JURNAL PARADIGMA
p-ISSN: 2406-9787/e-ISSN: 2723-3480
Sekolah Tinggi Agama Islam Ma'arif Magetan

The Implementation Of Process Oriented Guided Inquiry Learning (Pogil) In Madrasah Ibtidaiyah

Ihwan Rosadi
STAI Ma'arif Magetan, Indonesia
rozztshirt@gmail.com

Abstract

Process Oriented Guided Inquiry Learning based learning is important to be developed in primary school because this learning method can improve students' high level of thinking ability. This research was aimed to analyze the learning process in MI PSM Kedungputri Subdistrict Paron Distric Ngawi through implementing Process Oriented Guided Inquiry Learning. This research was used descriptive qualitative as the research design. The technique of analyzing data proposed by Miles and Huberman was used in this research, they are observation, deep interview, and questionnaire. This research was focused on the learning process, learning material, and the use of learning tools in MI PSM Kedungputri Subdistrict Paron Distric Ngawi which had not implemented Process Oriented Guided Inquiry Learning based learning. This was because the teachers had not had a guide to do the newest learning approach. This caused the learners become less interested in learning IPA and make the students' cognitive aspects still low.

Keywords: *Learning, Process Oriented Guided Inquiry Learning, Madrasah Ibtidaiyah*

Abstrak

Pembelajaran berbasis Process Oriented Guided Inquiry Learning penting untuk dikembangkan di sekolah dasar, karena pembelajaran ini mampu meningkatkan kemampuan berpikir tingkat tinggi siswa. Penelitian ini bertujuan untuk menganalisis proses pembelajaran yang dilaksanakan di MI PSM Kedungputri Kecamatan Paron Kabupaten Ngawi dengan mengimplementasi pembelajaran berbasis Process Oriented Guided Inquiry Learning. Desain penelitian ini adalah deskriptif kualitatif. Teknik analisis data menggunakan Miiles & Huberman menggunakan teknik observasi, wawancara mendalam, dan angket. Penelitian ini difokuskan pada proses pembelajaran, bahan ajar, serta penggunaan sarana dan prasarana sekolah dalam proses pembelajaran. Hasil penelitian menunjukkan bahwa pembelajaran yang dilakukan di MI PSM Kedungputri Kecamatan Paron Kabupaten Ngawi belum menggunakan proses pembelajaran berbasis Process Oriented Guided Inquiry Learning. Hal ini disebabkan karena guru belum memiliki panduan untuk melakukan pendekatan pembelajaran kebaruan, sehingga mengakibatkan siswa kurang tertarik dengan pembelajaran IPA yang menyebabkan aspek kognitif yang diperoleh siswa masih tergolong rendah.

Kata kunci: Pembelajaran, Process Oriented Guided Inquiry Learning, Madrasah Ibtidaiyah

INTRODUCTION

Education is an important aspect of the life of the state and nation. Education aspect is one of the efforts for educating the life of the state and nation as it is mentioned in UUD 1945. The UUD 1945 translation is put on UUD 1945 No. 20 the Year 2003 which states that the purpose of Indonesia Education is to develop the learners' potential to become a knowledgeable human being, creative, independent and responsible. For improving the human resources which have high quality, Education plays an important role because education can develop the ability and improve the quality of life of the Indonesian nation. Realization of superior and high quality of human resources as an effort to actualize the national goals (Indrawati, 2016).

Superior and high quality of human resources can be formed through Education because Education makes the learners study various sciences. Therefore, the main thing that should get more intention by observers of education is the way how to create a high quality of education. The learning model is meant as learning pattern which explains the process, how the learners can interact and communicate which finally caused the change of students' behavior (Suparwoto, 2004). All sorts of efforts are done to improve the education quality in Indonesia, that is through the provision of learning tools, teachers and completing the available curriculum (Sarjana, 2016).

IPA education is the one of education which has an important role in improving the quality of education. Besides, IPA education also has a role in producing high quality of learners which is appropriate with the available curriculum. To improve the quality of IPA learning, concept understanding toward IPA object is an absolutely needed (Sartono, 2017). Constructivism theory argues that for understanding the IPA concept, there is a need for the learners to be active to build their knowledge. A concept is constructed based on the previous concepts and will be the basis for the next concepts. So, misconception toward a concept will cause misconception toward the next concepts (Adelia Alfama Zamista, 2015).

