Problem of learning achievement is important because it is the result of the changes in the learning process. The results of the learning achievements can be grouped in various subjects. Evidence of concrete result described in the acquisition value report were nine students. The report was nine book presents the performance of the students is of course lists the progress of the corresponding student learning.

Each student expected some good learning achievements, because learning achievements are the results obtained from the teaching and learning process in a certain period. Zainal Arifin reveals that by the etymology of the word achievement comes from the Dutch namely "*prestatie*". Then in bahasa

Indonesia to become the achievement means business results. The term in learning achievement consists of two syllables namely achievement and learning. The term is used on the results that have been achieved in learning. Learn in broad meaning can be interpreted as a process that allows the emergence and changing a behavior as a result of the formation of the main response to the requirement that the changes and the emergence of new behavior is caused by the existence of the maturity and the existence of change.

Learning achievement is something that cannot be separated from the learning activities. This is caused by the activity of learning is the process, while the achievement is the result of the learning process. Understand the sense of learning achievements outline must be a philosophical argument to the understanding of learning itself. Learn as the activities of the individual is the impulses of the individual who sent him by the environment. Thus, the learning activities conducted by an individual is influenced by the surroundings.

Learning achievement is the result achieved by a person in learning. learning achievements in the form of the value obtained through the measurement result the learning process [7]. Suryabrata in [7] also outlines that learning can bring the changes on the point is obtained new skills. Thus, the results of the study can be interpreted as a change in the skills and behavior that obtained after the experience of learning activities.

Learning achievement is the mastery of knowledge and skills developed by the subjects that is often indicated by the results of the tests and the number value that given by the teacher. Learning achievement describes the control of the students on the subjects given. learning achievements can be said as a result that obtained the students to learn that he did and is the product of a process. The process is done by the individual is learning activities, learning achievements are usually stated in the form of the value of the index and achievements obtained from the measurement result learning achievements.

Through the explanation above can be known definitions of learning achievements. However, this research based on the theory of learning achievements are expressed by two experts i.e. Imaduddin and Utomo in [8]. Thus, the learning achievements can be understood as a result of the evaluation of the education of the mastery of the knowledge and skills achieved by students after undergoing a process of formal education in a certain period and the result is the substantial numbers.

C. The SEQIP Learning Model

The SEQIP (Science Education Quality Improvement Project) or project to improve the quality of education Natural Science in elementary school by emphasizing the use of the strategy and methods of interlearning activeness with a variety of learning resources. The SEQIP Media help natural science teachers in order to prepare the learning is easier and more accurate and can perform optimally so that created a situation of learning science fun, active, creative and effective. Natural Science learning with the SEQIP learning model emphasizes the construction of the professionalism of teachers in teaching. Equipment used in learning include: (1) the Natural

Science Book Teachers to perform the learning flow, (2) Natural Science Books Student that already in rows according to the characteristics of the students, (3) the Natural Science Book experiment is the handbook for experiments that assembled themselves with the use of goods or materials found in the environment where the students, (4) Natural Science Kit for teachers to the demonstration and experiment is usually done by the teachers and students also Natural Science Kit for student to experiments conducted by the students themselves in the small groups [4]. While the approach used is Natural Science process approach skills. The SEQIP program developed to resolve the problem of the quality of Natural Science learning is still often found among others as follows:

a) How the paradigm of Natural Science learning at Elementary School that in generally informative under the domination of the teachers toward learning paradigm (learning) that active, fosters curiosity (curiosity) students about the natural phenomenon, learn to invention forward and the implementation of the concept to train students to think logically and develop scientific attitude in the exciting learning situation and enjoyable.

b) How to increase the mastery of the concept as well as the procedure for teachers and students of Elementary Schools about natural science on a systematically and sustainable [2]. The SEQIP develop the teacher's capacity in the management process of natural science learning with attention to the aspects of quality control range span of control. Natural Science Learning pattern in the Elementary Schools desing so that the students have sensitivity and awareness of the importance of natural science (sense of science) and able to implement their science in troubleshooting the problems that is found in the daily lifes [2].

