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Mathematics Learning With Guided Inquiry Model Open-Oriented Problem Solving Improves Student Learning Outcomes

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ABSTRAK

Rendahnya hasil belajar matematika dikarenakan kurang optimalnya penyelesaian soal dan permasalahan yang dihadapi oleh siswa dalam pelajaran matematika. Salah satu caranya, yaitu dengan menggunakan model pembelajaran inkuiri terbimbing berorientasi pemecahan masalah terbuka. Tujuan diadakannya penelitian ini adalah untuk mengetahui pengaruh model pembelajaran inkuiri terbimbing berorientasi pemecahan masalah terbuka terhadap hasil belajar matematika siswa kelas IV SD. Jenis penelitian ini adalah eksperimen dengan desain *Non-equivalen post-test only control group design*. Populasi penelitian ini sebanyak 180 siswa. Sampel penelitian ini sebanyak 23 siswa (eksperimen) dan 23 siswa (kontrol). Sampel penelitian diambil menggunakan teknik *simple random sampling* Metode yang digunakan dalam pengumpulan data hasil belajar matematika adalah tes dalam bentuk esai sebanyak 5 butir soal. Data yang dikumpulkan yaitu data hasil belajar matematika dan dianalisis dengan menggunakan uji-t. Hasil penelitian setelah diberikan perlakuan yaitu mendapatkan rata-rata hasil *post*-test pada kelompok eksperimen sebesar 18,17 dan pada kelompok kontrol sebesar 11,04. Hasil uji-t diperoleh t-hitung lebih besar dari t-tabel (17,825 > 1,680). Dari hasil analisis uji-t dan rata-rata hasil belajar, dapat disimpulkan bahwa model pembelajaran inkuiri terbimbing berorientasi pemecahan masalah terbuka berpengaruh terhadap hasil belajar Matematika siswa kelas IV SD. Implikasi dari penelitian ini adalah dapat meningkatkan konsentrasi siswa dalam kegiatan pembelajaran, sehingga dapat menumbuhkan pembelajaran yang inovatif serta menambah pengalaman baru.

ABSTRACT

The low learning outcomes of mathematics are due to students' mathematics lesson problems' lack of optimal solving. One of the ways is by using a guided inquiry learning model with an open problem-solving orientation. This research aimed to determine the guided inquiry learning model's effect with open problem-solving orientation on fourth-grade elementary school students' mathematics learning outcomes. This type of research is an experimental design with a non-equivalent post-test only control group design. The study population was 180 students. The research sample was 23 students (experimental) and 23 students (control). The research sample was taken using a simple random sampling technique. The method used in collecting data on mathematics learning outcomes was a test in an essay consisting of 5 items. The data collected were mathematics learning outcomes and were analyzed using t-test. The study results were getting an average post-test result in the experimental group of 18.17 and 11.04 in the control group after being given treatment. The t-test results obtained by t-count greater than t-table (17,825> 1,680). From the results of the t-test analysis and the average learning outcomes, it can be concluded that the guided inquiry learning model with open problem-solving orientation affects the mathematics learning outcomes of fourth-grade elementary school students. This research implies that it can increase students' concentration in learning activities to foster innovative learning and add new experiences.

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1. Introduction

Mathematics is one of the most important subjects in education, both in elementary school and college. Mathematics learning is a discipline that must be studied by all students from elementary, middle school, to tertiary level (Dewiyanti, 2018; Krisnayanti et al., 2017; Priyanti et al., 2016). Mathematics learning in elementary schools should lead to the planting of concepts that can increase students' accuracy in conveying a concept to understand more easily. These concepts can be embedded in students until the future, with the provision of mathematics learning at the elementary school level, not only to gain knowledge but to improve students' ability to solve problems and to be able to make students think critically, creatively, and in a structured way.

Mathematics has an important role in preparing students for global progress. A discipline that is difficult to understand and understand is mathematics. It is because mathematics is considered abstract. All of this is felt by students in elementary school and students in college. Mathematics learning is always synonymous with formulas and calculations. Students feel lazy, bored, and afraid in each of these lesson hours (Hariadi, 2019; Mahendra et al., 2018; Warti, 2018).

