



Students' Activities in Learning About Human Organ of Motions and Environment with Scientific Approach in the Application of 2013 Curriculum

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Abstract

This study is purposed to describe the student's activities and the obstacles during the learning process of 5th grade's Theme 1 Organ of Motions of Animals and Human, Sub-theme 2 Organ of Motions in Human and the Environment. This study was conducted with qualitative method by using case study strategy. The subject of this study is the 5 grader students in Dabin-I UPK Banyumas. The data was collected by doing observation, interview and documentation. The collected data was analyzed by doing data reduction, data display, conclusion and verification. The validity test was conducted by doing credibility test using technique and source triangulation. The result of this study showed that the student's activities have been corresponding the scientific syntaxes, which included observation, asking question, trying, reasoning, and communicating, although it's not optimally done in the classroom. Students can conduct the learning process with teacher's guidance. The teacher used the authentic valuation to evaluate the student's competence, although it wasn't done in every learning season. Teachers have done the valuation including the attitude, knowledge, and skill evaluation. The obstacles can be found in learning planning, practice, and evaluation.

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INTRODUCTION

The demand of education is suited with the era. Recently, education should not only focus on teaching the expired skill like memorizing, but also reasoning and logical thinking. The learning process in 2013 curriculum used scientific approach. Bernawi and Fauziah (2016) stated that scientific approach gives understanding to the students to memorize and understand the materials with scientific approach. It has five syntaxes, which are observation, asking question, trying, reasoning, and communicating (Permendikbud No 22 tahun 2016).

Indah Pratiwi (2019: 65-66) stated that 2013 curriculum is prepared to create a generation which is ready to face the future. The main purpose is to support the students to perform better in doing observation, asking question, reasoning, and communicating what they get and what they know after a learning session.

Students in elementary school are in the age range of 7-11. Piaget in Basri (2018: 1-9) stated that the children characteristics in elementary students are in concrete operational stage. At this stage, students are capable to think logically to solve problems. As their thinking skill is still limited in the concrete situation, they still need help from teachers. Kirom (2017: 69-80) stated that teachers have their role in facilitating their students by providing a learning process in which their students will be triggered to construct their understanding towards the phenomena in their daily life.

The scientific approach focusing on students as the center of learning process, so teachers will not only tell the students about the materials. Instead, they will give the opportunity to students to actively seek for the learning materials (Prastyawati, 2016).

Ironically, obstacles occur in the implementation of 2013 curriculum. The study from Justus Benyamin Batmalo (2016) showed students don't have enough courage to ask question. The result from OEC survey showed Indonesia ranked 64th place out of 69 countries (2016). The lack of problem solving skill and

reasoning/analyzing is one of the factors causing the lack of achievement of Indonesian students.

One of the factors causing the lack of reasoning and problem solving skill in Indonesia is the implemented learning approach. Muhibbin Syah (2003) stated that the learning approach affected the level of students' learning result. The learning process in which students have to memorize all the materials will not help students' reasoning skill to develop.

Based on the observation result in one of elementary schools in Banyumas Regency, the learning process still focusing on teachers as their main source of learning. During the learning process, students would only observe and took notes what teacher told them. It suits what Fitriyaningsih (2014) found in her study. She conducted a study in one of elementary schools in Banyumas and found the learning process in the school is still a one-way process. In the RPP, it showed that students weren't directed to try and communicate the results they got during learning process. Based on the interview, teachers found some obstacles in evaluating and managing the activities during learning process.

Referring to the background problems mentioned before, a new study about student activities is needed. Especially the one related to the activities during learning, evaluating, and the obstacles during the process.

METHODS

This study used qualitative method with descriptive study case approach. Researchers used qualitative method as we believe that truth is a hidden reality. Wulandari, Al Muhdhar & Suhadi (2016: 1192) explained that the researchers in the field will have a role to manage the instrument and action planner. Imam Suprayogo and Tobbroni, cited by Paturohman (2017: 67) defined case study as a research technique which focusing more on the depth and the wholeness of the object in a limited scope. From the mentioned definition, the research scope of this study is limited.

This study was conducted in National Elementary School Dabin I UPK Banyumas, focusing on the analysis of learning process with scientific approach Theme 1 Organ of Motions in Animals and Human, Sub-theme 2 Organ of Motion in Human and Environment.

The data and the source of data of this study are informants, documents, and observation data. We collected the data by conducting interview, observation, and documentation.

To test the validity of the data, we conduct triangulation, which can be understood as a validity test by using something from the study. The researchers did source and method triangulation.

To analyze the data, researchers used Miles and Huberman model, including data reduction, data display, and conclusion.

