

PROCEEDING

THE 3rd SUMMIT MEETING ON EDUCATION
INTERNATIONAL SEMINAR

Values – Based Learning for Wonderful Children

Yogyakarta, November 22nd 2016

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Teacher Education “Madrasah Ibtidaiyah”

Faculty of Tarbiya and Teacher Training
State Islamic University Sunan Kalijaga
Yogyakarta

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**PREFACE: PROCEEDING THE 3rd SUMMIT MEETING ON EDUCATION
INTERNATIONAL SEMINAR
“Values – Based Learning for Wonderful Children”**

Alhamdulillahirabbil'alamin. Wabibinasta'in 'alaumuridunnyawaddin. Wash-sholawatuwassalamu'al aasrofilanbiya'Inalmursalin. Wa'alaalibiwaashabibiAjmain. Ammaba'du. Praise be to Allah, prayers and greetings may always devoted to the Prophet Muhammad, and his Companions and those who continue to follow his Sunnah.

This international seminar was held on the basis of the need for the sake of change, innovations are constantly learning to the attention of academics and practitioners. In this case teacher education “madrasah ibtidaiyah” will make every effort to continue to develop activities that support quality improvement, both for professors, students, and even for alumni of primary education itself, as well as the public in general as users of the alumni in primary Faculty Tarbiyah and Teaching Training, UIN Sunan Kali jaga

The quality improvement of which is done in the form of implementation of the ‘international seminar’. The international seminar will set the theme of **The 3rd Summit Meeting on Education 2016**. The activities organized include the activities of the International Seminar on the theme **Values – Based Learning for Wonderful Children**.

The speaker of this event from various countries, namely:

1. Diane Tillman from USA
2. Christopher Drake, Association for Living Values Education International from Tiongkok
3. Taka Nurdiana Gani from Indonesia
4. Ahmad Arifi from Indonesia

So that we can convey the essence of the organization associated with the The 3rd Summit Meeting on Education. We thank you very much for your participation and support from various parties that we can not mention one by one. Without the help and participation of colleagues of all these activities can not be carried out well. Hopefully this activity can increase the contribution to the repertoire of science, especially in basic education and bring benefits to the participants and readers.

Yogyakarta, November, 22nd 2016

International Seminar Committee

PREFACE

All praise be to Allah SWT, for His bless and mercy, so that we as editorial team can complete this international seminar proceedings. The International Seminar that held by Department of Education for Madrasah Ibtidaiyah Teachers (Prodi Pendidikan Guru Madrasah Ibtidaiyah/PGMI) Faculty of Tarbiya and Teaching Training, State Islamic University Sunan Kalijaga Yogyakarta is held annually as a part of 3rd Summit Meeting on Education with the theme: “Values-Based Learning for Wonderful Children”.

This Proceedings deliver main papers from seminar speakers, i.e.: Diane Tillman, Christopher Drake, and Taka Nurdiana Gani, Ahmad Arifi; and also supporting papers that consist of eleven papers related to the implementation of values education in general; and ten papers related to the implementation of values education for children.

We very appreciate for the participation from researchers and writers for their papers that submitted to this proceeding, especially to writers from: The Islamic State Institute Imam Bonjol Padang, The State Islamic University Raden Fatah Palembang, The State Islamic University Syarif Hidayatullah Jakarta, The State Islamic University Sunan Kalijaga Yogyakarta, Majalengka University, The STAIN Pamekasan, Jabal Ghafur University Salatiga, the State Institute for Islamic Studies Ma'arif NU Metro, Muhammadiyah University Yogyakarta, IAI Ibrahimy Genteng Banyuwangi, The State Islamic Institue Syekh Nurjati Cirebon, Muhammadiyah University Magelang, and Sriwijaya University Palembang.

We have tried to compile these proceedings as well as possible. For the sake of improvement in the future, we expect criticisms and suggestions. Hopefully, these proceedings can be beneficial for knowledge development and can contribute to the advancement of education in Indonesia.

Yogyakarta, November, 22nd, 2016

Editorial Team

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THE ANALYSIS OF THE OBSTACLE FOUND IN NATURAL SCIENCES (IPA) LEARNING PROCESS AND THE SOLUTION FOR TEACHER'S CLASS AT SIXTH GRADE OF ISLAMIC ELEMENTARY SCHOOLS IN SALATIGA

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Abstract

Many obstacles in the learning process of Natural Sciences (IPA)'s classes are often found by teacher. The objective of this research is to know the obstacles which are faced by teacher and the solution of Natural Sciences' learning for teacher class at sixth grade of Islamic Elementary Schools in Salatiga.

