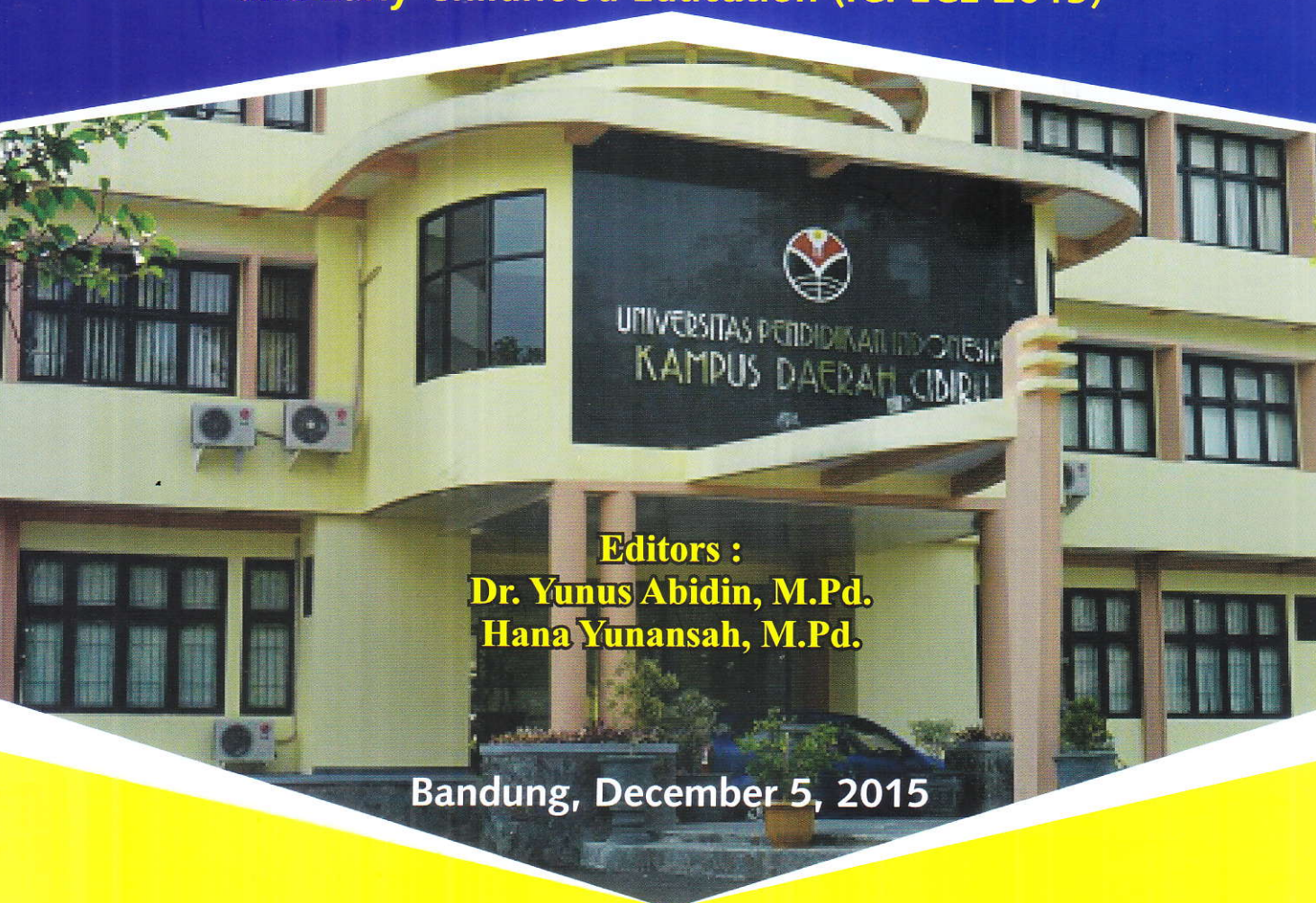


PROCEEDINGS

THE ROLE OF PRIMARY AND EARLY CHILDHOOD EDUCATION IN DEVELOPING HUMAN RESOURCES' 21ST CENTURY SKILLS TO CREATE PEACEFUL GLOBAL SOCIETIES