RESULTS AND DISCUSSION

The learning process in 5th grade Dabin I UPK Banyumas used scientific approach, which was done by learning from concrete to abstract. In the process, students are the center of the learning process. It suited the constructivism theory by Jean Piaget and Vygotsky in Suci (2018: 231-239), who stated that learning is a process from concrete to abstract in constructing meanings, in which will happen an assimilation process which connect the experience or information that has gained before.

The implementation of learning using scientific approach conducted with three main activities, which are the preliminary, core activities, and closing activities. It suited the learning implementation stated in Lampiran Permendikbud Republik Indonesia Nomor 103 Tahun 2014. In preliminary activities, teachers will conduct the asking-answering question session related to the given and future learning material. Sagala in Solihati, T. A (2016: 51-58), the purpose of asking question is to understand how students understand the given materials. In preliminary activities, teachers seldom stated the competence students will get from the lesson and the use of it in daily life. In fact, delivering the

competence and the use of it has a purpose so the students will be able to solve the problems in their daily life by understanding the use of the competence they get in school. Indrila, N (2018: 405-413) stated the aim to scientific approach is to make students able to solve the problems in their daily life.

The learning activities after preliminary stage is the core activities. It includes 5 syntaxes which are observation, asking question, reasoning, and communicating.

The result of this study showed that the observation activities in 5th grade Dabin I Kabupaten Banyumas is not so different with the observation activity guides in Lampiran Permendikbud Republik Indonesia Nomor 103 Tahun 2014. In sub-theme organ of motions in human and environment, students did observation syntax every day, which are reading text and observing pictures. It opposed what Hosnan and Herawati (2019: 58-64) stated that direct experience in observation activities is the best tool to find truth/facts.

In the 4th learning process, teacher used an LCD projector as media, which makes students more enthusiast in observing the materials. The use of media is suitable with its function to attract more attention and the interest of the students during learning process (Sagala, 2013). Teachers can facilitate the students by providing pictures, videos, stuffs, miniature, and others (Hosnan, 2014).

Teachers gave the opportunity to ask any question during the learning process. Hosnan (2014) stated that in students can have an opportunity to ask question related to what they get during the learning process, such as what they see, what they listen, and what they see. Teachers always remind them to use question mark when they want to ask question. Teachers helped students to the stage where they can ask a question voluntarily.

Students also ask question to teachers regarding to the materials they currently learning. When doing the asking and answering question session, teachers give questions to motivate students in asking the question. An interesting question will make students actively ask.

Etermadzadeh A, Seifi. S, Far. H.R (2013: 1024-1031) also had a same opinion, that asking has a function in learning process as a support and inspiration of the students to actively learn and develop new questions from and to their selves.

The asking question activities is not only done from the teacher to students, but also from the students to the teacher. Students will not only answer the question from the teachers, but also ask the question about the related materials to their teachers. They also can ask and answer the question from the fellow students. Sudirman in Asmara. J, Massawet. E, rambitan. V (2016: 2059-2065) stated that asking and answering method is a material display in which the questions need to be answered. Not only from teacher to students, but also from students to teachers.

In classroom, there are students who actively asking questions, but there are also some students who are less courageous to ask question. The ones who hadn't ask question are sometimes getting noisy and they bother other students. Sagala (2013) stated it happens due to teacher who asked the question to the whole classroom and the students will answer them spontaneously. To overcome this problem, teachers need to give question to individuals, as it will help them to increase focus of the students. Referred to Sofwan. M (2016: 29-36), one of the ways to give questions is to ask a certain individuals and then give them to others.

The trying activities are seldom done in learning process, although it has been stated in RPP. It's because there is time limitation and too many materials that have to be delivered to the students. In the 4th learning process, teachers use paper as a tool to make an order of organ of motions in human. The use of paper as a stuff is suitable with the development of elementary school students, which also can be considered as a concrete operational. Piaget stated that in this stage, children can operate and think logically as long as it can be implemented to the concrete examples (Santrock, 2002).

By doing this experiment, the result from students' learning process will be recorded in their memory as they experience it by themselves.

Fadhillah (2014) in Ayuni, F.N (2015:1-7) stated that students can learn directly about the phenomena or any problems so they can memorize it as they experience them by themselves.

In discussion activities, teacher would direct and help students to do discussion with their group. It is because they still need to be supervised. When the teacher didn't give them any supervision, the discussion will go anywhere they the students tend to play more. It suited the opinion from Juniati (2017: 283-291) who stated that one of the weaknesses about discussion is how the students didn't learn to do it properly and they tend to waste the time.

Group distribution for discussion was done randomly. Sometimes, teacher distribute students based on their absence number, sometimes student distribute the group by themselves, and teacher often distribute them based on where they took seat. It makes the groups become homogenous and not suitable with the use of discussion, which can build an active participation among students (Latifah, 2013: 15-20).

The activities to reasoning and associating with scientific approach is done to make students have the ability to group the ideas and associate the events to make it as a memory. In its implementation, teacher had helped students to think logically and understand the materials they get. The obtained knowledge then will be directed by the teacher to make a conclusion.