In learning activities, the teacher should make learning more creative in creating a pleasant learning atmosphere. Basic math skills consist of five things that students must have, including problem-solving, communication, connection, reasoning, and representation (Mustika, I. K. A., & Riastini, 2017; Sribawana et al., 2017). Thus, learning mathematics must be mastered from an early age by students to achieve ideal learning goals.

Learning mathematics can be achieved if the teacher can try to make all students understand the learning material presented. Several factors support creating an effective learning atmosphere, such as teacher professional knowledge in teaching, suitable facilities, adequate learning environment, and collaboration between teachers and students. Apart from these conditions, in ideal mathematics learning, several active and creative students are full of interest and concern in the learning process. Mathematics must be understood in depth. Later, the material obtained will be useful for the education stage to the next level. Mathematics learning needs to be honed from an early age because mathematics is a clear and logical means of thinking and solving everyday life problems (Falach, 2016; Rijal & Sofiarini, 2019).

The current condition is just the opposite. From the observations, the learning process is more controlled by the teacher not to develop independently. Students rarely held group discussions during the learning process, which resulted in a lack of interaction and student roles in the learning process. Students sit quietly, listening to the teacher's explanation (teacher-centred). Students are not ready to master the learning material. Where students only learn with a rote system so that learning becomes less meaningful.

Based on interviews and document recording conducted on October 18 2019 - October 26, 2019, with fourth-grade teachers of SD Gugus VI, Kecamatan Buleleng, the results of midterm test scores on the content of mathematics material, from 180 fourth grade students, who had not reached KKM amounted to 54% while students who have reached the KKM are 46% of the total population in Cluster VI Buleleng District, Buleleng Regency. So from this data as many as 83 students who have reached the Minimum Completeness Criteria (KKM) and 54% of the 180 students who have not reached the Minimum Completeness Criteria (KKM) or as many as 97 students, strive to ensure that all students have the same minimum score as the Minimum Completeness Criteria. It is necessary to have teacher innovation in packaging mathematics learning to improve student learning outcomes.

Learning outcomes are a learning activity carried out within a certain time to see changes in student behavior that persist when viewed from the cognitive, affective, and psychomotor domains (Jihad, A. & Haris, 2008; Winursiti, 2017). Based on the points above, it can be concluded that learning outcomes are changes in students, both behavior and knowledge changes. These changes can be seen through students' test results after they provide material in the learning process. Learning outcomes are defined as changes in students' behavior in teaching and learning activities, including three things. Cognitive, affective, and psychomotor domains are usually expressed in numbers, letters, or words (good, moderate, lacking, and so on owned by students after having a learning experience. The innovations that must be used during learning include applying models, media, approaches, and learning methods.

Given the importance of Mathematics in everyday life, it is necessary to address these problems. Therefore, it is necessary to improve student learning outcomes in mathematics learning. It is necessary to create conducive learning conditions by applying an innovative learning model to provide direct experience. Students are directly involved in learning activities. The teacher's role is very important to create a conducive learning atmosphere. A teacher must be smart in choosing a learning model. The teacher must adapt to the environment and student characteristics. In this context, teachers can carry out various learning variations, which are following the material, student learning needs, learning environment, and can achieve the targets of the learning process (Agustiana & Tika, 2013; Cahyaningsih,

2018). Selection of the right learning model with students' condition is one of the supporting factors in improving student learning outcomes. The guided inquiry learning model is innovative. This model can create a varied learning atmosphere and foster enthusiasm for student learning. This learning model is also appropriate to be applied to classroom conditions where students' abilities vary.

