Describing Student Activeness Using Transcript Based Lesson Analysis in Lesson Study Material Hydrostatic Pressure and Pascal's Law

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ARTICLE INFO

ABSTRACT

This research was conducted to describe the activities of students using Transcript Based Lesson Analysis in Lesson Study on hydrostatic pressure and Pascal's Law class XI at SMAN 11 Muaro Jambi. This type of research was obtained from the results of learning video recordings, observer field notes and documentation. This research was carried out in collaboration with the observer team in each cycle through 3 lesson study stages, namely plan, do, and see. The analysis in this study cannot be carried out directly during learning but through the results of recording all teacher and student activities as well as observations made by the observer. Through this analysis one can see how the application of lesson study based on TCL or SCL in the learning process is TCL or SCL in nature from the many dialogues that arise between the teacher and students, this dialogue in the implementation of cycles I and II is shown in the number of words graph. Based on the results of this study, in cycle I it was seen that the teacher still dominated learning, not many students responded and answered questions given by the teacher. Cycle II in this study learning took place in group discussions where teacher dominance was still visible but better than cycle I because more student responses appeared and some students were active in discussing problem solving. Overall learning in class XI MIPA 2 SMAN 11 Muaro Jambi is categorized as TCL so that the suggestions contained in this study are for teachers to be able to study and design better learning so that they can realize learning that is student centered learning and apply learning with lesson study based on Transcript Based Lesson Analysis.

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INTRODUCTION

In language the definition of education is the process of changing the attitudes and behavior of a person or group of people in an effort to mature humans through teaching and training efforts. Education is a conscious effort to prepare students through guidance, teaching and/or training activities for their future roles. Education is basically a conscious effort to develop the potential of human resources, especially students, which is carried out by guiding and facilitating their learning activities. Education is also an activity that has a specific purpose or goal that is directed at developing the potential of humans both as humans and as a society as a whole (Nurkholis, 2013). The real function of education is to provide facilities that enable educational tasks to run smoothly, both structurally and institutionally (Current, 2015).

Natural science or science is the study of natural phenomena which include living and non-living things or the science of life and the science of the physical world (Rahayu, Mulyani, & Miswadi, 2012). Science learning plays a very important role in the educational process and also in technological developments. Science learning is expected to be a vehicle for students to learn about themselves and the environment, as well as further development in its application in everyday life (Surahman, Paudi, & Tureni, 2014). In general, Natural Sciences (IPA) at the SMP/MTs level cover three subjects, namely Physics, Chemistry, and Biology. The 2006 curriculum requires that Physics, Chemistry, and Biology be taught in an integrated manner(Rohmawati, 2014). integrated science learning tools need to have a review of the identification of needs, school conditions (school facilities and infrastructure), student characteristics, and learning time. So that cognitive, affective and psychomotor values in learning tools can be conveyed properly, it is better if the assessment can be carried out simultaneously through learning activities, assisted by observers in observing student activities or known as team teaching (Utami, Sudria, & Ristiati, 2020).

Physics is a branch of natural science that studies natural phenomena that require a lot of understanding. Physics is one of the fundamental sciences, because physics has to do with the behavior and structure of an object, especially inanimate objects. Physics is widely applied in everyday life. The word Physics comes from the Greek "Physic" which means "nature" or "natural affairs" while physics (in English "Physic") is the science that studies aspects of nature that can be understood on the basis of an understanding of the principles and its elemental laws. Furthermore, physics can be defined in various senses, one of which says that physics is the science that studies a substance and energy or matter and motion (Your Majesty, 2019). The purpose of learning physics is to form students' reasoning abilities which are reflected through the ability to think logically, systematically and have an objective, honest, disciplined nature in solving a problem. However, the reality on the ground is not as expected (Neizhela & Mosik, 2015).