III. DATA AND PROPOSED METHOD

A. The Data

Data analysis research was done through qualitative and quantitative descriptive analysis. Qualitative analysis done to describe the qualitative data in the form of the information obtained in the implementation of Natural Science learning using the SEQIP method. The Quantitative analysis done to explaint quantitative data obtained from the implementation of research. Analysis tools used in this research is a descriptive analysis. The following description of the analysis of the data used in this research.

Qualitative Data analyzed with flow model. this technique consists of three flow of the event which took place at the same time namely data reduction, presentation of data, withdrawing conclusion/Data verification of observation that has been obtained in the form of the observation toward the student activity in learning, observation toward teachers and the interview analyzed in qualitative research. This was done by searching and arrange the data that can be easily understood and can be communicated with clear and precise. Now the steps analyzing qualitative data is as follows:

1. Data Reduction

Data reduction is summarized, select the topic of things that subject, focus on the things that are important, search for the theme and pattern and cast that does not need to.

2. Data Presentation

The presentation of the qualitative data is with text narratives, contains information data from the result of observation and interview.

3. The withdrawal of the Conclusion

The withdrawal process of the conclusions from the existing data with the valid evidence and consistent, so that the conclusion obtained in accordance with the formulation of the problem since the beginning. The result of observation and the students test analyzed quantitatively. At the end of each cycle is calculated the value of the average observation score and the value of the test. Descriptive analysis is used to describe the data obtained in the implementation of research. The achievement of student learning is described by the value of the average, minimum value and maximum value. Descriptive analysis done in this research is a descriptive analysis with the percentage of frequency distribution. This is done to know the category of the level of learning activeness. To calculate the percentage of used the equation below.

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

Where:

P = Numbers percentage

F = The Frequency

N = Number Of subjects / respondents

The conversion of quantitative data to qualitative data is done with the scale of 5. Criteria for guidelines on a scale of 5 using the mean (X) and standard deviation (SD). Based on the obtained value extensions, then plugged into categories in Table I as follows.

TABLE I. SCORE CRITERIA

Score Interval	Category
$X > X_i + 1.80 S_{bi}$	Very good
$X_i + 0.60 S_{bi} < X \leq X_i + 1.80 S_{bi}$	Good
$X_i - 0.60 S_{bi} < X \leq X_i + 0.60 S_{bi}$	Moderate
$X_i - 1.80 S_{bi} < X \leq X_i - 0.60 S_{bi}$	Low
$X \leq X_i - 1.80 S_{bi}$	Very Low

where:

X_i = Average ideal

= $\frac{1}{2}$ (the highest score + the lowest Score)

S_{bi} = ideal deviation

= $\frac{1}{6}$ (the highest score - lowest Score)

B. Proposed Method

Class action research done by combining research procedures with substantive action. Class action research is a form of study is reflective by the perpetrators of the action. This research is done to improve the ability of the rationale of the actions in carrying out the tasks, deepen the understanding of the actions done, as well as improve the

conditions in which the learning is done. Class action research done in some of the cycle. In broad outline of each cycle consists of four stages of activities namely planning, implementation of action, observation and reflection.

The procedure of the research based on the Kemmis and McTaggart model [9]. Kemmis and McTaggart models use the 4 components of research in each step, namely planning, actions, observation and reflection, but the components and actions of observation become one component because both activities done simultaneously [9]. A series of the procedure of the research can be seen in the Figure 1 below.

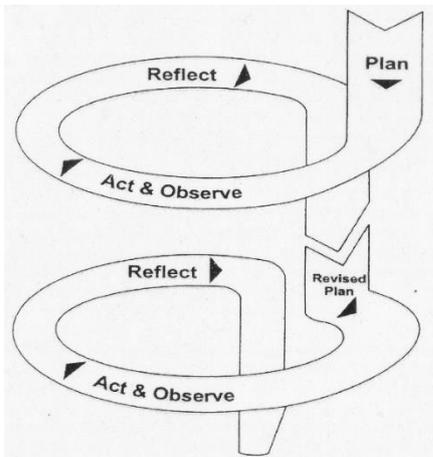


Fig. 1. The cycle of PTK Kemmis and McTaggart Model(Source: [8])

This research is done in the form of the cycle, each cycle consists of planning, action and observation and reflection. Before the implementation of research, researchers conducted preliminary study through observation, interview and documentation. The steps done in this research is:

1) Research Planning

Planning step is at this stage is planning the implementation of the class action research. The steps done by the teachers on planning phase of this research are as follows.