The learning model is a series of learning activities based on theory and research results and implemented to achieve learning objectives to run well (Min, 2017; Sundari, 2015). Learning models following students' character in the learning process is the Guided Inquiry Learning Model with Open Problem Solving Oriented. According to (Hariyadi et al., 2016; Saraswati et al., 2013) the guided inquiry learning model is a learning model that can guide students through activity by asking initial questions and guiding them in a discussion forum. So, the guided inquiry learning model is one that emphasizes the process of finding and finding the answer to a question in question. According to (Iswatun et al., 2017; Kurniasih & Berlin, 2015), the advantages of the inquiry learning model include the teacher being able to provide space for students to explore knowledge following the student's learning style. Therefore, students can develop students' imagination so that they can gain a strong understanding.

The selection of a less precise learning model can affect student learning outcomes. One of the efforts to create these meaningful learning conditions is to use a guided inquiry learning model. In this case, the guided inquiry learning model meant not finding something that has never been found before but finding something that has been found previously related to mathematics material and provided guidance by a teacher. (Sumarni et al., 2017; Suryaningsih et al., 2016), discuss that inquiry is a series of learning activities that involve all students' abilities to investigate and find solutions logically, critically and systematically, so that students can formulate their findings. The guided inquiry learning model has a syntax consisting of 5 phases: elicitation of initial ideas, testing initial ideas, negotiating to mean, applying concepts in new situations, and conclusions and reflections (Suastra, 2019; Yulianti, 2016). Based on the guided inquiry learning model's syntax, students are asked to solve a problem through inquiry or in groups. Students are used to critical think when analyzing problems, and students can find solutions to solve a problem. Using the guided inquiry learning model, students will learn how to solve a problem. This activity not only makes students feel challenged in solving a problem, not only related to classroom learning, but students are also able to face problems in daily life. The guided inquiry learning model's application can make students dare express opinions, make teachers closer to students, and receive special guidance in the learning process.

Giving open problems (Open Ended Problems) in this guided inquiry learning model, students must explore various strategies to solve problems to foster students' critical thinking skills. According to (Faridah et al., 2016; Mustamiroh et al., 2019), open problem solving is a learning process that provides open questions to students who have more than one answer or strategy. When giving open-ended questions, students are free to determine solutions based on the knowledge gained. Open problem-solving focuses on problem-solving skills and provides opportunities for the formation of a theory. So, if students are accustomed to solving an open problem, they can hone critical thinking skills. The concepts described above show that an open-ended approach is an approach. The learning process offers a learning process whose process starts with a problem related to the mathematical concept. The problems given are open, which means that they challenge students to solve problems, find various solutions to problems, and interpret problem-solving. Open-ended problems also provide the widest possible opportunity for students to answer questions in their way but still on the right line. Students' main goal with open-ended problems is not to get answers but rather emphasizes how to arrive at an answer. So, there is not only one approach or method in obtaining answers, but several or many (Rhosyida & Jailani, 2014; Sariningsih & Herdiman, 2017).

Thus, the application of this open problem-solving oriented guided inquiry learning model can train students to develop critical thinking skills in the learning process. By using open problem solving, students can explore and find solutions to problems with various solutions. So that students can gain experience in developing knowledge and skills. Students also have new ways of thinking through solving these open problems. Open problem solving has advantages, including; (1) students participate actively in learning, (2) students can express ideas in the learning process, (3) students have more opportunities to use knowledge and skills to solve a problem, (4) students with less ability to cope problems in their way, and (5) students also have more experience to find solutions in solving these problems (Mustamiroh et al., 2019; Parwati, 2012).

Several studies that are relevant and support this research, such as (1) research conducted by (Saraswati et al., 2013), obtained the results that students who took part in learning using the guided inquiry learning model obtained learning outcomes that were categorized as good; (2) research conducted by (Yulianti, 2016), found that there was an influence of environmentally-based guided inquiry learning models on students' understanding of concepts and character; (3) research conducted by (Suryaningsih et

al., 2016), found that the implementation of a game-based guided inquiry learning model can increase the creativity of early childhood.

Based on the explanation above, the purpose of holding this research is to determine the significant effect of the open-ended problem-solving oriented guided inquiry learning model on the mathematics learning outcomes of fourth-grade students of SD Gugus VI, Kecamatan Buleleng, Kabupaten Buleleng, 2019/2020 Academic Year.

