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The Effectiveness of Learning with the Problem Based Learning Model of Guided Inquiry Based on Local Wisdom in Class V Science Learning Content at SD Negeri Siotapin, Buton Regency

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ABSTRACT: The purpose of this study was to determine the effectiveness of learning with the guided inquiry problem-based learning model based on local wisdom in the fifth grade science learning content at SD Negeri Siotapina, Buton Regency. This research is a quantitative research factorial design. The sample in this study were fifth grade students at SD Negeri 24 Buton and fifth grade students at SD Negeri 38 Buton with a total of 78 students. The results showed 1) Learning with the guided inquiry problem-based learning model based on local wisdom in effective learning content was carried out in the Science experiment class of Class V SD Negeri Siotapina, Buton Regency. 2) Learning with the problem based learning model based on guided inquiry based on local wisdom on effective content is carried out in experimental class 2 with auditory learning style, 3) Learning with the problem based learning model based on guided inquiry on local wisdom in science learning content Class V elementary school using problem based guided inquiry learning is better than the Problem Based learning model assisted by audio media.

KEYWORDS: Inquiry learning, local wisdom, problem based learning.

INTRODUCTION

Education is one of the most important parts of human life, because education will determine human civilization in the future (Lovisia, 2018). The learning process in education is carried out in an interactive, inspiring, fun, challenging way, motivating students to participate actively, and providing sufficient space for initiative, creativity, and independence according to the talents, interests, and physical and psychological development of students. Natural Sciences (IPA) is one of the learning content in schools. Science subjects equip students with knowledge, ideas and concepts about the natural environment, which are obtained from experience through a series of scientific processes, including investigation, preparation and ideation (Lestari, 2019). Science learning has an important role in improving the quality of human resources in Indonesia. As part of the world community, we cannot be separated from the influence of scientific developments and products in the form of increasingly sophisticated technology.

The purpose of learning science is for students to be involved in investigations and enable individuals to use science subjects to have educational values, namely being able to shape the child's personality as a whole, so students can develop knowledge and understanding of science concepts that are useful and applicable. in everyday life. This shows that the science subject itself has an important position (Yeni1 et al., 2020). Studies aimed at developing school programs to enhance learning of Local Wisdom show that Bau-Bau has many scientific concepts such as views on cosmology, the sea, fish, plants and food additives, textile dyes, environmental preservation, and others.

The learning process in education is carried out interactively, inspiring, fun, challenging, motivating students to participate actively, and providing sufficient space for initiative, creativity, and independence according to the talents, interests, and physical and psychological development of students. prepare students for secondary education. The same thing was conveyed by Subba (2016). Basic education is the most important foundation in an individual's life, without going through basic education, individuals cannot continue to secondary and higher education.

Merta (2021) also argues that causing students to tend to be passive and only accept material from what has been conveyed by educators without developing it independently so that students are not able to develop learning with guided inquiry which plays a role in increasing student creativity, motivation and student learning experiences. Sadirman (2011) states that guided inquiry learning can create high effectiveness and time efficiency in teaching because learning is student-centered and the teacher's role is only limited to that of facilitator and influence or student mentor. According to Ratunguri (2016) the application of the guided inquiry model aims to increase the content of students' natural science learning which includes observation skills, measuring, formulating hypotheses, planning experiments, conducting experiments, processing data, interference and communication.

Based on these problems, the researcher wanted to conduct a study with the title "Effectiveness of Learning with the Problem Based Learning (PBL) Model of Guided Inquiry Based on Local Wisdom in Class V Science Content at SD Negeri

Siotapina". Inquiry-based learning or inquiry-based science describes a variety of philosophical, curricular and pedagogical approaches to teaching. The requirement is that learning must be made aware of student questions. Therefore, the teacher's job in an inquiry learning environment is not to provide knowledge, but rather to assist students throughout the process of discovering their own knowledge (Aceska, 2015). Based on these problems, the researcher wanted to conduct a study with the title "Effectiveness of Learning with the Problem Based Learning (PBL) Model of Guided Inquiry Based on Local Wisdom in Class V Science Content at SD Negeri Siotapina".

RESULTS AND DISCUSSION

The difference in increasing critical thinking skills in the experimental class that applies the PBL guided inquiry model and the control class that applies the expository model can be seen from the comparison of the average posttest scores of students' critical thinking skills. The results showed that there was a difference in the average posttest score of students' thinking skills in the experimental class which was greater than in the control class. Sig (2-taried) critical thinking skills of 0.002 and 0.001. These results show that the significance value obtained is less than 0.05 with a significance level of 5%, which means that there is a difference in PBL between the experimental class that applies the PBL model and the control class that applies the expository model.

In addition to analyzing the differences in posttest PBL, the magnitude of the increase in PBL in both classes was also analyzed. The amount of increase is obtained from the average difference between the pretest and posttest scores in the two classes which are analyzed through the N-Gain test. The results of the N-Gain test showed that the experimental class obtained an N-Gain of 0.41 which indicated the medium category, while the control class obtained an increase of 0.23 which indicated the low category.