**Proceedings The 1st UPI International Conference on Primary
and Early Childhood Education (ICPECE 2015)**



Editors :

**Dr. Yunus Abidin, M.Pd.
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USING STRATEGY BASED LEARNING PROJECT ON CREATIVITY IMPROVEMENT AND SCIENCE LEARNING OUTCOMES IN SD OLI ON LEIHITU CENTRAL DISTRICT OF MOLUCCAS

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Abstract

This study aims to: (1) Determine the increase creativity of students in learnin science by using project-based learning strategies. (2) Knowing improving student learning outcomes in learning science by using project-based learning strategies. This research is a classroom action research (PTK). The subjects were all fourth grade students of SD State Oli on Leihitu Central of Moluccas School Year 2013/2014 totaling 30 students. Data obtained by: (1) Tests to measure learning outcomes in cognitive science and (2) Non-Tests include: observation, questionnaires with Likert scale, and interviews. By learning device using a strategy of project-based learning with six stages, namely: (1) an authentic, (2) adherence to academic values, (3) learning in the real world, (4) actively researching, (5) the relationship with experts, and (6) assessment. The experiment was conducted in two cycles with the determination of the action based on the results of collaborative work among researchers and teachers collaborators involved in the research. Data obtained through observation, the development of creativity (13 indicators) and cognitive learning outcomes using instruments that have been prepared. Data were analyzed by using percentage and the result is used as ingredient of planning measures in the next cycle. The results showed that: (1) Creativity of students at the end of the second cycle reaches 100% increase of 40.00% and 86.67% first cycle of Pre-Action, (2) the results of student learning at the end of the second cycle reaches 100% increase 23.33% of the first cycle and 100% of the Pre-Action with an average improvement of student learning outcomes amounted to 20.00%. Thus the project-based learning strategies proven to improve the quality of learning, foster student creativity, and improve learning outcomes Elementary School science students Oli on Leihitu Central of Moluccas.

Keywords: Creativity, Cognitive Learning Out comes, Project-Based Learning Strategy

Introduction

The new orientation of education in line with the National Education aims to develop skills and character and a dignified civilization in the context of the intellectual life of the nation. This Orientation willing to make educational institutions as a life skills, with an authentic learning process and contextual learning that can produce valuable and meaningful for students, and a broad-based education service delivery through various paths and levels of education.

In various uses of learning strategies seek to enable students to obtain an optimal learning experience and learning outcomes therefore combination of cognitive, affective, and psychomotor balances. When students work in teams, they find the skills to plan, organize, negotiate and build consensus on issues of task to be done, who is responsible for each task, and how the information will be collected and presented. Skills that have been identified by the students is a skill that is crucial to the success of his life, and as the workforce is a crucial skill in the workplace later. Due to the nature of the project is a collaborative work, the ongoing development of these skills among students. Working in a group project, individual strengths and learning styles are referred to strengthen the work of the team as a whole.

Finding on observation of researchers and complaints of primary school science teacher in Oli Leihitu District revealed that learning process: (1) less fun, cause a negative attitude towards science subjects; (2) passive, dominated by the teacher lectures; (3) monotonous, not allow the development of

creativity; and (4) ineffective, class period has not been utilized for achieving maximal competence of learners.

From the disclosure of matters, should withdraw specific action in the classroom through this research. Actions to be implemented in this study, after being offered by researcher to the teacher at school and via discussions as a form of collaboration, will implementing the use of project-based learning strategies. hopefully, the model which implemented in elementary school Oli Leihitu District can form science learning that fosters creativity, inventiveness and improve students science learning outcomes performing that the science is fun.

Project-based learning as a learning process, has a relatively timely, focusing on the problem, meaningful learning unit by combining the concepts of components of knowledge, discipline or field fact. In the project-based learning collaborative learning activities take place in a heterogeneous group. Nature based work is a collaborative project, the ongoing development of learning skills among students. On the strength of individual project-based learning and how learning can strengthen the work referred to the team as a whole.