2. Method

This research was conducted on fourth-grade students of SD Gugus VI, Kecamatan Buleleng, Kabupaten Buleleng. This research classified as quasi-experimental research with a non-equivalent post-test only control group design (Agung, 2014). This research procedure consisted of three stages: preparation, implementation, and ending of the experiment. In conducting a study, the population that will be used must be determined. This study's population was all four classes in Gugus VI Kecamatan Buleleng, Kabupaten Buleleng, which consisted of 7 classes, fourth grade SD N 1 Kampung Baru, fourth grade SD N 2 Kampung Baru, fourth grade SD N 3 Kampung Baru, grade four. SD N 4A Kampung Baru, grade four SD N 4B Kampung Baru, grade four SD N 5 Kampung Baru, grade four SD N 7 Kampung Baru.

This study used a simple random sampling technique. Classes were randomized so that each class had the same opportunity to be the research sample. Based on the random results, two schools were obtained as the research sample, fourth grade of SD N 1 Kampung Baru, which totaled 23 students, and class IVB SD N 4 Kampung Baru, totaling 23 students . The total number of samples in this study were 46.

To obtain data on mathematics learning outcomes with flat shapes and statistics, the method used in this study was in the form of a test. Students will be given an essay test after being given the treatment in the experimental and control classes. This test is used to test the correctness of the research hypothesis. The instruments used to collect data on student learning outcomes in research activities arranged based on a predetermined grid.

Mathematics learning outcomes were analyzed using a t-test. Before the data analysis was carried out, the prerequisite test was carried out, including the normality test of the data distribution, and the homogeneity test of variance. The Kolmogorov-Smirnov and Shapiro-Wilk tests were used to test the normality of the data distribution. The Levene's Test of Equality of Error Variance was used to test the homogeneity of variances. In analyzing the data using SPSS 17.0 for windows.

3. Result and Discussion

The post-test results of 23 students in the experimental group obtained a mean of 18.17, a median of 18.00, and a mode of 18.00, as the experimental group scores tended to be good. The post-test results of the experimental group are presented in Figure 1.

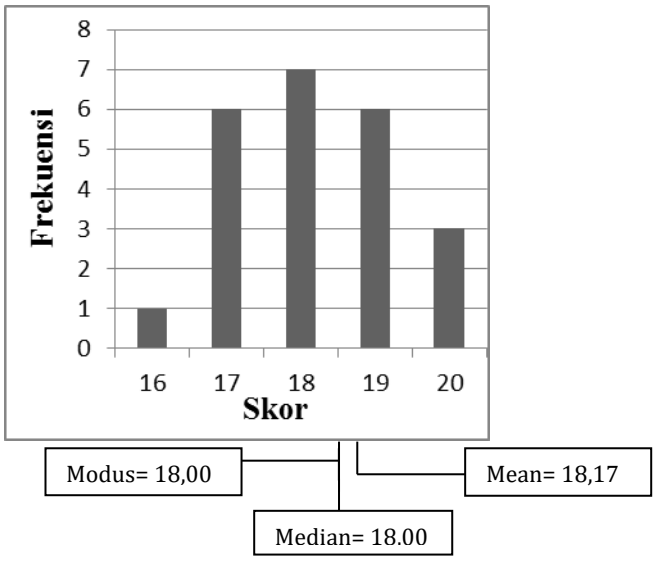

Figure 1. Score of Experimental Group Mathematics Learning Outcomes

Based on the histogram graphic above, it was explained that the score of learning mathematics outcomes tends to be good. Based on the five-scale calculation, the experimental group's average score taught by the guided inquiry learning model with open problem-solving orientation was 18.17, which was included in the good category.

The post-test results of 23 students in the control group obtained a mean of 11.04, a median of 11.00, and a mode of 11.00, meaning that the control group score tends to be not good. Data from the post-test results of the control group were presented in Figure 2.