Activeness is an activity that can be physical or mental. Learning must go through a variety of activities. The activeness of students in learning activities is to emphasize understanding of problems or everything they face in the learning process. Active student learning is an important basic element in success in learning (Kanza, Lesmono, & Widodo, 2020). The activeness of students in the learning process will lead to high interaction between teachers and students or with the students themselves. This will result in a fresh and conducive classroom atmosphere, where each student can involve his or her abilities to the fullest. Activities that arise from students will also result in the formation of knowledge and skills that will lead to increased achievement. The activeness of students during the teaching and learning process is one indicator of the desire or motivation of students to learn (Zaeni, Aulia, Hidayah, & Fatichatul, 2017).

Lesson Study started in Japan around the 1870s. Lesson Study is a practice-based method for developing teacher professionalism and mutual learning attitudes with actual practice methods in the classroom and carried out by the teachers themselves. Lesson Study has been developed by the Japan International Cooperation Agency (JICA) in collaboration with the Indonesian government since 1998 at which time a Community-Based School Development (PSBM) model was also developed at the district level (Tedjawati, 2011). Meaningful learning with lesson study is an alternative that teachers can choose to improve the quality of learning. Meaningful learning with lesson study is a model of developing the teaching profession through collaborative and sustainable learning assessment based on the principles of collegiality and mutual learning to build a learning community (Sutadji, Sutama, & Askury, 2013).

The steps applied in lesson study are designing learning to achieve certain goals, carrying out learning, observing the implementation of learning, and reflecting to discuss learning that has been carried out as material for improvement in the next lesson plan. In this activity, the main focus of lesson study implementation is student activity in class. The student activity is related to the teacher's activity while teaching using real media (Sucilestari & Arizona, 2019).

According to Mulyani in the quote (Sucilestari & Arizona, 2019), there are two types of lesson study, namely school-based lesson study and MGMP-based lesson study (Deliberation of Subject Teachers). School-based lesson study is carried out by all teachers from various fields of study with the principal concerned. The purpose of this school-based lesson study is so that the quality of the process and learning outcomes of all subjects in a school can be further improved. Meanwhile, MGMP-based lesson study is an assessment of the learning process carried out by a group of teachers in a particular subject, with an in-depth study of the learning process in that subject. MGMP-based lesson studies can be carried out at the level of certain areas such as districts/cities or can be further expanded. Therefore, lesson study research has 3 main objectives, namely: (1) planning learning with academic exploration

on the topics and learning tools used, hereinafter referred to as the Plan stage, (2) carrying out learning that refers to the learning plans and tools provided, and inviting colleagues to observe. This activity is called the Do stage, (3) carrying out reflection through various opinions/responses and discussions with observers/observers. This activity is called the See stage (3) carrying out reflection through various opinions/responses and discussions with observers/observers. This activity is called the See stage (3) carrying out reflection through various opinions/responses and discussions with observers/observers. This activity is called the See stage (Ratnawati, 2019).

TBLA is a method of analyzing learning outcomes by using transcripts of the conversations of students, teacher students in learning activities, which are known by conducting in-depth observations or in-depth observations. In this service TBLA is produced from the process of observing or recording the learning process. In order to show more concern for students, teachers must be able to create an effective learning process to meet the learning objectives achieved. One way is to detect learning difficulties that occur in students. This can be done using an analysis method of learning transcripts known as the Transcript Base Lesson Analysis (TBLA) method (Sudarsana & Suarni, 2020).

The implementation of Lesson Study has been carried out in Jambi province, one of which is at the Jambi City Laboratory MTS. As stated by(Pathoni & Susanti, 2017), the implementation of Lesson Study at the MTS laboratory in Jambi City Class IX E was the first time it was carried out. Therefore, the head of the researcher went directly as a model teacher to provide an example of the implementation of Lesson Study at the school. In addition, other research conducted by(Maison, Asrial, & Syaiful, 2015), argued that Lesson study activities carried out at SMP 17 Jambi City could improve the quality of the learning process and were able to increase the activity of students and teachers in the learning process which was marked by the consequences that could already be seen in science learning, especially Physics in the target class. Lesson study activities.