By doing project-based learning students will experience and learn concepts. Project-based learning focused on questions or problems that encourage undergo the concepts and principles. The project also involves students in a constructive investigation. This investigation may include the design, decision-making, problem-finding, problem solving, discovery or development process models along with effort that can create something meaningful.

The Questions of this paper, namely: (1) Using of project-based learning strategies can increase students' creativity? (2) Using the project-based learning strategies can increase student learning outcomes?

Theory

Strategy Based Learning Project

1. Characteristics of the Project-Based Learning

Made Wena (2009) stated that the approach referred to in project-based learning strategies, among others; active learning and creative (Students Active Learning Method) which is also known by the strategy of inquiry, constructivism learning strategies, as well as collaborative and cooperative learning strategies. This strategy is expected to challenge students to construct their own concept or material they get and can produce something creative as a recreation or a reflection of the students' understanding of the issues/topics studied.

2. Strategical Phases of Project-Based Learning

Made Wena (2009) in the book of contemporary innovative learning strategies, outlines each of its phases as follows: (1) Orientation. Teachers communicate the objectives, materials, time, pace, expected outcomes of students, as well as assessments that will be applied to the subjects that will be running. On this pace the students are given the opportunity to express his opinion about the steps/ways of working as well as the results of the assessment offered by the teacher, and it is expected the negotiations on these aspects, and an agreement between teachers and students. (2) Exploration. At this pace, students explore the problems/concepts that will be studied. Exploration can be done in various ways, such as reading, observation, interviews, watch a show, do experiments, browsing through the internet, and so on. This activity can be done either individually or in groups. Exploration in order to be effective, this short guide should be prepared by the teacher. Guidelines must contain objectives, materials, time, ways of working, as well as expected outcomes. (3) Evaluation. The evaluation conduct during the learning process and at the end of learning. During the learning process of evaluation done by observing the attitude and thinking ability of students. While the evaluation at the end of the study is the evaluation of students' creative product produced. Assessment criteria can be agreed upon at the time of orientation.

3. Advantages and Disadvantages of Project-Based Learning Strategy

The advantages of the Project Based learning strategy describe as follow: (1) In any event, students are actively involved, both intellectual and emotional, (2) Achieve impact instructional and allow the formation of impact accompaniment, (3) Students have ample opportunity to interact directly with

learning resources, (4) Spur creativity through recreational activities, (5) Allows the execution of the full and comprehensive assessment.

The Weaknesses of this strategy found as follow: (1) Requires the readiness of teachers and students need a lot of time, (2) Requires adaptation educators, (3) It takes a long, flexible, although for certain topics the time required can be shortened because the exploration stage can be done in off hours plus face to face with a structured and independent activities.

Creativity

1. Defining Creativity

J.P. Guilford (in Martuti), stated that creativity as a of divergent thinking, the ability weeks to provide various alternative answers based on the information provided. Another definition of creativity, furthermore Amien describe (in Martuti), creativity is a mindset or a spontaneous or imaginative ideas that characterize the results of artistic, scientific discoveries, and inventions, in action. As mention before, Amien (in Zainal Aqib) explains that creativity includes the results of something new or completely new to the scientific world or relatively new to the individual.

Seen in products, creativity is the ability to produce something new, which in general are original and unique. Explain more, Munandar (in Zainal Aqib) describes creativity is the ability to create new combinations based on many possible solutions of a problem with the emphasis on quantity, using reply diversity. Creativity in question is creative and divergent thinking.

The Nature, sense of creativity relates to the discovery of something, the thing that generates something new by using something that already exists. This is in accordance with the formulation of creativity in traditional way. Creativity originally is limited as to realize something new in reality.

Based on definition of creativity mention above, it can be concluded that creativity is a person's ability to give birth to something new, or relatively new, either in the form of ideas and the real work is relatively different from what has gone before.