This research uses propotional random sampling' technique. This research takes 6 Islamic Elementary Schools of 13 Islamic Elementary Schools as sample or 46% as an object of research. This research is an ex post facto research which is explorative; it is aimed to describe the situation/phenomenon's status, and also this research is a qualitative research; the instruments that used to get data are questionnaire, observation and interview. The sources data of this research are Natural Sciences' teachers at sixth grade in Salatiga.

Based on the analysis results and discussion of this research, it can be concluded that the obstacles in learning process of Natural Sciences in Salatiga are 30%-50%, and it can be categorized as medium obstacles. Many obstacles of Natural Sciences learning process for teacher class at sixth grade in Islamic Elementary Schools in Salatiga, there are: 1) the limitation of facilities; 2) the limitation of learning sources; 3) the communication between committee and parents is still more intensive; 4) the communication between teacher and headmaster is still more intensive; 5) the evaluation is not close to affective and psikomotoric's aspects yet; 6) many students have not passed succesfully in Natural Sciences' subject yet.

The alternative steps to overcome the problems as follow: 1) maximizing the use of facilities and trying to propose the facilities; 2) using surroundings natural media as learning sources; 3) trying to increase the communication between committee and parents intensively; 4) giving remedial test and intensive test to get better results which have not reached basic standard score (*Kriteria Ketuntasan Minimal/KKM*) yet; 5) doing the overall evaluation (cognitive, affective, or psikomotoric).

Keywords: *Learning's obstacles, problem-solving steps in Natural Sciences (IPA)' learning process*

A. Introduction

1. The Background of the Research

The improvement of educational sector is developed by following other knowledges' direction. This changing relates to the change of environment's condition. So that, the government of Indonesia always tries to fix the quality of education which is aimed to make it perfectly. The improvement of education's quality should be fixed, in order to the condition of our education is still at low-level if we compare it with other countries in the world. The changed action is very important to follow the development of sciences and technology and also the educational environment which always changed.

The education in Indonesia will always develop and improve well if all sectors support each other. Students, teachers, parents and facilities are the main factor in the education, so they should get more attention and take their roles well. Teachers are also main factor in learning process at school. They give many subjects to the students, but actually students' factors are more important. Students should study more creative and active, so the learning process will be colourful. Learning process will not focus on the teacher, but it will be able to develop through creative students.

Many factors influence the successfulness of learning process. The supporting factors which can increase the qualities of learning are not fully complete. This is such as an obstacle for schools to complete it. So, many obstacles in the learning process that should be passed by teachers.

According to the observation's results by many teachers, they state that the difference of every school's facilities also makes the difference qualities of Natural Sciences (IPA)' learning process performed with different curriculum. That case must not be important problems for every school, especially for teachers. Because the curriculum are developed based on the relevance of teachers or schools under coordination and supervision from Education Affair or Mapenda (Madrrasah dan Pendidikan Agama Islam pada Sekolah Dasar)/Islamic Schools and Islamic education on Elementary School) for Elementary Education in Religious Affair's area. Curriculum development are based on International Standard (*Standar Internasional/SI*) and Graduated Standard (*Standar Kelulusan/SKL*) and followed by collaboration curriculum arrangement by Standar National Education Organization (*Badan Standar Nasional Pendidikan/BSNP*) and also consider the policies from schools.

Another factor is socio-cultural factor. It relates to the strenghtness of feodalisme culture in learning process happened in school. It also can trap the creativeness and intellectual imagination did by teachers. Teachers as strategies component are potentially be the main factor in the learning process when they are not able to achieve good professionalism.

Teachers' professionalism absolutely should be grown up by taking many learning sources from other sources. In that case, including the practical experiences to perform three-function of their educatives, they are as facilitators, motivators and dinamisators for students' intellectual and social development.

In the learning process of Natural Sciences (IPA), the interaction between students and environment is important. Another case which should get more attention from teachers to develop IPA's learning process includes knowledges, investigation/exploration processes and applicative values for the real life.

The improvement of the education's quality may be achieved if all components of education such as students, teachers, facilities and curriculum make good interaction. From those components/factors, teachers are the most responsible factor of the successfulness of learning process developed in the class.

Teachers take an important role in order to provide learning facilities to all students. Learning facilities can be seen as various of learning approaches, providing creative media and giving opportunity to do observation and exploration for students.