In improving the students' understanding of IPA concept, a teacher should give an effort to do an innovative learning which will make the students interested in IPA learning (Trianto, 2007). One of learning model which is appropriate for the case is POGIL (*Process Oriented Guided Inquiry Learning*) model. POGIL model is developed based on constructivism concept. In MI's learning process, teachers tend to give learning material in the form of science concept, without connecting it with the daily life (Sartono, 2017).

Based on the pre-observation in the school where this research is done, it can be known that the average score for understanding IPA concept is still categorized as low. From the

Minimum Criteria for Completion (KKM) that is 75, there were only some students who have a score above the KKM. the learning process is still done just by conceptual method without connecting the science which is learned with the daily life The learning process which was run by the teacher mostly still uses conventional method, they are teachers' speech, note the materials and tasks, So in learning process the students are less interested and get bored.

For the effort to improve the understanding of IPA learning concept, the learning concept which is offered by the researcher to solve the problem is POGIL *(Process Oriented Guided Inquiry Learning)* based learning. POGIL model is one of active learning model which uses group discussion in Guided Inquiry (Ragendra Wiratmana, 2006). This model has superiority in developing students' understanding, questions which provoke students' critical and analytical thinking, solving problems, reporting, metacognition, and responsibility. POGIL makes the students be actively involved and think in class and laboratories; make a conclusion from the data analysis, and cooperate in understanding concept and solving problems, reflect what has been learned and improve it (Hanson et al., 2006).

The main reason to choose POGIL is that POGIL learning is oriented to students' active participation (Hanson et al., 2006). Students are more guided to have high ability in thinking, metacognition, communication, teamwork, and management. In learning process which uses POGIL, students are invited to think about the improvement of conceptual understanding and process skill. The main goal of POGIL learning is students understand using inquiry approach which consists of exploration, concept finding, and the application. In other words, it needs processability for the understanding concept to learn every POGIL element (Adelia Alfama Zamista, 2015).

The result of a research (Haryono, 2012) shows that POGIL approach is an effective learning approach for improving learning achievement. This is strengthened by Tyasning & Masykuri (2015) which state that students who use POGIL approach can improve their learning achievement in knowledge aspect and skill significantly than students who use traditional learning.

This research was aimed to analyze the learning process in MI PSM Kedungputri through implementing *Process Oriented Guided Inquiry Learning*.

METHODOLOGY

This research is a descriptive qualitative research. This researcher used the descriptive method to explain the data which was gained from the process of gaining data. This research was done in MI PSM Kedungputri Subdistrict Paron Distric Ngawi. The research subject is 31

students of class 6 and 3 teachers of MI PSM Kedungputri. The techniques of collecting data used in this research are an observation in teaching and learning process of IPA class, deep interview with the IPA teachers of MI PSM Kedungputri, and students' cognitive score. Data analysis was focused on the process of learning. The technique of qualitative analysis refers to *Miles & Huberman* analysis model which is done in 3 components, they are data reduction, data presentation, and draw a conclusion and verification.

RESULT

Learning Process is done by the Students and Teachers

Teaching and learning activities is an activity directed to achieve educational goals which have been set. This activity involves teachers whose job is to give knowledge (cognitive), attitudes and values (effective), and skills (psychomotor) to the students. Related to the learning, a conducive learning situation is very influential on the optimal learning process in the classroom. Based on the results of pre-observations, before the learning process begins, teachers have prepared learning tools consisting of the syllabus, RPP (Learning Plan) and LKS (Student Worksheet). Syllabus, RPP, and LKS are prepared based on K-13 Curriculum in accordance with Permendiknas. But in fact, teachers, in the learning process, do not teach as the RPP made. Teachers tend to use conventional learning with learning by using questioning and answering methods and lectures.

Based on the results of interviews with the teachers, in the process of teaching in the classroom, teachers have been adjusted with the RPP made, but it is only a formality. Due to this factor that causes teachers more often to use conventional methods. Though not all the material is appropriate with the conventional methods. In this case, it is known that teachers rarely use innovative learning model that is able to build high-level thinking skills, creativity, motivation and interest in student learning. Teachers still dominate in the learning activities in the classroom that makes learning activities are not optimal.

Based on the result of data analysis, it is found that the implementation of RPP making that is used has contained three main components, namely preliminary activities, core activities and closing activities. Preliminary activities are attempts by the teacher to built the mental, emotional, and spiritual readiness. The core activity consists of three stages: exploration, elaboration, and confirmation. Core activities are activities that most determine the quality of teaching and learning and influencing directly in determining the competencies achieved. Closing activity is an activity to end the learning activity in the form of conclusion. In the RPP, on the core activities, there is no single activity that reflects innovative learning models. This

makes learning boring, students are only equipped with knowledge about science without being associated with daily life. There is no single RPP or learning activity that integrates POGIL (*Process Oriented Guided Inquiry Learning*) approach.