- a. Study introduction through observation in fourth grade CI Hasan Al Rammah to know the model of teaching which is applied and how active the students during science lessons in progress
- b. Introduction Preliminary Study through an interview with a science teacher who taught the class IV CI Hasan Al Rammah to know the problems faced by teachers in the implementation of natural science learning
- c. Introduction Preliminary Study by documenting the list the value of fourth grade students CI Hasan Al Rammah to know the preliminary achievements of natural science learning
- d. Draft proposal and research design as planning in the implementation of research
- e. Discussions with teachers about the lack of natural science learning in fourth grade CI Hasan Al Rammah and offers improved learning through the SEQIP learning model through collaboration with the class teacher

The implementation of research is the implementation phase of the action that consists of 2 cycles. The phase execution of action is as follows.

1. Cycle I

a. Planning

The planning phase of the researchers in this research is as follows:

- a) Create Implementation of Learning Plan (RPP) using the SEQIP approach.
- b) Prepare learning media that will be used in the learning activities in accordance with the material that will be taught.
- c) Create a format sheet of student observation and teachers in learning activities process using the SEQIP approach.
- d) Create the format of the interview students.
- e) Create a name card for each group.

b. The implementation of the actions

The action is the implementation of planning that has been created that can be a model of the implementation of the specific learning aims to improve or enhance the model is running. At this stage, learning activities by the SEQIP learning model is conducted in accordance with the lesson plans which have been prepared in the process of learning the students divided into groups in a heterogeneous with each student in the group is given a different number. In this case the students were divided into 4 groups each group consisting of 6 to 8 students. Then each group teaching with the SEQIP model where in this model is the steps of the teaching, namely: beginning activities, core activities, and final activities. In the learning process with the SEQIP learning model, the students will be given various natural science experiment with the sequence of the process that has been determined. After sometime this resorting done, then the students will be given the test with questions worksheets prepared. The next activity is the students asked to present the results of the work of the group in front of the class to the students that the number called, and the students lumped others consider and compare with his work. Finally, the students conclude the result of the experiment that has been done with guidance from the teacher.

c. The observation

The observation was done to observe the emphasize student during the SEQIP learning model in progress. Observation of students include student's attention when explained, respond to the questions/instructions teachers, condition themselves in groups, the involvement of the complete questions in groups, creating the smooth flow of class discussion and listening to the results of the analysis of teachers. The observation is also done to the teachers to assess the ability of the teachers in implementing learning model. The observation done during the implementation of the actions in other words, implementation and observations carried out at the same time.

d. Reflection

The reflection is the stages of the assessment of the process that happens, problems that arise, and all things related to the

action that is performed. The implementation of this reflection is through a discussion of the related party in research, namely teachers and researchers. The results of reflection are a revision to the planning that has been carried out that will be used to improve the performance of the teachers at the next meeting. Based on this reflection so it can be concluded that the actions of what actions that meet hope, what is not yet, whatsoever must be maintained or even established and actions that must be revised back, who then can be drawn up the plan for the next round of the cycle of II.

2. *The cycle II*

After the implementation of the cycle I ended, it is expected that there has been a fundamental change in the activeness and the achievement of student learning. The implementation of the cycle II basically be adjusted with the results of the cycle I. On the implementation of the cycle II done fixes to lack that occur during the cycle I. The procedure of the teaching on the cycle II with the cycle I, namely started from the planning, implementation actions, observation and reflection. In broad outline the cycle I and II have similarities steps. But the cycle II is done when the cycle I have not yet reached the success criteria.

IV. RESULT AND DISCUSSION

A. *Results*

This research carried out in 2 cycle and each cycle duration of 6×45 minutes. This research is a class action research carried out in elementary school of Muhammadiyah Sapen. A sample of this research is a fifth grade of CI MIPA. The subject of the research is a fifth grade of CI MIPA. In the implementation of research, students are given the actions of the SEQIP natural science subject learning. Before, after, and during the implementation of the actions of the SEQIP learning natural science subject, done by gathering data regarding the activeness and the achievement of student learning. Data Collection learning achievements in the eyes of a Natural Science subject is obtained through the gift of a test of the students after the cycle I, and after the cycle II, while learning activeness collected through observation during the following natural science subject. In detail, the procedure of this research is described as follows.