This is supported by the difference in percentage achievement for each indicator in both classes, in the experimental class that applied the PBL guided inquiry model, it obtained an average percentage of 74 tap indicators. Meanwhile, the control class that applied the expository learning model obtained an average of 64%. The first indicator namely focusing on questions, the experimental class obtained a percentage of 79% while the control class obtained a percentage of 69%. In the second indicator analyzing arguments, the experimental class obtained a percentage of 77% while the control class obtained a percentage of 69%.

Furthermore, in the third indicator, asking and answering questions, and the calculation results of the experimental class obtained a percentage of 70%, while the control class also obtained a percentage of 61%. On the fourth indicator, considering the source, from the calculation results, the experimental class obtained a percentage of 69%, while the control class obtained a percentage of 65%. In the fifth indicator observing and considering the results of observations, from the calculation results the experimental class obtained a percentage of 75%, while the control class obtained a percentage of 70%. In the sixth indicator, inducing and considering the results of the induction from the results of calculations, the experimental class obtained a percentage of 75%, while the control class obtained a percentage of 56%.

Furthermore, the seventh indicator makes and determines the results of the considerations from the results of calculations for the experimental class to obtain a percentage of 75%, while the control class obtains a percentage of 67%. In the eighth indicator defines terms and considers a definition from the calculation results of the experimental class obtaining a percentage of 75%, while the control class obtains a percentage of 69%. The ninth indicator determines an action, from the calculation results the experimental class obtains a percentage of 73% while the control class obtains a percentage of 61%. On the last indicator identifying assumptions from the calculation results the experimental class obtains a percentage of 70%, while the control class obtains a percentage of 56%.

MAIN DISCUSSION

Based on the explanation above, it can be concluded that the average PBL students using the Problem Based Learning model with socioculture insight is more than the average critical thinking ability of students using the expository model. This is in accordance with research conducted by Fakhriyah (2014). Azizah, Sugiyanti & Happy (2019), and Noer & Gunowibowo (2018) which state that the application of the Problem Based Learning model can help develop students' critical thinking skills as an effort to prepare themselves to face challenges and problems that will be encountered now and in the future. Another study conducted by Kono, Lilies, & Tangge (2016) which stated that there was a significant influence on the implementation of the PBL model on students' problem solving and critical thinking abilities, was supported by the opinion of Redhana (2012) stating that the problem based learning model and Socratic questions were more both from the direct learning model in improving students' critical thinking skills.

In the application of the guided inquiry problem based learning model to the experimental class, it is able to provide new experiences for students who are accustomed to learning with a teacher centered approach, because in the implementation of this model the learning direction changes to srundent centered, the teacher's role in learning is only as a facilitator. Thus learning is more meaningful for students. students because students feel that they learn directly from their experiences. In the first phase

students are oriented to problems based on local wisdom and are close to students so that learning will be more meaningful if students learn through their experiences. This is in accordance with the results of research by Dewi, Wibawa, & Devi (2017) which states that the average critical thinking ability of students who learn with local wisdom-based models is greater than the average critical thinking ability of students who learn with conventional models. Supported by Shufa's research (2018) that local wisdom-based learning is important for teachers to implement, because it is useful for increasing knowledge and understanding as well as a medium for instilling a sense of love for the local wisdom of the area, and equipping students to deal with problems outside of school.

In this first phase the teacher memorizes students by asking several questions about local culture related to the subject matter. This stage is intended to motivate students and find out students' understanding of their culture for later discussion. In the second phase the teacher organizes students to learn to solve problems, students are assisted by the teacher to identify all matters related to socioculture problems then students are divided into small groups to discuss problems related to socioculture. . After finishing the discussion, students present their work and together with the teacher, students reflect or evaluate learning outcomes.

Students' PBL abilities seen from the students' posttest answers were seen to be well answered. The answers given were students' original ideas, these ideas emerged due to the application of the guided inquiry problem-based learning model. So that through problems based on local wisdom that are close to students, students are able to answer the problems posed. This is in line with the results of Ingwarni's research (2018) which states that the development of socioculture in thematic learning is able to improve students' critical thinking skills, not only in developing socioculture, it can also increase student learning motivation.

The results of another study from Naflah (2014), Sarwika. Laksmiwati. & Khoirunnisa (2018) states that the application of the Problem based learning model can improve students' critical thinking skills, visible and increasing student learning outcomes after implementing the model. In line with this opinion. Rahmawati, Faizah, & Fazila (2014) explained that there is a difference in the average critical thinking ability of students who study with the PBL model and students who learn using conventional models. Strengthened by the results of research conducted by Farisi, Hamid & Melvina (2017) that there is a significant influence on the use of problem-based learning models on students' critical thinking skills, the application of this model also influences student activity during learning because learning is student-centered so that provide direct experience to students.