There are 13 Islamic Elementary Schools with various conditions in Salatiga. If they are classified based on schools' quality, it has three grades; high grade, middle grade and low grade. Having those various in Salatiga, it can be a background of this research to know what the obstacles found by teacher's class and what the efforts to overcome those obstacles in the learning process. Based on that explanation, the researcher takes a research under the title "The Analysis of the Obstacles Found in Natural Sciences (IPA) Learning Process and the Solution for Teacher's Class at Sixth Grade of Islamic Elementary Schools in Salatiga.

2. The Statement of the Problem

Based on the background of the research, the objectives can be formulated as follow:

- a. What are the obstacles faced by teacher's class at sixth grade in Natural Sciences (IPA)' learning process of Islamic Elementary School, Salatiga?
- b. What are the alternative steps to solve the obstacles faced by teacher's class at sixth grade in Islamic Elementary School, Salatiga?

3. The Objective of the Research

- a. To know the obstacles faced by teacher's class at sixth grade in Natural Sciences (IPA)' learning process of Islamic Elementary School, Salatiga.
- b. To know the solutive steps of the obstacles faced by teacher's class at sixth grade in Natural Sciences (IPA)' learning process of Islamic Elementary School, Salatiga.

4. The Benefit of the Research

- a. Theoretical Benefit
 - 1) The results of this research are expected to be theoretical references related to the obstacles found by teacher and many alternative steps to overcome those obstacles of learning Natural Sciences (IPA) in Islamic Elementary School (*Madrasah Ibtidaiyah/MI*)
 - 2) The results of this research can be references for other researchers who want to make research that discusses about the obstacles faced by teacher and various alternative steps of Natural Sciences (IPA) learning process in Islamic Elementary School (MI).
- b. Practical Benefit
 - 1) For Teacher
 - a) This research is expected to give suggestion for teacher in order to be better edu-

cator when she faces the obstacles in Natural Sciences (IPA) learning process and many alternative steps to solve it.

2) For School

The results of this research can be used as reflection and reference for school to make school's policy related to the obstacles faced and many alternative steps in Natural Sciences (IPA) learning process.

3) For Other Reseachers

This results of the research can be used as one of the information sources related to the obstacles faced and many alternative steps in Natural Sciences (IPA) learning process.

4) For Student

This results of the research are expected to increase learning motivation and student's creativeness in order to the improvement of many alternative steps did by teacher.

B. Theory

1. Learning

a. The Definition of Learning

The definition of learning as explained in the Laws of Republic Indonesia (*Undang-Undang Republik Indonesia*) number 20 year 2003 about national education system, is an interactional process among students, educators (teachers) and learning sources in a learning environment. So, learning is an effort of teacher's awareness to help students learn based on their needs and interests.

2. The Obstacles in Learning Process

a. The obstacles in Learning Process

Learning process is a whole activity to increase learning process' organization effectively. The activities in learning process include achieved competition, managing the use of free time, classroom management, class' facilities and students' group discussion.

There are two things which determine the succesfullness of learning process. They are time and learning management; both are dependent each other. The ability to manage good teaching-learning process will create good situation for students to study, so it will be a successfulness of teaching process. In reality, teaching process does not run well as many people expected, because it has many obstacles faced and it relates each other. This happens because of three factors of that teaching.

The obstacles faced by teacher relate to the teaching process. They are achieved competence, teaching method and evaluation. The obstacles which are faced by institution (school) in this case are facilities, learning sources such as media, visual aids, books and supported things.

b. The obstacles in implementing curriculum

The main obstacle/problem in implementing curriculum is dominated by mental and critical thinking of education participants, such as the headmaster and teacher who are very busy at their routines and only run for curriculum's target. Another hand, school's party still more focus on the argument stated that the improvement of school's quality begins with good building of that school itself (Syamsudin in Sarnapi, 2004: 12).

The unbalanced ratio of the number of teacher and students in the class can be obstacles in the learning process. A teacher serving 40 students is actually not effective when the curriculum target the competence aspect to students for every subject. Teacher's role in hard class, teacher not only teaches in front of class with full of books but also directs and counsels students to be creative in order to understand in material given.

3. Natural Sciences (IPA)' Subject

a. The Definition of Natural Sciences (IPA)' Subject

Natural Sciences (IPA)' Subject is a medium to increase knowledges, skills, attitudes, values and responsibilities as citizen who is responsible for environment, society, nation and country to Allah SWT' preciously.