1. *Cycle I*

a. *Planning*

The action was carried out in the planning phase is as follows.

- Create Implementation Learning Plan (RPP) using the SEQIP approach.
- Prepare learning media that will be used in the learning activities in accordance with the material that will be taught.
- Create a format sheet of observation of students and teachers in the process of learning activities using the SEQIP approach.
- Create the format of the interview students.
- Create a name card to each group

b. *The implementation of the Actions*

Activities conducted in this stage is to carry out the action in accordance with the planned. At this stage, learning activities by the SEQIP learning model is conducted in accordance with the lesson plans which have been prepared in the process of learning the students divided into groups in a heterogeneous with each student in the group is given a different number. In this case the students were divided into 4 groups each group consisting of 6 to 8 students. Then each group teaching with the SEQIP model where in this model is the steps of the teaching, namely: activities beginning, core activities, and end activities. In the learning process with the SEQIP learning model, students will be given various science experiment with the sequence of the process that has been determined. After sometime this resorting done, then the students will be given the test with questions worksheets prepared. The next activity is the students asked to present the results of the work of the group in front of the class to the students that the number called, and the students lumped others consider and compare with his work. Finally, the students conclude the result of the experiment that has been done with guidance from the teacher.

c. *The observation*

The observation that done during the lesson as an effort in observing the implementation of the actions in the make observations, researchers assisted by other observers who participated in observing the way of learning based on observation sheet activeness and the response of the students who have been prepared by the researchers.

d. *Reflections*

At this stage is done reflections on the outcome of the observations carried out during the lesson. The reflection aimed to know the disadvantages and the advantages that occurs when the lesson. results from a reflection done will be used as consideration in plan learning next cycle.

2. *The Cycle II*

At Cycle II, is expected to have a fundamental change has occurred. The changes or repairs performed on the cycle II according to the results of the reflection on the cycle I. The activities done at cycle II was intended as the improvement of the implementation of the SEQIP learning that has been implemented at cycle I. The procedure of the teaching on the cycle II with the cycle I, namely started from the planning, implementation actions, observation and reflection. The action plan on the cycle II is based on the results of the reflection on the cycle I. Each step in the cycle II described as follows.

a. *Planning*

The action was carried out in the planning phase is as follows.

- Create Implementation Learning Plan (RPP) using the SEQIP approach.
- Prepare learning media that will be used in the learning activities in accordance with the material that will be taught.
- Create a format sheet of observation of students and teachers in learning activity proces using the SEQIP approach.
- Create the format of the interview students.

- Create a name card for each of the groups of Natural Science

b. The implementation of the Actions

Activities conducted in this stage is to carry out the action in accordance with the planned. The implementation of the cycle II basically be adjusted with the results of the cycle I. On the implementation of the cycle II done fixes to lack that occur during the cycle I. The procedure of the teaching on the cycle II with the cycle I, namely started from the planning, the implementation of actions, observation and reflection. In broad outline the cycle I and II have similarities steps. But the cycle II is done when the cycle I have not yet reached the success criteria

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The observation that done during the learning as an effort in observing the implementation of the actions in the make observations, researchers assisted by other observers who participated in observing the way of learning based on observation sheet activeness and the response of the students who have been prepared by the researchers.

d. Reflections

At this stage is done reflections on the outcome of the observations carried out during the lesson. The reflection aimed to know the disadvantages and the advantages that occurs when the lesson. results from a reflection done will be used as consideration in plan learning next cycle.

After the implementation of the cycle II, because the indicators of success have been reached then the SEQIP learning cycle stopped. In research plan, when success indicator has not been achieved then action needs to be taken with the others continue to the next cycle until the indicators of success achieved. The implementation of the next cycle in accordance with the result of the reflection of the cycle of the cycle which has been implemented in the action research.

1)The First Meeting

In accordance with the plan which has been made, learning activities conducted by the SEQIP learning model. However, before the implementation of the first given evaluation tests I to know the beginning achievements of the students. After giving a test, teachers implement the actions in accordance with the lesson plans that have been compiled. During the learning activities done by observation and mentoring to students in learning groups, distribute WORKSHEETS and equipment used. The Observer help researchers observe emphasize student using the observation sheet. actions that are performed on this stage in more detail is:

- The Teacher asked the students to make groups in accordance with the groups that have been assigned. 1)
- The Teachers explain to the students that from that day will be held different learning be held is diference with the usually learning, namely using the SEQIP learning.
- The students are given a variety of science experiment with the sequence of the process that has been determined.
- The students were given the test with questions worksheets prepared.