Teacher had helped students in reasoning and logical thinking, technically by doing the activities such as processing and discussing the information to increase their understanding and depth. They also need to process and discuss the information about solution, which only happen once.

The students in 5th grade in Dabin I UPK Banyumas have done verbal and written communication. The activities of verbal communication, such as delivering the answer from the question from the teacher, and presenting the result from their observation discovery or their group discussion. Hosan (2014) stated that the activities of communicating by

students are important and they should present their finding results. They should be courageous to display the discovery to the public, as they will gain more courage and confidence. The activities to communicating through writings can be seen as the students give answers to the tasks given by the teacher. They answered it in their Theme book, notebook, or on the board. The activities about the communicating about experiment report cannot be seen.

After doing the preliminary activities and core activities, the next step is to do the closing activities. These activities are giving the individual tasks, praying, and making conclusion from the teacher. Teachers will then ask the students with more asking and answering session to make a general conclusion. In this conclusion activity, teacher use inductive technique. Hosnan (2014) stated that inductive technique is concluding the summary from the phenomena or any special attribution for some general issues/things.

Teachers didn't do any reflection activity towards the learning process they have done. In this case, teachers can do any alternative activity like students giving their impression and any other inputs for the teachers about their learning session (Hosnan, 2014). Rusman (2011) also stated that reflection is a way of thinking about what just happened and what just learned.

For any advanced activities, teacher didn't plan any remedial or enrichment program. Teacher just gave homework. The next activity is delivering the plan for next learning session. Teacher never did this in their learning session. In fact, Sagala (2013) shows how the material information will be much needed by the students so they can prepare for the next learning session.

The evaluation of learning process, based on scientific approach, was done by using authentic valuation. It includes three competences, which are attitude, knowledge, and skill competences (Permendikbud, 2013). The implementation of attitude valuation in 5th grade was done by observation during learning process. Based on the observation, some aspects are not done in the processes. Those are self-evaluation, peer evaluation, teacher's note journals. The valuation

of knowledge competence was done by doing daily test, mid-term test, term test, and homework. The result from the observation showed that verbal test hadn't been done. Teacher always inform the mark of the test to the students and the headmaster at the end of every semester. One of the principals of 2013 curriculum is transparency, which means the evaluation, its criteria, and the basic of the evaluation can be accessed by all.

The evaluation process can be seen when teachers mark the result of students' work in making order of organ of motions in human. Students will need to make them and glue them. This evaluation is included in the work evaluation. Teacher hadn't given any project or portfolio so the evaluation hadn't been done yet.

Based on the observation and interview result during the learning process, some obstacles occurred and it bothered the teachers. The obstacles occurred during planning, the implementation of learning process, and during the learning evaluation. Teachers feel burdened in planning as they have to develop the learning steps using the much-wider approach and materials. It is because the lack of teacher's understanding of the importance in developing the learning materials (Muspawi, 2014: 57-62). Teacher also got burdened in making the plan in delivering the materials due to the materials' coverage, which is too wide in 2013 curriculum. Sani (2014) stated that the development of learning activities should be suited with the students' development, so they can use the right method and technique to increase the skill, interest, and the readiness of students to learn. The effort from teachers to solve the problems can be seen when they discuss about the alternative activities by using scientific approach to other classroom teachers. Discussing the problem with headmaster and other teachers is important to get solution (Hosnan, 2014). Teachers also can seek for more material sources for learning, and summarizing the materials with too wide scope.

The obstacles in learning process is the lack of variation in learning process using scientific approach. Students only got directed to do activities based on the suggestion from the

teacher and student books. The lack of activity variations made students have lack enthusiasm to follow the lesson. Referring to Hamrin and Toth (2012) in Hosnan (2014), one of the teacher's task is to inspire students to actively involved in learning process. Besides, the obstacles can also be seen in the time allocation. The learning session took more time, as teacher needed to deliver the materials. The effort done by the teacher is by discussing them with other teachers.

The obstacles in learning process is the many aspects they need to evaluate, which makes them needed more time to do it. The incomplete evaluation instrument made the aspects couldn't be evaluated optimally, whether it is cognitive, affective, and psychomotor.

The effort to overcome the obstacles is to recap the marks of the students, so it will not build up as an untouched task. The instrument used in evaluation should be prepared long before the learning process, so there will be no missed aspect. Based on Juliani R, Utari S, and Saepuzaman D (2017: 1-9) related to the implementation of the time used for learning, teachers can determine the use of added time, the identification of problems and obstacles, and also discussing with the headmaster other teachers.

CONCLUSION

The conclusion of this study showed that the 5th grade Dabin I UPK Banyumas have done the learning process using scientific approach, suitable with the syntaxes, but haven't done it optimally as there are some missed stages.

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