2. Individual Traits Creative

Sund (in Slameto) said that individuals with creative potential can be known through observation of the characteristics as follows: (1) desire curiosity is quite large, (2) being open to new experiences, (3) a reasonable length, (4) wishes to find and examine, (5) tends to be more like a daunting task and difficult, (6) tend to seek answers extensive and satisfying (7) dedicated influential and active in carrying out the task, (8) flexible thinking, (9) respond the question and tend to give more answers, (10) the ability to make analysis and synthesis, (11) has the spirit of questioning and researching, (12) has an excellent abstract, (13) have a broaden background.

Creativity in this study is meant by the ability of students in the form of a mindset (or a spontaneous idea that imaginative in finding solutions/exit) and to produce works (mechanically in a variety of artistic forms).

Assesment of Student Learning

According to Dimyati and Mujiono, learning outcomes could seen from two sides, the students and of the teacher. In terms of students, learning outcomes is the level of mentality development which better than before the study. The level of mentality development is manifest in cognitive, affective, and psychomotor. In terms of teachers, the results of the current study is the completion of the lesson material. According to Oemar Hamalik, learning outcomes is when one have learned will be changes in the person's behaviour, for example, from not knowing to knowing, of not understanding be understood. Based on the theory of Bloom's Taxonomy of learning in order to study the results achieved through three categories among other domains of cognitive, affective, and psychomotor. The details are as follows: (1) Cognitive Domains, with regard to the results of intellectual learning that consists of six aspects: knowledge, comprehension, application, analysis, evaluation and creativity. (2) Affective sphere, with regard to attitudes and values. Affective domain includes five levels of ability, namely: Resaving (receive), Responding (reply or reaction), Valuing (judge), Organization (organization) and characterization by value or value complex (characterization by a value or complex value. (3) realm psychomotor, with regard to motor skills, psychomotor sphere with regard to

capabilities, namely: Muscular or the motor skills (showing motion), Manipulations of materials of objects (stringing material or object), Neuromuscular coordination (motor coordination).

Method

This research is a classroom action research (PTK). The subjects were all fourth grade students of SD Oli on Leihitu Central District of Moluccas, School Year 2013/2014 with 30 students (respondent). The study was conducted on school period for 3 months (October till December 2013). Data obtained by: (1) Tests to measure learning outcomes in cognitive science and (2) Non-Tests include: observation, questionnaires with Likert scale, and interviews. By learning device using a strategy of project-based learning with six stages, namely: (1) an authentic, (2) adherence to academic values, (3) learning in the real world, (4) actively researching, (5) the relationship with experts, and (6) assessment. The experiment was conducted in two cycles with the determination of the action based on the results of collaborative work among researchers and teachers collaborators involved in the research. Data obtained through observation, the development of creativity (13 indicators) and cognitive learning outcomes using instruments that have been prepared. Data were analyzed by using percentage and the result is used as ingredient of planning measures in the next cycle.

Research Result

1. Result

Implementation of the actions carried out in two (2) cycles, the result is as shown in Table 1.

Table 1.
Distributions of Achievement Progress (Creativity and Value Results)
for Each Student Learning Cycle

PENILAIAN		CREATIVITY		VALUE RESULT	
CYCLES		frequency	%	frequency	%
PRE	Pre Action	4	13.33	0	0.00
	GAIN	7	23.33	10	33.33
CYCLE I	Meeting 1 st	11	36.67	10	33.33
	GAIN	7	23.33	5	16.67
	Meeting 2 nd	18	60.00	15	50.00
	GAIN	4	13.33	8	26.67
CYCLE II	Meeting 1 st	22	73.33	23	76.67
	GAIN	6	20.00	7	23.33
	Meeting 2 nd	28	93.33	30	100

As seen on Table 1, reflecting the increase in learning activities (as seen from the creativity and the value of learning outcomes) from cycle to cycle (period to period), the percentage of students who initially creativity 13.33% at the end of the second cycle into 93.33% or an increase of 80.00%, the greatest increase occurred in the first cycle (first meeting to the meeting of 1 and 2) amounted to 23.33%. The percentage of mastery learning seen from the results of study of the Pre Action initially 0% at the end of the second cycle to 100% or an increase of 100%, the greatest increase occurred in the first cycle (Pre Action to meeting 1) amounted to 33.33%.