Natural Sciences (IPA) relate to deep understanding and knowledge of nature systematically, so Natural Sciences (IPA) not only focus on the collecting facts, concepts or principles but also as a process of innovation. Natural Sciences (IPA)' subject is expected to be medium for students to learn about themselves and explore the surrounding's nature.

Teaching Natural Sciences (IPA) emphasizes on how to give experience directly. So, students need help to expand their process of skills in order to explore and understand the nature (Carin and Sund, 1990: 5). This skills process includes skills to observe with all sensory, propose hypothesis, use media correctly by considering work safety, ask question, classify, interpreted the data and communicate the findings variously, explore and choose relevant factual information; to examine ideas and argumentations or break daily problems out.

Basically, IPA's subject tries to give many skills and abilities for students in how to know and understand about nature. Student who has well understanding of IPA will have good characteristics and good scientific attitude inside her soul.

b. The Function and Purpose of Natural Sciences (IPA)' Lesson

IPA's subject has the fuction to build students' awareness to the beautifulness and regularity of nature, so students can increase deep belief to Allah SWT' as citizen who take over of sciences and technologies for increasing the quality of life and continuing the education (Depdiknas, 2003a).

Depdiknas (2003a) states that IPA's subject is aimed to: 1) understand IPA's concepts and other relations; 2) develop basic skills of IPA to grow up the values and scientific attitude; 3) apply concept and IPA headmaster to produce simple technologies which relate to people need; 4) develop reasonable awareness to solve the problem related to the daily life; 5) improve the awareness of environment conservation; and 6) give the basic knowledge to continue the education.

C. The Previous Research

Many previous researches which are close to this research, as follow:

Based on Nurhasanah's result in her research (2004), he shows that by using inquiry approach, the obstacles found in learning process of Natural Sciences (IPA) at Elementary School (*Sekolah Dasar/SD*) can be handling, another result proves that light concept in learning IPA seems good improvement. Then, teacher's work, student's work, student's evaluation result also increase, so they give good impact to the improvement of student's learning result.

The research from Murniasih, et.al. (2013) shows that learning IPA management's obstacles are: teacher's understanding of standard process is still low, teacher needs counseling and training to prepare learning equipment, uncondusive school, insufficient facility, various characteristics of students, ability to speak Indonesia Language and student and parents' motivation are still low. The effort which is done by teacher in IPA's management is doing discussion about learning IPA with other teachers who have insufficient competence, choosing appropriate learning methods that close to the students' characteristic, making simple media of teaching and motivating students.

Stefanou and Parkes (2003)' research of the effect of class' assessment toward students' motivation at five grade in IPA's learning with sample's standard of 46 (58%) male students, 28 (35%) female students, and 10 (6%) unidentified students. All students are between 10-11 years old. The research is focused on three units of different IPA's learning. Research's result proves that work's assessment is more influent toward students' cognitive and students' purpose orientation. This research shows that students do not interest in unrecognized assessment, so that they will be easier to give information to the teacher about their mastered material given.

According to those researches, there is no research which conducted on the analysis of the obstacles of Natural Sciences (IPA)' learning and the solution, then the analysis and the solution have not deeply exposed yet. But, their results in the researches are able to be used as steps to do the research of the analysis of IPA's learning entirely.

The position of this research from other previous researches is to explore scientific knowledge deeply which relate to the analysis of obstacles and the solution in IPA's learning process relating to the effort to improve students' understanding and teachers' work. By improving the quality of learning, so it is also can improve students' competence on their field and teachers' professionalism.

D. The Method of the Research

1. Time and Place of the Research

This research is conducted in Salatiga on August-October, 2015.

2. Population and Sample

a. Population

Population in this research is all teacher for sixth grade in Salatiga

b. Sample

This research uses proportional random sampling's technique (from 13 Islamic Elementary School/MI in Salatiga which are taken 6 schools as sample or 46%), as the object of the research.

3. The Research Framework

This research is an explorative ex post facto research. This is aimed to describe the situation/phenomenon status, and also qualitative research, in which this research is to know the obstacles faced by Natural Sciences' teacher at sixth grade, Salatiga in implementing Learning IPA process and the solution.