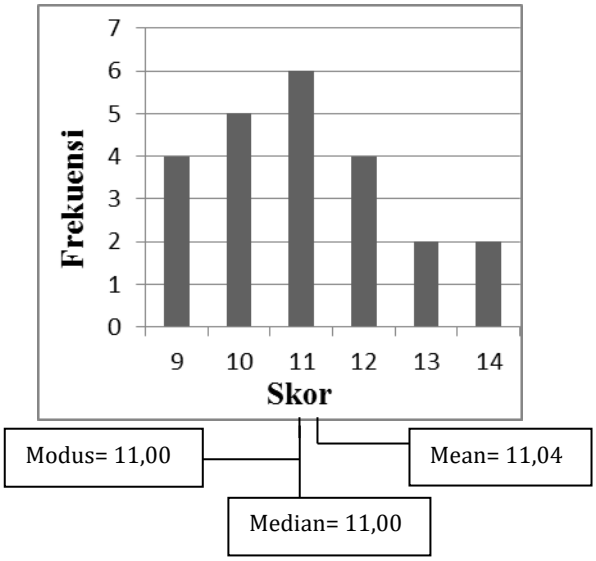

Figure 2. Score of Control Group Mathematics Learning Outcomes

Based on the histogram graph above, it was explained that the mathematics learning outcomes score tends to be not good. Based on the five-scale calculation, the control group's average score with conventional learning was 11.04, which was included in the bad category. The data analysis results presented a summary of the data on the experimental group and control group students' mathematics learning outcomes in Table 1.

Table 1. Results of Mathematics Learning Outcomes

Group	Mean	Median	Mode
Experiment	18,17	18,00	18,00
Control	11,04	11,00	11,00

Before doing the t-test to test the hypothesis, the prerequisite test on the distribution of research data was carried out first, including the normality test and the homogeneity test. Normality test used the Kolmogorov-Smirnov formula, the data obtained from the mathematics learning outcomes were normally distributed. SPSS 17.0 for Windows is an application used to test normality. Data was normal if it is at a significant level that was better than 0.05. The data used for the normality test were the post-test data for the experimental group and the control group.

Based on the results of the normality test for the Kolmogorov-Smirnov test, the significance score of mathematics learning outcomes for fourth-grade elementary school students in the experimental class was 0.081> 0.05, while the control class was 0.113> 0.05, which means the data on mathematics learning outcomes of fourth-grade elementary school students were tested using the Kolmogorov test. -Smirnov normally distributed. The significance score of Mathematics learning outcomes in the experimental class in the Shapiro-Wilk test was 0.062> 0.05. The control class was 0.088> 0.05, which means the mathematics learning outcomes of fourth-grade elementary school students tested using the Shapiro-Wilk test were normally distributed. Based on this score, it can be stated that the mathematics learning outcomes data of fourth-grade elementary school students in the control group and the experimental group are normally distributed.

This study used the help of the SPPS 17.0 for Windows program which used to test the variance homogeneity. Meanwhile, Levene's Equality of Error Variance test was used to test the homogeneity of the variance. Suppose the probability score was more than 0.05. In that case, the data was homogeneous. If

the significance was less than 0.05 then the data was not homogeneous. Based on the results of the homogeneity test for the Test of Homogeneity of Variance test, the significance score of Mathematics learning outcomes for fourth-grade elementary school students was 0.232> 0.05, which means that the mathematics learning outcomes data of fourth-grade elementary school students in the control class and the experimental class have homogeneous variances. After the normality test and homogeneity test were carried out, hypothesis testing was carried out using the t-test. The calculation was done with the polled variance formula. The t-test formula with a2 was used when the number of sample members was equal to n1-n2. The variance is homogeneous. The test criteria using a significance level of F = 5%. H_o was accepted, and H_1 was rejected, and if the price of $t_{count} > t_{table}$ then Ho was rejected, and H_1 was accepted. Data can be seen in Table 2.

Table 2. Data Analysis Table for Hypothesis Testing

Sample	Variance	N	t_{hitung}	t_{tabel}	Conclusion
Experimen Group	1,24	23			$t_{hitung} > t_{tabel}$ H_1
Control Group	2,32	23	17,825	1,680	was accepted.