Table 2.
Students Creativity on the Concept of Living things and Environment
regarding to Item corresponding observations in the Pre Action s.d. end of Cycle II

No. Item	CYCLE									
	PRE ACTION					CYCLY II				
	Choise				Σ	Choice				Σ
	3	2	1	0		3	2	1	0	
1	0	0	6	24	30	1	29	0	0	30

2	27	3	0	0	30	25	5	0	0	30
3	0	12	18	0	30	9	16	5	0	30
4	0	0	14	16	30	15	11	4	0	30
5	2	15	8	5	30	10	17	3	0	30
6	4	13	13	0	30	11	15	4	0	30
7	6	17	7	0	30	6	21	3	0	30
8	3	18	8	1	30	6	22	2	0	30
9	2	18	10	0	30	7	21	2	0	30
10	10	11	4	5	30	13	15	2	0	30
11	11	10	7	2	30	13	17	0	0	30
12	15	8	7	0	30	14	15	1	0	30
13	1	16	8	5	30	5	23	2	0	30
14	1	12	16	1	30	6	22	2	0	30
15	1	16	5	8	30	5	22	3	0	30

Table 2 shown that the learning has led to the formation of student creativity, is characterized by changes in the check list of students. In the Pre-Action point 1 s.d. 15 more dominant grain filled by students with a choice of two (often), 1 (rarely), and 0 (Never), but at the end of Cycle II point 1 to 15 more dominant grain filled by students with a choice of 3 (Always) and 2 (Often), although there are those who choose 1 (rare).

Table 3a.
Frequency Distributions of Pre-test Scores
Fourth Grade Student SD Negeri Oli

NO.	RANGE	CATEGORY	FREQUENCY	(%)	M	F
1	81 - 100	VERY HIGH	0	0.00	0	0
2	61 - 80	HIGH	0	0.00	0	0
3	41 - 60	MIDIUM	4	13.33	0	4
4	21 - 40	LOW	24	80.00	0	24
5	0 - 20	VERY LOW	2	6.67	0	2
TOTALS			30	100	0	30

M = Mastery learning; F = Failed

As shown on Table 3a it appears that in general score pre-test (Pre-Action) category: Very High, no student (0%), High, students no (0%), Medium 4 students (13.33%), Low 24 students (80.00%), and Very Low 2 students (6.67%). Students who complete (S) no (0%), while incomplete (F) 30 students (100%).

Table 3b.
Frequency Distributions of Post-test Scores
Fourth Grade Student SD Negeri Oli

NO.	RANGE	CATEGORY	FREQUENCY	(%)	M	F
1	81 - 100	VERY HIGH	7	23.33	0	7
2	61 - 80	HIGH	23	76.67	0	23
3	41 - 60	MIDIUM	0	0.00	0	0
4	21 - 40	LOW	0	0.00	0	0
5	0 - 20	VERY LOW	0	0.00	0	0
TOTALS			30	100	30	0

M = Mastery learning; F = Failed

Table 3b shown that in general the details Value Test End (End of Cycle II) by category: Very High 7 students (23.33%), High 23 students (76.67%), Medium (0%), Low (0%), and Very Low (0%). Individually and classical all students pass the study.

Table 4.
Learning Outcomes rate of Student grade IV SD Oli

Leihitu Central Maluku on Each Cycle

Source		Average of Scores	Mastery learning		Failed	
			Σ	%	Σ	%
PRE	Pre Action	31.41	0	0.00	30	100
CYCLE I	Meeting 1 st	57.56	10	33.33	20	66.67
	Meeting 2 nd	61.78	15	50.00	15	50.00
CYCLE II	Meeting 1 st	65.33	23	76.67	7	23.33
	Meeting 2 nd	77.63	30	100	0	0.00

Data results shown on Table 4: Pre-Action score of the average student (31.41), in the classical learning no students satisfied (0%). The first cycle Meeting 1, students' average score (57.56), classically only 10 students (33.33%) were completed and 20 students (66.67%) has not been completed. I cycle 2 meeting students' average score (61.78), classically only 15 students (50.00%) were completed and 15 students (50.00%) has not been completed. 1 meeting of the second cycle students' average score (65.33), in the classical there are 23 students (76.67%) were completed and 7 students (23.33%) has not been completed. Cycle II Meeting 2 students' average score (77.63), in the classical there are 30 students (100%) were completed.