Based on initial observations made by researchers at SMA N 11 Muaro Jambi, it was found that in the learning process the teacher still used the lecture method. Thus the student learning process only relies on explanations from the teacher to gain knowledge, resulting in a lack of active student learning so that it is TCL (Teacher Centered Learning). Meanwhile, current learning or 21st century learning focuses on SCL (Student Centered Learning) where students must think critically, be able to solve a problem, collaborate, innovate and be creative. Thus these problems get more attention so that they can be corrected in the future.

Based on the explanation above, this study aims to describe student activity using transcript based lesson analysis in Lesson Study learning on the materialHydrostatic Pressure And Pascal's Lawin class XI SMA Negeri 11 Muaro Jambi, to analyze the process of learning Physics through lesson study

based on transcript based lesson analysis (TBLA) on the materialHydrostatic Pressure And Pascal's Lawin class XI SMA Negeri 11 Muaro Jambi.

METHODS

This research was conducted at SMA N 11 Muaro Jambi, which is located at Jl. Cross Sumatra, Mendalo Darat, Kec. Jambi Outside the City, Muaro Jambi Regency, Jambi. The research time is the odd semester of the 2022/2023 school year.

The data in this study is in the form of qualitative research data. Qualitative data is data that is explained or described in a narrative or sentence. Data obtained in the form of documentation, videos or recordings with the learning process with the application of TBLA-based lesson study (Transcript Based Lesson Analysis). As for the quantitative research data in this study in the form of instrument data and data in the form of transcripts, it can be obtained in the form of dialogue and student actions during the learning process. The source of the data in this study were class XI IPA students at SMA N 11 Muaro Jambi.

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This research was carried out in II stages of lesson study activities through the stages of plan (planning), do (implementation), and see (reflection). But if you haven't got the desired result, you can add more activities until you get the desired result. However, if you have got the desired results before activity II, you can stop it until activity II. In this study, researchers collaborated with physics teachers who teach at SMA N 11 Muaro Jambi and along with a team of observers.

FINDINGS AND DISCUSSION

The implementation of lesson study was carried out in two cycles which took place in class XI IPA 2 at SMA Negeri 11 Muaro Jambi with a total of 35 students. This research was conducted on September 29 2022 to December 1 2022. The data collection was carried out using lesson study stages through 3 stages, namely the plan, do and see stages. This research was conducted 2 cycles. By doing 2 cycles, the model teacher can evaluate student activity and the second cycle, the teacher fixes any problems in the first cycle. The first cycle was carried out from September 29, 2022 and cycle 2 was

carried out on December 1, 2022. The learning process that took place in the class was recorded with video recordings and each group was also recorded by the respective observers who observed it.

TBLA-based lesson study learning (Transcript Based Learning Analysis) begins with the planning stage (plan), in cycle 1 the model teacher and the lesson study team, namely observers, supervisors and physics subject teachers discuss all the learning tools that have been prepared by the model teacher. will be used in the implementation stage (do). Learning tools in the form of lesson plans, learning designs, worksheets in accordance with the material being taught. In cycle 1, the material that will be taught is about hydrostatic pressure. In addition, the model teacher also prepares observation sheets in the form of field notes which will be given to observers who will observe student responses during learning.

After planning (plan) it is continued with the implementation stage (do) which is carried out in class. All the learning processes that take place will be recorded with video recordings both as a whole and in groups, in the implementation of learning in this cycle the teacher forms 3-4 groups consisting of 9 students in the class. The essence of this stage is when the model teacher gives problems to students, namely instructing students to carry out a simple experiment related to the material being taught today. The learning process goes according to the steps that have been prepared in the learning design that has been designed before.

The final stage of cycle 1 is the reflection stage (see). At this stage, the model teacher and the lesson study team discuss what happened in class based on the observations made by the observer. Physics subject teachers suggest that model teachers give more treatment to students who are less active. In cycle 1, the students' responses were still less active while studying. We can see this from the data that has been analyzed from the group video recordings, namely the learning dialogue transcripts and other additional data in the form of field notes from the observers.