- Students are asked to present the results of the work of the group in front of the class to the students that the number called and the students lumped others consider and compare with his work.
- The students conclude the result of the experiment that has been done with guidance from the teacher.

2)The Second Meeting

At the second meeting the students are in groups because on the previous meeting have been instructed by the teachers to directly in groups if a science lesson started. The steps of learning at second meeting is not much different with the first meeting. These phases were as follows.

- Teachers initiate a meeting with asking the students some questions to remember the material on the previous meeting.
- Teachers implement learning according to the learning plan of second meeting at cycle I that contains the material orally and in writing.
- All the steps in the cycle I of second meeting This is the same with the phases that are on the cycle I of first meeting, but sheet of student activities as a discussion on the second meeting is adjusted with the material orally and in writing.

3)The Third Meeting

At the third meeting at cycle I teachers held a quiz. Before the quiz begins, teachers explain that the value of each student will represent their respective groups. The teacher asked the students to groups in accordance with the division of the group at the previous meeting. Then each group teaching with the SEQIP model where in this model is the steps of the teaching, namely: beginning activities, core activities, and final activities. In the learning process with the SEQIP learning model, students will be given various science experiment with the sequence of the process that has been determined. After some time this resorting done, then the students will be given the test with questions worksheets prepared. The next activity is the students asked to present the results of the work of the group in front of the class to the students that the number called and the students lumped others consider and compare with his working. Finally the students conclude the result of the experiment that has been done with guidance from the teacher.

e. The observation phases

The results of these observations cycle I recorded in the observation sheet that has been prepared. Observations on the cycle I obtained the following result.

The Test results

At cycle I in learning using the SEQIP learning model, the value of the average students achieves 71.96 with the percentage of learning in line with the classical is 55.56%. Based on the analysis of the data evaluation tests on the cycle I obtained by comparison of the value of early learning achievements of students and at the end of the cycle I can be seen in the following Table II.

TABLE II. THE STUDENT LEARNING ACHIEVEMENT BEFORE AND AFTER THE END OF THE CYCLE I

No	The achievements	Preliminary Data	After the Cycle I
1	The highest value	80	80
2	The lowest value	30	50
3	Average Test Value	54.29	71.96
4	The percentage of completed classical learning	14.81%	55.56%

From the Table II above, it is known that there is an increase in student learning achievement after the cycle I. The average value of the students increased of 54.29 become 71.96. The percentage of learning in line with the classical period increased from 14.81% become 55.56%. From the results it can be known that learning achievement has increased but has not yet reached the success of the class of 85%.

- Emphasize Student Observation Sheet
The action that is performed on the stage of observation is as follows.
- Researchers observing the way of learning with teacher colleagues and observer. In this observation used sheet of observations that has been prepared in advance. Observation sheet is used to perform the recording of behavior patterns about the cycle from the first meeting with third meeting.
- The task of the observer is to observe the way the teaching and learning process. Observation sheet used to record the activeness each student in groups.
- From the observation of the students obtained as follows:
- The classroom environment is less under control when beginning the lesson.
- The student courage to answer the questions and appear to come forward has not grown, because students still feel frightened mistake.
- The student appearance in presenting the results of their work still appears in doubt, tense and less dare to respect his friends.

The result of observation can be seen in the following Table III.

TABLE III. EMPHASIZE STUDENT AT CYCLE I

The criteria	The number	The percentage
Very good	2	7.14%
Good	2	7.14%
Enough	11	39.29%
Less	11	39.29%
Very less	2	7.14%
Total	28	100.00%

Based on observation obtained the result that most students have active classified in the category of just and less. The number of students in this category is as much as 11 students or 39.29% on each category. How active the other students is considered very good, good, and also very less. The number of students in each of these categories is as much as 2 students or 7.14%.

a. Reflections

After doing observation of the action learning in the classroom, afterwards held reflections on all the activities that have been done in the cycle I. In the activity of the cycle I obtained the results of reflection as follows.