The learning implementation is done by just centered on the teachers, that is teachers explain the materials through conventional methods, while the students just passively listen to the teacher's explanation, then the students write down and make a note. In the learning process, it seems that just the students in the front-line desks who have attention, but the students in the back seat are more busy with activities out of the lesson.

Teaching Materials used by the Teachers and the Students

The learning process should be supported by books or teaching materials that can be used to improve students' high thinking skills, but based on the observations made in MI PSM Kedungputri, both students and teachers process still rely on LKS from publishers in the learning process which only contains a summary of material and exercises only, so in fact students tend to only learn to do the exercises. Students only record and memorize what the teacher writes on the board. Teaching materials are less developed because the teachers themselves are difficult to develop teaching materials which are appropriate with the needs and characteristics of the students, so that will affect the low cognitive abilities of students and influence on student achievement. It can be proven that 75% of students get daily test scores under the KKM (Minimum Criteria of Completion).

Teaching materials used by teachers and students, particularly IPA modules or books are also still very limited. Teaching materials are insufficient to be distributed to all students. The availability of references to IPA books is also limited, including books available in libraries, so books cannot be distributed to students equally. In addition, teachers also have difficulty to develop quality teaching materials. The difficulties experienced by teachers in developing teaching materials are lack of time, lack of knowledge, and limited facilities and supporting infrastructure in the development of teaching materials. Some of the reasons are based on the availability of teaching materials which is appropriate with the curriculum demands, target characteristics, and the demands of solving learning problems. In addition, the development of teaching materials should pay attention to curriculum demands. In this case, teachers are required as a curriculum developer including having the ability to develop their own teaching materials. Therefore, based on the problems that occur when the development of teaching

materials by teachers must be adapted to the needs and characteristics of students, so the problem of learning can be overcome in order to achieve the expected learning objectives.

The Use of Facilities and Infrastructure in Teaching and Learning Activities

The learning tools in this research include the tools used in teaching and learning activities at school. Based on the results of preliminary observations, MI PSM Kedungputri already has a IPA laboratory, but the tools and materials and supporting infrastructure facilities are inadequate and still minimal such as the number of microscopes are still small, the number of materials that are not sufficient, and educational display that has not been maximized, so that the students have not done the practicum activities maximally. In addition to the existence of laboratories, other infrastructure facilities such as libraries also greatly affect the learning process. MI PSM Kedungputri already has a library, but the number of books of IPA literature in the library is still very minimal. The number of IPA books owned by school libraries from the Department of Religion is not maximal in terms of quality and there is no new textbook at all. The lack of complete facilities and infrastructure in the laboratory and library will have an impact on the low level of students' high-level thinking skills in the practicum, the students are less skilled at identifying problems in the lab and the students have difficulties in using laboratory equipment, besides the number of supporting books available in the library is still minimal so it causes cognitive aspects of students also become not maximal. It is proved that the results of the value of the cognitive aspects obtained by 70% students are still under the KKM (Criteria Completed Minimum).

DISCUSSION

Learning Process Done by the Teachers and the Students

The learning process is equipping the circle system which causes the occurrence of teaching and learning process for the students by optimizing the students' talent and potential (Kemendikbud, 2013). To reach the desired goals, the learning process needs to use principle like students' centered learning, give more opportunities for the students to think higher, create a conducive learning atmosphere and prepare a various interesting experience for the students.

Based on the observations, interviews with students and teachers, it is known that the learning process conducted in MI PSM Kedungputri is still less effective. This happens because the teachers are still dominant in the learning process (teacher centered), so students become less active in the learning process. This is in line with the results of research from Duckworth (2009),

asserting that teacher-centered learning prevents student growth in education, whereas student-centered learning keeps students actively learning, students have greater knowledge and make students more likely to think higher. This means that students are directly involved in active teaching and learning activities.

Teachers have made the lesson plan before implementing the learning activities, but in the reality, in the learning process, the teacher has not implemented the lesson plan well. The learning process is still teacher-centered and all learning information comes from the teacher. This leads to less interesting and boring lessons and less motivated students in learning. With such kind of learning, students' cognitive abilities are not well contained, such as critical thinking and analytical thinking, and problem-solving. This resulted in low cognitive abilities of learning materials.