Based on the results of this study, the transcripts of the learning dialogues were obtained which were shown in a graphic image. In figure a. The graph of the number of words cycle 1 shows the transcript of the overall learning dialogue in cycle 1. The top graph is a conversation session by the teacher while the bottom graph is a conversation session by students, and vice versa. Figure 4.7 Graph of number of words cycle 2. In Figure b.

While Figure a shows that the learning dialog is also more dominant among students which can be seen from the graph at the bottom of the student conversation session that the number of words detected is more students, but this is different from the graph in cycle 1, if in cycle 1 students respond more to the teacher with responses what is common in cycle 2 is that students have started to actively ask, answer and give arguments to the teacher, but only a few students, the rest still give general

responses as well.When compared between cycle 1 and cycle 2, it can be seen from the graph that learning that is more dominant to students occurs in cycle 2, which means that in cycle 2 it can be stated that learning is student centered learning and in cycle 1 even though it is detected that the number of words is more dominant to students but in practice students only give general responses.

Besides being seen from the transcript of the learning dialogue between students and teachers, it can be seen the interaction of students in class based on the observation sheet observed by the observer shown in the observer's observation table in the form of an assessment of students' attitudes and activity. The results of the observer's observations on this indicator occur in groups, which means that each group must have a different response given. If seen from the observations of student observers.

If seen from figure b, the results of observer group 1 show both cycle 1 and cycle 2. Based on figure a, it shows that the indicators for assessing attitudes and student activity seen from cycle 1 obtained improvements in cycle 2, although not all students. It can be seen that there has been an improvement and the same is true for each indicator in assessing student attitudes and activity. Based on the group 1 table for cycle 1 and cycle 2, it can be concluded that some students seem to have improved, which means that in group 1 they are quite active although they are still not fully active while studying. In addition, student learning outcomes in this group can also be seen from the LKPD they are working on, which can be seen in the attachment.

Figure a shows the results of group 2 observer observations both in cycle 1 and in cycle 2. it shows that the indicators contained in the assessment of student activity, seen from cycle 1, improvements were obtained in cycle 2, although not all students. In group 2, students with codes S1, S4, and S5 saw improvements in cycle 2 on the activity indicator, seen in the observation table on the argument indicator, there was a change in students from cycle 1 and cycle 2, namely students with codes S3, S4, S5, S6 , S7, S8, S9, S10, S11 and S12. Based on the group 2 table for cycle 1 and cycle 2, it can be concluded that some students saw improvement in the indicator of student activity, meaning that group 2 was quite active while studying, the results of observer 3's observations in both cycle 1 and cycle 2, indicators contained in the assessment of student attitudes were seen from cycle 1 and improvements were obtained in cycle 2 although not all students in group 3 were students with code S3, S7, S10, S11 has seen improvements in cycle 2 pa indicators of student activity. It can be concluded that students in group 3 have seen improvements in each indicator, meaning that students in group 3 have started to be active while studying. Furthermore, results of group 4 observer observations in both cycle 1 and cycle 2, it shows that the attitude and activity assessment indicators seen from cycle 1 are

quite good even though students with code S8 do not participate in their groups. However, in cycle 2 there was a drastic decrease because 5 students from group 4 could not take part in learning, so the remaining three students joined another group, namely students with code S9 who were in groups 1, 2 and 3. In addition, student learning outcomes in groups This can also be seen from the LKPD that was done can be seen in the attachment.