- Based on the data of the test results on the cycle has not been achieved in line with the classical. Learning in line with that obtained at cycle I of 55.56% with value by an average of 71.96. The lowest value 50 and highest value 80. This is not in accordance with the expected because the results expected at least learning in line with the expected classical $\geq 85\%$, with the students value of located above the KKM, namely 75.
- During the lesson emphasize student learning such as asked, explains, pour the idea directly or in writing is still considered sufficient and less on the cycle I. Students who have active in the category and also less in the whole of the activities in the cycle I was 11 people or 39.29% for each category. There are also students with the category of activeness that very less and there is also the students with activeness classified in the category of good and very good.
- In the broad Outline the implementation of the cycle I run well. This can be seen the condition at the end of the cycle I which can complete the learning achievements 15 students (55.56%). As many as 15 students (55.56%) from the total students have value greater than the KKM or in the value of 75. From the total amount of students still there are 13 students (44.44%) with value under 75. or not reach KKM. At the beginning of the implementation of the research and the number of students with the values in the KKM only as much as 4 students (14.81%). After the implementation of the cycle I, the number of students with the values in the KKM has increased to 15 students (55.56%). Thus, it can be said that the results of the implementation of the SEQIP learning model in this science lessons can be said good enough in improving the achievement of student learning. But the activities at cycle I need to be repeated and improved in order to increase student learning achievements in accordance with the indicator of success expected.

3. The Cycle II

a. Planning

Based on the reflection results on the cycle I, the planning that arranged for the cycle II done with attention to the following matters.

- 1) Teachers must always motivate students to become active in the group learning.
- 2) Teachers also emphasized so that the students are more confident to express their opinions or asking. Although the opinions expressed one of teachers will not laugh or angry, even the teachers will be proud of the courage of students.
- 3) To improve the cooperation between members at the next meeting the students are given problems that allows students to do activities such as discussions.
- 4) Teachers Remind the students that in the study of matter and the students can use the handbook in addition WORKSHEETS be given. This meant that the students

actively seek learning resources that other than WORKSHEETS be given.

On the planning of the cycle II also arranged Implementation Plan Learning (RPP), WORKSHEETS, questions test the students learning achievements, observation sheet and learning activeness.

b. The implementation Actions

1) The first meeting

The implementation of teaching on the cycle II meeting I was to improve the lack of, or the problem faced in the cycle I. At a meeting on 1 cycle 2 is still done learning activities by the SEQIP learning model. The steps done in this meeting is still the same with the steps done at first meeting on Cycle I, only this meeting is done with different materials. Because the material to be learned enough, teachers remind students to take advantage of the best time.

2) The second meeting

At the second meeting, when the lessons will begin the students are visible ready to learn. All the students are gathered together with the group of each. The steps of learning at second meeting is not much different from the previous first meeting, but learning materials discussed in this meeting was different from the previous meeting. The phases passed on this meeting of course begins with a review toward previous material.

3) The third meeting

On the third meeting, do the same steps with the second meeting. At this stage, learning activities by the SEQIP learning model is conducted in accordance with the lesson plans that have been prepared. In the process of learning the students divided into groups in a heterogeneous with each student in the group is given a different number. In this case the students were divided into 4 groups each group consisting of 6 to 8 students. Then each group teaching with the SEQIP model where in this model is the steps of the teaching, namely: beginning activities, core activities, and final activities. In the learning process with the SEQIP learning model, students will be given various natural science experiment with the sequence of the process that has been determined. After some time this resorting done, then the students will be given the test with questions worksheets prepared. The next activity is the students asked to present the results of the work of the group in front of the class to the students that the number called and the students lumped others consider and compare with his work. Finally the students conclude the result of the experiment that has been done with guidance from the teacher.

c. The observation phases

The results of these observations the cycle II recorded in the observation sheet that has been prepared. Observations on the cycle I obtained the following result.

1) The Test results

At cycle II in Automotive Electrical System learning using the SEQIP learning model to obtain the value of the average

students achieve 79.82 with the percentage of learning in line with the classical is 85.19%. Based on the data analysis of the evaluation tests on the cycle II obtained by comparison of the achievement of student learning at cycle I and at the end of the cycle II can be seen in the following Table IV.