Teachers also have not been able to create learning innovations that can generate student motivation. One of the active and innovative learning is POGIL-based learning (Hanson et al., 2006). When teachers are able to apply the POGIL approach, students become more active and creative to seek higher-order thinking. As expressed by (Indrawati, 2016), states that in practice, students who receive education in POGIL are related to teaching approaches, more competent in dealing with new situations and concepts.

In the learning process of IPA with POGIL approach, students are invited to make a discovery and investigation (Ragendra Wiratmana, 2006). The POGIL approach as an alternative to learning emphasizes cooperative learning, students work in teams, design activities to build cognitive abilities (conceptual understanding), and develop skills during learning processes such as science, thinking skills, problem solving, communication skills, management, building positive social attitudes and self-assessment skills that can develop metacognitive knowledge. POGIL learning will provide more opportunities for students to be more independent and share experiences together in a group (Hale & Mullen, 2009).

Teaching Materials Used by the Students and the Teachers

The results showed that there is a limited number of teaching materials or books in the library. The availability of teaching materials in the schools cannot be distributed to all of the students. Whereas according to Parrish (2004), explaining the benefits of using textbooks can meet the needs of learners to be done and taken home for further study.

Textbooks remain as the center of the development of school curriculum in a country. Knowledge of school subjects and the values, attitudes, skills, and behaviors liked by the experts in the field (Shannon, 2010). According to a Bitterlin (2003) study, the textbook has a process for curriculum development based on student needs assessment and includes the participation of other stakeholders. In this case, it is expected that the teaching materials are easily accessible, up to date, suitable for learners, oriented to the language needs and literacy of the learners, and suitable for various learning models.

Teachers are given opportunities to develop their own learning indicators and objectives. This should make teachers more creative in choosing and developing learning materials that will be delivered in school. In accordance with the professionalism of teachers, a teacher must have the ability to develop methods and models of learning, so the teacher can explore the ability of high-level thinking of learners in the learning process.

The Facilities and Infrastructure in Learning

Aspects of the use of facilities and infrastructure in the learning process related to the learning resources used. According to Government Regulation no. 19 the year 2005 article 42 paragraphs 1 and 2 about educational infrastructure standards states that each educational unit shall have facilities covering furniture, educational equipment, educational media, books and other learning resources, and other necessary equipment to support a regular and continuous learning process. Each educational unit is required to have infrastructure including land, classroom, leadership room, educator room, administrative room, library, laboratory, production unit, canteen, sports venue, place of worship, playground, and other places needed to support the learning process organized and sustainable.

According to Klenner (2014), it is quite difficult to provide learning materials which are appropriate for the available media. In this case, the teacher is required to be more creative and innovative to the surrounding environment, so it can be used as media and good learning tools. There is no proper education or effective education where there is no provision of school facilities and infrastructure for teaching and learning activities.

Facilities and infrastructure are one of the factors that influence the learning process, especially in achieving learning objectives. Actually, the condition learning environment in the school including facilities and infrastructure has an important impact on the teachers' effectiveness and students' academic achievement. Facilities and infrastructure are needed to facilitate effective teaching and learning in educational institutions such as teachers' rooms,

offices, libraries, and laboratories. It is also stated by Lumpkin (2013), that the existence of facilities and infrastructure in the interesting, clean, functional, and comfortable condition can affect the students' achievements. Ajayi (2001) also emphasized that the quality and standard of the school really depends on the provision, adequacy, unitization and management of educational facilities and infrastructure that is necessary for achieving effectiveness in school instructional reconstruction and supervision.

CONCLUSION

Based on the result of the data analysis gained by the researcher, it can be known that in the learning process in the class, the IPA teachers of MI PSM Kedungputri have not implemented POGIL approach. The problem‘s root is the teachers do not have a guide to do a learning process using POGIL approach so that the teachers choose to use the conventional method in the learning process.

So, in relation to the findings of this study, the researchers made a suggestion that, there is a need to introduce effective teaching methods that can improve students' high-level thinking skills. It is hoped that the findings of this research will help curriculum planners to make the necessary changes in the content related to the application of science.

Acknowledgment

The author would like to thank the Sekolah Tinggi Agama Islam Ma'arif Magetan and MI PSM Kedungputri, for their support in the writing process of this article. Last but not least, we give a special thanks for the students of MI PSM Kedungputri, by their support, the author can finish this article well.

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