Table 5.
Learning Outcomes rate of Student grade IV SD Negeri Oli

Sources		Average of Scores	Mastery learning		Failed	
			Σ	%	Σ	%
PRE	Pre Action	30,88	1	2,56	38	97,44
CYCLE I	Meeting 1 st	60,00	15	38,46	24	61,54
	Meeting 2 nd	67,01	28	71,79	11	28,21
CYCLE II	Meeting 1 st	75,56	31	79,49	8	20,51
	Meeting 2 nd	80,11	39	100	0	0

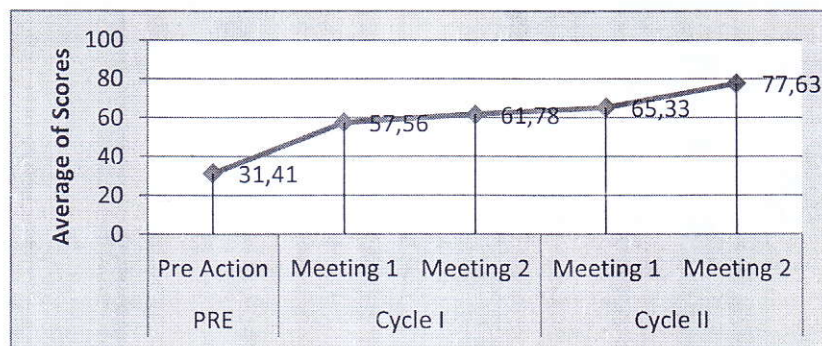


Figure 1. Development of average Student Results of Each Cycle

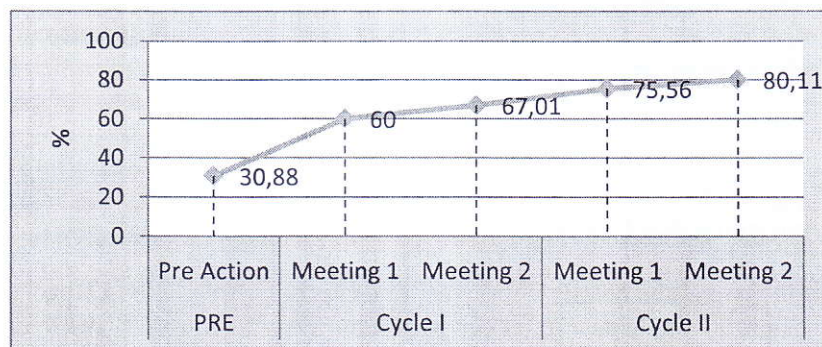


Figure 2. Percentage of Mastery Learning Development of Each Cycle

From the data in Table 5 explain Figure 1 and Figure 2. From Figure 1, it appears the increase in the average value of student learning outcomes. Picture learning completeness percentage increase shown in Figure 2. From the picture, show that the learning outcomes have met the criteria in the classical mastery learning.

2. Discussion

Cycle I Meeting 1st

The Learning begins with planning. In this activity designed lesson plans using project-based learning strategies and Observation Sheet. Furthermore, the peer teaching or modelling. In the course of the action, the material presented is a creature of Life and Environment. Initial tests conducted the previous day for 35 minutes.

Observation of learning activities performed by 2 (two) collaborators. Are detailed as follows: (1) Submission of materials that teachers do not correspond to the steps in the lesson plan using project-based learning strategies. More teachers explaining the material. Students do not really know what to do. Learning conducted by the teacher is not in accordance with the allocation of time planned. (2) Independence of the students have not been too good. Group learning is not maximized. Creativity of students has not been prominent. Too many teachers guide students in doing Paper Sheet. In the group are not all about the task, 1 or 2 people who work. Many groups erroneous analyzes about the Paper sheet (Activity 1: Observation Ecosystem Members), so that the results of the data collection and answer questions yet either. (3) Orientation teachers do not stimulate students in real life. Time students spend learning beyond the planned/learning has not timely. The ability of the scientific work of students is still low. Cooperation between students is not maximized. Students have not been able to assess its own.