4. The Procedure of the Research

a. The Composing Instrument of the Research

The instrument of this research is questionnaire. This research uses questionnaire by considering some factors; time, the large number of the data which are widespread geographically. This case uses close-questionnaire. Close-questionnaire is a questionnaire form which the respondents choose the answer from the prepared alternative answers. Close-questionnaire is used to know the obstacles and the faced solutions by teacher in Learning IPA process. The steps did in the questionnaire include the arrangement of questionnaire points, then continued by arranging the questions and available answers based on those points. Every question has 4 alternative answers, there are the difficulties statement found by respondent; scor of 1-4 and respondent can choose one of the answers by giving tick (√) for available coloumn based on the actual experience, every option has different category as follow:

Score 1 = not difficult

Score 2 = seems difficult

Score 3= difficult

Score 4 = very difficult

5. Method of Collecting Data

Method which is used to collect the data of the analysis of the obstacles found in Natural Sciences (IPA) learning process and the solution for teacher's class in sixth grade of Islamic Elementary Schools in Salatiga as follows:

a. Documentation Method

This method is used to get list of schools and teacher's class at sixth grade in Salatiga as population of the research to the immediate schools.

b. Questionnaire Method

This research, the researcher uses questionnaire as collected medium of the analysis of the obstacles found in Natural Sciences (IPA) learning process and the solution for teacher's class in sixth grade of Islamic Elementary Schools in Salatiga. Questionnaire given to teachers for sixth grade as a medium to collect the primary data of the obstacles in Learning IPA process in Salatiga which is divided into several factors.

c. Interview Method

Interview is performed by face to face with the respondent, to gain the extended obstacles in Learning IPA process.

6. Method of Data Analysis

a. Data analysis' steps as follow:

- 1) Making quantitative-answer from the question by giving score grade for each answer.
- 2) Counting the frequency for every available answer category on each factor.
- 3) Counting the score into percentage's form. This technique is also called as descriptive qualitative technique with percentage.

According to Ali (1992), the descriptive analysis formula is:

$$P = n/N \times 100\%$$

Explanation:

N = respondent's score

N = respondent's average score

P = percentage of the obstacles/problems

7. Analyze the data research by using percentage analysis.

Scoring results in percentage form are interpreted by obstacles' table criteria, then interpreted again by qualitative sentences.

- a) Collecting the questionnaire and examining its completeness.
- b) Considering respondent's answer score with abovementioned score. Maximal score: 4, minimal score: 1.
- c) Inputing data in descriptive percentage formula.
- d) Making reference table/category table of descriptive percentage.

To arrange the category table of descriptive percentage as follow:

- (1) Deciding high percentage = $(1:1) \times 100\% = 100\%$
- (2) Deciding lower percentage = $(0:1) \times 100\% = 0\%$
- (3) Deciding range of percentage = $100\% - 0\% = 100\%$
- (4) Deciding the interval class = $30 : 4 = 7,5$
- (5) Interval class' length = $30 : 4 = 7,5$

Table 3.1. The criteria of obstacles' level in Learning IPA process and the solution for teacher's class at sixth grade in Salatiga.

Score Range	Interval	Criteria
22,5 – 30	$75\% < \% \leq 100\%$	Very high
15 - 22,4	$50\% < \% \leq 74,67\%$	high
7,5 – 14,9	$25\% < \% \leq 49,67\%$	middle
0 – 7,4	$0\% < \% \leq 24,67\%$	low

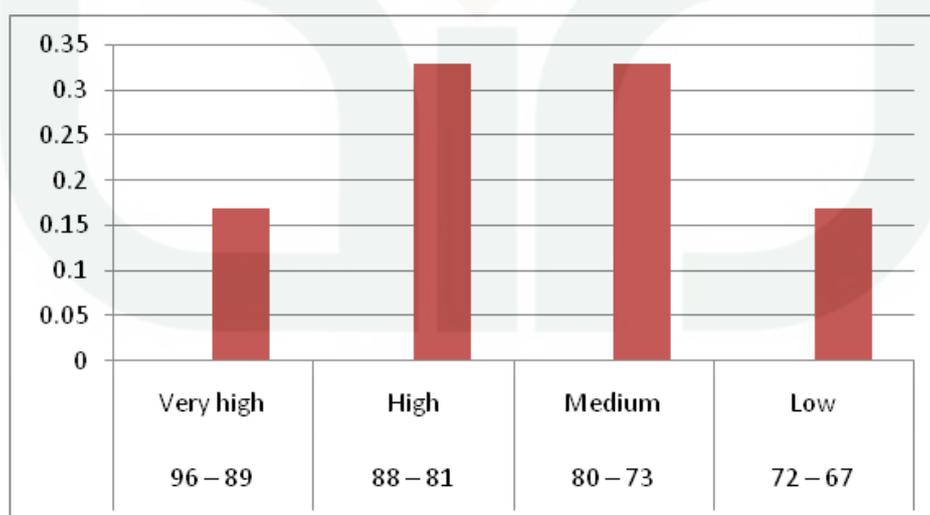
- 4) The interview's results are analyzed descriptively to compare the answers through questionnaire.
- 5) Making conclusion from descriptive research's result, what the obstacles faced by teacher at six grade in Salatiga in conducting Learning IPA are, how the alternative steps and the solution are.