TABLE IV. THE ACHIEVEMENT OF STUDENT LEARNING BEFORE AND AFTER THE END OF THE CYCLE II

No	The Achievements	After Cycle I	After Cycle II
1	The highest value	80	90
2	The lowest value	50	60
3	Average Test Value	71.96	79.82
4	The percentage of completed classical learning	55.56	85.19

From the table IV above, it is known that there is an increase in student learning achievement after the cycle I. The average value of the students increased of 71.96 become of 79.82. The percentage of completed classical learning increased from 55.56% become 85.19%. From the results it can be known that learning achievement has increased and has achieved success in the classroom as much as 85%.

2) Emphasize Student Observation Sheet

On the stage of observation back done the steps as the measures that have been done on the cycle I. The result of observation can be seen in the following Table V.

TABLE V. EMPHASIZE STUDENT AT CYCLE II

Category	The number	The percentage
Very good	0	0.00%
Good	26	92.86%
Enough	2	7.14%
Less	0	0.00%
Very less	0	0.00%
The number of	28	100.00%

Based on observation obtained the result that most students have active classified in the category of good. The number of students in the good category is as much as 26 students or 92.86%. How active the other students are classified as enough. The number of students in each of these categories is as much as 2 students or 7.14%.

d. Reflections

After doing observation of the action learning in the classroom, afterwards held reflections on all the activities that have been done in the cycle II. In the activity of the cycle II obtained the results of reflection as follows.

- Based on data of the test results on the cycle has not been achieved classical completed. Completed Learning in line with that obtained at cycle II of 85.19% with value by an average of 79.82. The lowest value 60 and highest value 90. This shows the changes to a better direction and has been in accordance with the expected because the

expected outcome has reached the learning in line with the classical expected, namely $\geq 85\%$.

- During the learning the student ability in learning as asked, explains, giving the idea directly or in the writings have been experiencing significant progress. Almost all the groups the students actively involved in the category of good on all the activities in the cycle II, except in Group 1 and 2. Overall can be interpreted that most students have active in the category of good.
- In the broad Outline the implementation of the cycle II run well. This can be seen from the final cycle II which can complete the learning achievements of 23 students (85.19%). As much as 23 students (85.19%) from the total students have value greater than the KKM or above 75. From the total amount of students there are still 5 students (14.81%) with value under 75. or not reach KKM. Indicators of success research has been reached, namely in classical implementation of research can complete 85% Student learning achievement. After the cycle I, the number of students with the values in the KKM only as much as 15 students (55.56%). After the implementation of the cycle II, the number of students with the values in the KKM has increased to 23 students (85.19%). Thus, it can be said that the results of the implementation of the SEQIP learning model in this science lessons can be said very good in improving the achievement of student learning. But this learning activities need to be maintained in order to increase student learning achievements in accordance with the expected.

B. Discussions

There is increasing learning activeness in Natural Science subjects through the implementation of cooperative learning the type of Science Education Quality Improvement Project (SEQIP). at cycle I, the majority of student groups have active in the category of just and less with the number of students in each category is as much as 11 people or 39.29%. At cycle II, activeness on the majority of the group of students rose to the category of both with the number of students as much as 26 people or 92.28% on the category. Thus it can be said that the indicators of success the process has been reached so that the implementation of the SEQIP learning model stated to increase learning activeness natural science learning. There is increasing students learning achievements in Natural Science subjects through the implementation of the SEQIP learning. At Cycle I, learning achievements increased from an average of 54.29 with learning in line with 14.81% to an average of 71.96 with learning in line with of 55.56%. At cycle II, learning achievements return has increased the average become 79.82 with learning in line with 85.19%. Thus it can be said that the limit learning in line with the indicator results successfully achieved so that the implementation of the SEQIP learning model stated to increase the achievement of student learning natural science lessons.

V. CONCLUSION

The implementation of the SEQIP on learning in Natural Science subjects has been proven to increase activeness and the achievement of student learning. After learning with this

method, the students are expected to become more active participating in learning activities, is motivated to learn, students are more concerned about a friend who need assistance to the understanding of the subject's lesson. Besides, there is an increase in the value of the average student learning achievements, so the SEQIP learning reliable by the school or teachers to develop learning activeness, which ultimately provide a good achievement.

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