After the learning activity is completed, followed by reflection to discuss the results of observations made. After reflection, it was revealed that teachers "unfamiliar" to convey the material to project-based learning strategy because it feels new. Teachers also feel students learn not the right time according to the planned allocation. In one reflection of this activity agreed upon researchers and collaborators that the second meeting, need to adjust the allocation of time, reducing the dominance of the teacher when guiding a group working on worksheets. The results of discussions of researchers and collaborators that anything found when meeting one sought to be minimized.

Cycle I Meeting 2nd

This activity is a continuation of the reflection action at the meeting 1. Preparation Activity 2 is a simple aquarium. The complete results of observations as follows: (1) Submission of materials that teachers are in accordance with the steps in the Lesson Plan using project-based learning strategies. Teachers more as a facilitator material. Classes begin an orderly state. The use of the start time controlled. There are still students who do not understand what would be done in Paer Sheet. (2) The teacher has been trying to stimulate students to be creative with their own ideas through group work to create a simple aquarium. The group that really actively discussing only three (3) groups of five (5) groups.

On Activity 2 in the planning and implementation of the use of the learning cycle, it appears that the teacher beforehand to communicate goals, materials, time, learning steps and expected outcomes and forms of assessment. Students have been indicating progress in implementing the exploration and creation of the object becomes a task.

Related creativity of students in Cycle I, can be explained as follows: (1) the desire to know. Students still awkward or afraid to touch something new saw. Papaer Sheet distributed when students have not dared to touch. (2) The attitude open to new things. Students receive something that the teacher without asking or denied. (3) Long sense. Students begin to seem creative to overcome the shortcomings in them, like a rubber eraser is missing or no replaced by a rubber band scroll it with pencil. (4) desire finding and researching. Starting to look the need for students to complete the appropriate worksheet examples. (5) Love the heavy and difficult task. Not all students like much less difficult task, only 1 or 2 people. (6) Looking for answers extensive and satisfying. Most students do not yet have these elements, there are still many students who just based on the textbook alone. (7) The dedication and active in the task. Only 1 or 2 people only have this element. Usually they are

famous for good in class. (8) Flexible Thinking. Not visible. (9) In response to questions and give answers more. No one gave an answer more than one answer. (10) Ability to make an analysis and synthesis. Not visible, because the students tend to work together ideas and examples together. (11) Has the spirit of questioning and researching. Questions about things that are not yet understood, there is no critical questions or analysis. (12) It has a fairly good abstraction. students imaginary not focused. (13) Having read the background is quite extensive. Most students have a hobby read or watch, but still on the things that are fictional (fantasy).

For complete results of reflection, conducted interviews with students, analysis of student worksheets that have been done. The results of interviews with five students found that they have never been taught in a manner as was done by researchers. They still consider project-based strategy as "Workshop or Handy craft" instead of learning science. They also are difficult to work with friends who are not active. Paper Sheet results indicate, the skill to make observations, data collection, collaboration, make conclusions and assessments of the work itself is still low.

At the end of Cycle I photographed the increasing creativity of students compared to before the study was conducted, amounting to 60.00%, up 46.67% (60.00% - 13.33%) than before. The value of student learning outcomes in Subjects IPA also increased as shown by the increasing number of students who pass the study amounted to 50.00%, up 50.00% (50.00% - 0%) than before.

Cycle II Meeting 1st

In learning activities 1 Cycle II the action taken is Activity 3: Type Relations between Living things.

The complete results of observations as follows: (1) Submission of materials that teachers have followed the steps in the Lesson Plan using project-based learning strategies. The use of time according to a predetermined plan. (2) The teacher more as a facilitator, mediator and class secretary. All groups started to actively discuss and work. The group's ability to work on your time are still being. (3) To supplement the results of reflections, interviews, analysis of student worksheets that have been done. Results of interviews with a group that is not active (2 groups) found that they had trouble finding answers Paper Sheet. Experiment and observation skills increased.