E. Results and Discussions

The research's results of the obstacles in Learning IPA process and the solution for teacher's class at sixth grade Salatiga as follows:

1. The Obstacles in IPA Learning Process

Based on that scoring, so the obstacles faced by teachers in learning IPA in Islamic Elementary School (MI) Salatiga can be categorized as follow:



Picture 1. The obstacles in Learning IPA process for teacher's class at sixth grade MI in Salatiga

Based on the analysis results and discussion of this research, that the obstacles in learning process of Natural Sciences in Salatiga are 30%-50%, and it can be categorized between high and medium obstacles. Generally, the obstacles faced by teachers in this research are:

- a. The facilities' problems which supported learning IPA in school.
- b. The limited facilities are often found in Islamic Elementary School (MI), this influences to teacher' creativeness in doing teaching-learning process
- c. The limited learning sources
- d. The limited of learning sources cannot be separated from the lacks of facilities, so that learning sources for students are limited too.
- e. The limitation of learning media
- f. The obstacles in using learning media actually can be fixed by taking benefits of environment's surrounding or books from the library. Learning sources' obstacles are basically can be fixed by using powerpoint presentation, because of limitation of LCD, so the teacher does not use it.
- g. Learning Method
The obstacles in using learning method faced by teacher are choosing the appropriate approach and learning method. Many teachers prefer to choose speech method, drill method and asking-answering method than other methods. Those methods are easy to applicate inspite of the lack of school's facilities.
- h. Parents' Participation
Parents' participation toward the development of their children is very important to increase their children's awareness in studying. Many parents do not pay more attention to their children, because they generally came from middle to low-level family. Only for well-known Islamic Elementary School, parents have high attention for their children. Many parents just give all responsibilities to schools without taking part to do so.
- i. Not all teachers want to ask help/solution to the headmaster to solve this IPA learning's problems. Only 50% teachers never ask help for breaking out IPA's problems. So, that condition should be integrated more between the headmaster and teachers in order to make good relationship.

2. Solutive Steps

The alternative steps to solve the obstacles/problems are:

- a. Using affordable facilities maximally and trying to propose facilities.
- b. Taking the benefits of the surrounding's environment. It can be learning sources to the students, so they will recognize the object well.
- c. Holding the meeting with the school's committee/parents, minimal once every semester. Trying to improve communication intensively between committee/parents.
- d. Holding remedial test to fix the evaluation's results which are under standard score. Trying to make evaluation including three aspects, cognitive, affective or psicomotoric entirely.

F. Conclusion and Suggestion

1. Conclusion

Based on the analysis results and discussion of this research, it can be concluded that the obstacles in learning process of Natural Sciences in Salatiga are 30%-50%, and it can be categorized between high and medium obstacles. Many obstacles of Natural Sciences learning process for teacher class of sixth grade in Islamic Elementary Schools in Salatiga, there are: 1) the limitation of facilities; 2) the limitation of learning sources; 3) the communication between committee and parents is still more intense; 4) the communication between teacher and headmaster is still more intense; 5) the evaluation is not close to affective and psikomotoric's aspects yet; 6) many students have not passed successfully in Natural Sciences' subject yet.

The alternative steps to overcome the problems as follow: 1) maximizing the use of facilities and trying to propose the facilities; 2) using surroundings natural media as learning sources; 3) trying to increase the communication between committee and parents intensively; 4) giving remedial test and intensive test to get better results which have not reached basic standard score (*Kriteria Ketuntasan Minimal/ KKM*) yet; 5) doing the overall evaluation (cognitive, affective, or psikomotoric).

2. Suggestion

Based on the results, this research gives some suggestion as follow:

- a. The lacks of facilities in learning IPA can be manipulated by teachers' creativity which taught to students. For example, the minimum of the visual aids, teachers can give an example to make that simple visual aids, then give the assignment to make it.
- b. Teachers should maximize the Teacher Work Group (*Kelompok Kerja Guru/ KKG*) to solve the faced obstacles in learning process by examining and exchanging Lesson Plan (*Rencana Pelaksanaan Pembelajaran/ RPP*), so it will create good communication in order to know the strength and weakness of teaching-learning process.

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