Based on the results of the research and discussion above, it can be concluded that it is correct or according to the syntax it can increase students' PBL. In other words, there are differences in critical thinking skills between the experimental class that applies the problem-based learning model to science learning content and the control class that applies the Expository model or the conventional model. This is in accordance with the results of research conducted by Herzon, Budijanto, & Utomo (2018) that PBL has proven significant in improving students' critical thinking skills, this is indicated by guided inquiry PBL syntaxes in science learning content that can train children to carry out thinking processes. high level, and a PBL model that is carried out in accordance with the correct steps will make learning more effective and efficient. This opinion is supported by the results of Anugraheni's research (2018) with its meta-analysis which concluded that many researchers have applied the PBL model, and the results of the meta-analysis show that the PBL model can significantly improve students' critical thinking.

Analyzing and evaluating the problem solving process presenting the work of student orientation on the problem is the first activity and stage of the problem based learning model, at this stage the student activity observes pictures of the cultural diversity of the Indonesian nation, after students observe the picture then the teacher asks questions with your students from the region where?, who can mention the culture you have?, are there any of your friends who have different cultures? After the teacher's activity asks students, then students and the teacher build knowledge through question and answer, the teacher collects opinions from students and explains about ecosystem components.

The second stage is orienting students to learn at this stage the teacher divides students into several groups of 3-4 students in each group, the teacher conveys to students that they will get various information about ecosystem components from the reading text to be studied, students read the text silently entitled Cultural Parade, students in groups are asked to discuss to answer questions about the contents of paragraph one of the text entitled "Cultural Parade", after all groups have finished communicating the results of the discussion, the teacher provides reinforcement about strategies in finding story content which is usually called main ideas/ideas main main idea/main idea, from a paragraph, the teacher gives students the opportunity to ask questions, students explore objects that can produce images of fish, plant demonstration tools, students explain ecosystem components), then the teacher gives students the opportunity to ask questions.

The third stage is guiding individual or group investigations, at this stage the teacher provides an explanation of the ecosystem components in Indonesia, students get an explanation of how to fill out the LKPD from the teacher, students are asked to complete LKPD questions by means of group discussions, the teacher goes around to give directions to groups that experience difficulty. The fourth stage is developing and presenting the results of the work, at this stage the groups that have successfully completed are tasked with presenting the results of their discussions, each group is asked to observe and compare the results of other groups.

The fifth stage is to analyze and evaluate the problem solving process at this stage, students are asked to provide comments on group results that are considered inappropriate, then students are given the opportunity to state more appropriate answers, the teacher gives the opportunity to ask questions in groups that are not clear, students ask and answer questions teachers as feedback, teachers provide reinforcement about ecosystem components, and make this diversity the identity of the Indonesian nation.

Student orientation to the problem is the first activity and stage of the problem based learning model, at this stage student activities observe ecosystem components, after students observe the picture then the teacher asks questions with your students from which area, who can name ecosystem components?. Stage the second is to orient students to learn, at this stage students are divided into groups of 3-4 students in each group.After all groups have finished communicating the results of the discussion, the teacher provides reinforcement of strategies for finding story content which is usually called the main idea/main idea/idea main idea/main idea of a paragraph The teacher gives students the opportunity to ask questions Students explore objects that can produce ecosystems Students explain how objects produce ecosystems.

The fourth stage is developing and presenting things. At this stage, the groups that have successfully completed the presentation present the results of their discussion. Each group is asked to secure and compare the results of other groups. The fifth stage is to analyze and evaluate the problem solving process at this stage, students are asked to provide comments on group results that are considered inappropriate, then students are given the opportunity to state more appropriate answers, the teacher gives the opportunity to ask questions in groups that are not clear, students ask and answer questions the teacher as feedback, the teacher provides reinforcement about ecosystem components.

CONCLUSION

Based on the results of the research and discussion above, it can be concluded that learning sub-theme 1 of the ecosystem component uses the problem band learning model based on learning styles on effective student learning outcomes in experimental classes with ecosystems. This is based on differences in the average scores of students before and after being given treatment with the ecosystem problem based learning model. Before being given treatment, the average value of learning the sub-theme of ecosystem components to students was 34.17, while after being given treatment, it was 43.76. For auditory learning style students the average value before being given treatment was 32.22 while after being given treatment it was 39.00 So learning sub-theme 1 ecosystem components using the problem-based learning model of ecosystem material based on learning styles on student learning outcomes is more effectively used for students .

Based on the calculation results with the one-way ANOVA test, it shows that the hypothesis of the difference in the average effectiveness of the problem-based learning model assisted by ecosystem components is 53.88 with the auditory learning style, which is 64.25. based learning assisted by ecosystem component material, namely 57.05 with auditory learning style, namely 73.62. So, can ecosystem component material have the highest average learning outcomes, so that it can be concluded that sub-theme learning 1 ecosystem component with a problem-based learning model assisted by ecosystem material more effective than the problem based learning model assisted by ecosystem and auditory component material in fifth grade elementary school students.

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