Based on the results of the learning dialogue transcripts and observer observation tables, it can be concluded that learning in cycle 2 has begun to show improvements in learning compared to cycle 1. students have started to participate little by little in learning, which means students have started to be active in learning this can be seen from each indicator on the assessment of PPK attitudes and student activity which is measured which we know that each student has different abilities.
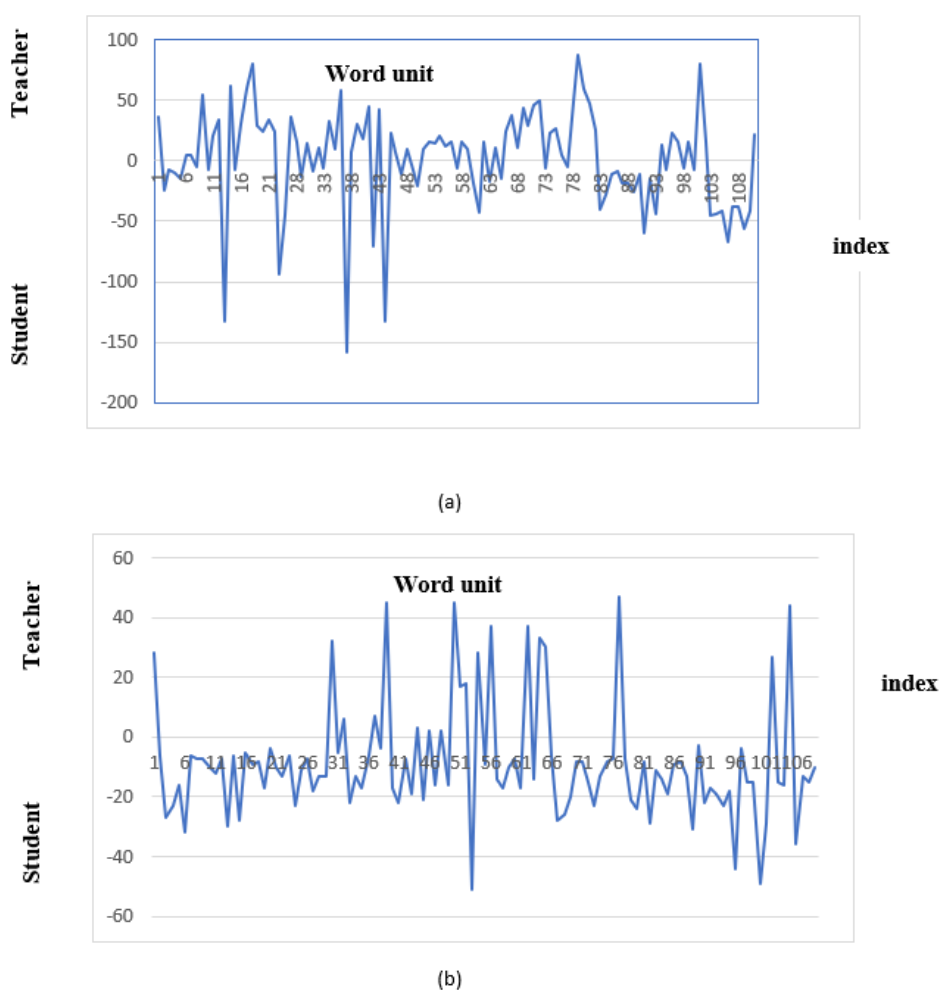

(a)

(b)

Figure 1.(a)Number of word chart cycle 1; (b)Number of word chart cycle 2.

CONCLUSION

Based on the results of the research that has been carried out, it can be concluded that: The application of lesson study based on Transcript Based Lesson Analysis on Hydrostatic Pressure and Pascal's Law material in class XI IPA 2 SMA N 11 Muaro Jambi has been carried out properly according to the lesson study stages. Identification of students' active learning is carried out according to the indicators used: the ability to ask questions, the ability to answer the discussion process, and the ability to convey arguments. Judging from the learning discussion process, and the observations made by the observer for each group.

Based on this research, it is suggested that this research only discusseshow is the implementation of lesson study regarding TBLA in the physics learning process. Therefore, in similar research regarding the implementation of lesson study, other learning processes can be examined. In identifying student learning activeness it is necessary to have good communication between teachers and students.

ACKNOWLEDGMENTS:

CONFLICTS OF INTEREST

The author declares no conflict of interest.

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