After completion of the learning activity is completed, followed by reflections as follows: Teachers do more intensive guidance to groups that have not skilled. The next activity worksheets students discuss the answers in detail.

Cycle II Meeting 2nd

In action learning activities 2 Cycle II, the action taken is Activity 4: Different Types of Pollution.

The complete results of observations as follows: (1) The teacher is getting familiar with project-based learning strategies. Teachers began with very rare instruction to students. (2) All students actively work and discussions in group respectively. (3) Study showed increased activity characterized by the use of time in completing the Paper Sheet activities.

Student, has been indicating progress in: (1) understanding the benefits of the project to increase skills. (2) adherence to academic values, for example, be honest and objective. (3) cooperation within the group. (4) ability to conduct scientific investigations in each group, and more independent. (5) begin to ask more experienced people both in school and outside of school. (6) Students brave and not shy to express the results of experiments in class with its own language and assess their own work. At the end of Cycle II Meeting 2, Final Test that time held a day after the passing of the meeting 2.

Related creativity of students in Cycle II, can be explained as follows: (1) the desire to know. All students interested in new things as seen. (2) The attitude open to new things. All students receive something that the teacher without asking or denied. (3) Long sense. Most students can adapt to overcome the deficiencies on him. (4) desire finding and researching. Most students wishing to complete a worksheet even without example. (5) Love the heavy and difficult task. All students begin to challenge and liked a lot much less difficult task. (6) Looking for answers extensive and satisfying. All students wishing to resolve problems with reading a lot of literature sources. (7) The dedication and active in the task. All students have an element of this. (8) Flexible Thinking. Starting to look at the majority of students. (9) In response to questions and give answers more. Answers vary, but students started correctly. (10) Ability to make an analysis and synthesis. Starting to look, because students tend to own a new job in the group's work. (11) Has the spirit of questioning and researching.

Critical questions began to emerge. (12) It has a fairly good abstraction. Power hayal students there and began to focus on the task. (13) Having read the background is quite extensive. Students began fond of searching for information, instead of printed materials but also the electronics with trying to get information by browsing on the Internet to complete the task.

At the end of Cycle II seems that the creativity of the students have achieved a 100% increase of 40.00% and 86.67% the first cycle of Pre-Action. The value of student learning outcomes in Subjects IPA also increased, at the end of Cycle II has achieved a 100% increase 23.33% from the first cycle and 100% of the Pre-Action with an average improvement of student learning outcomes amounted to 20.00% (100%: 5).

Results of reflection based on observation Cycle II Meeting 2 is:

- Project-based learning strategy has been shown to improve the quality of learning, foster student creativity, and improve learning outcomes Elementary School science students Oli Leihitu Central Maluku district.
- The next cycle is not continued longer, because it passes an indicator of success in learning, namely to increase the creativity and value of student learning outcomes is greater than 80%. In addition the average value is greater Final test 80% (100% pass the study) greater than 61.
- From the results of this reflection activity was agreed that the implementation of project-based learning strategies remain trained and implemented by a science teacher in learning and tailored to the characteristics of the material further.

Conclusion

1. By applying the strategy of project-based learning, creativity elementary school students in learning science can be increased. It is characterized by an increase in the creativity of the students at the end of the second cycle, which reached 100% increase of 40.00% and 86.67% first cycle of Pre-Action.

2. By implementing project-based learning strategies, student learning outcomes in primary science teaching can be improved. This marked an increase of student learning outcomes at the end of the second cycle, which reached 100% increased by 23.33% from the first cycle and 100% of the Pre-Action with an average improvement of student learning outcomes amounted to 20.00%.

Thus the project-based learning strategies proven to improve the quality of learning, foster student creativity, and improve learning outcomes Elementary School science students of Oli Leihitu Central Maluku district.

Suggestion

Primary science learning with project-based learning strategies effective enough to realize that fosters learning science activities, creativity, effectiveness of learning science, also the other classes in science learning is expected to apply this learning strategy, by aligning them according to the characteristics of material science.

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