Based on the results of the calculations in table 06 above, the t_{count} score is 17.825, while the t table with db = (23 + 23) -2 = 44 and a significance level of 5% was 1.680. Thus $t_{count} > t_{table}$, then H_0 is rejected and H_1 is accepted. From this explanation, it can be stated that the results of learning mathematics between students who take part in the guided inquiry learning model are oriented toward open problem solving and students who do not participate in learning with guided inquiry learning models with open problem-solving orientation in fourth grade SD Gugus VI, Kecamatan Buleleng Kabupaten Buleleng Academic Year 2019/2020 shows that there are differences between the two studies.

The study results were discussed by comparing the hypothesis testing results with the theory included in the theoretical study and adjusted for the relevant research results. The implementation of research in the experimental and control groups has been carried out. Learning in the control group runs as usual, in contrast to the learning carried out in the experimental group. The learning process's experimental group was carried out using a guided inquiry learning model with an open problem-solving orientation. In the first meeting in the experimental class, the teacher still have difficulties regarding the guided inquiry learning model with open problem-solving orientation because the teacher had never applied this learning model. Students are also using the guided inquiry learning model for the first time with open problem-solving orientation. Even though the guided inquiry learning model with open problem-solving orientation was applied for the first time, teachers' and students' enthusiasm was very good. After the first meeting continued to the next meeting, the teacher and students were familiar with applying the open problem-solving oriented guided inquiry learning model. Students began to be interested and excited in learning by using the open problem solving oriented guided inquiry learning model applied by the teacher. Through this open problem-solving oriented guided inquiry learning model, the teacher can train students to think creatively and critically, affecting student learning outcomes.

Research conducted in the experimental class at SD N 4 Kampung Baru can foster students' enthusiasm and learning activity. This study found that the guided inquiry learning model with open problem-solving orientation greatly influenced fourth-grade elementary school students' mathematics learning outcomes. The guided inquiry learning model's success with open problem-solving orientation is very clear on fourth-grade elementary school students' mathematics learning outcomes due to several factors. These factors will be explained below.

The first factor, the guided inquiry learning model with open problem-solving orientation, can increase student concentration in learning activities to foster innovative learning. In the learning process, students feel interested and challenged in participating in learning because students' curiosity appears in solving a problem given by the teacher during the learning process. The second factor, the teacher provides tutoring during the learning process. In learning, students can also ask if there is something that is not understood. From this guidance, good interaction and communication between teachers and students were created. This learning atmosphere makes the teacher's relationship with students closer (closer). It helps solve students' various problems in the learning process to affect students' Mathematics learning outcomes. (Inah, 2015; Sariningsih & Herdiman, 2017) Learning objectives cannot be optimally achieved if there is no harmonious interaction between teachers and students, even though using good learning tools. Good interaction patterns and communication techniques in the teaching-learning process must be able to master. The third factor, giving awards in applause to students who managed to solve the problem correctly, and students could convey the results in front of the class. It can give students enthusiasm in learning. According to (Ernata, 2017; Saraswati et al., 2013), giving students awards makes

students more active and improves learning achievement by awarding students. In other words, students will be motivated to do better learning activities. The award has various forms. According to (Suryaningsih et al., 2016; Yulianti, 2016), awards can be divided into three: (1) giving numbers or grades, (2) giving gifts, (3) expressing praise will create a pleasant atmosphere and increase students' enthusiasm for study.

Unlike the case in learning at SD Negeri 1 Kampung Baru, the control class in this study uses the lecture method in the learning process, exercises questions, and assigns students assignments. So that teachers play a more active role in the learning process. Learning activities seem monotonous because students only receive material delivered by the teacher. It can lead to low mathematics learning outcomes for fourth-grade elementary school students.

Research on guided inquiry learning models on scientific attitudes conducted by (Dewi, 2013) shows that students who are taught using guided inquiry learning models and conventional learning models have a difference between scientific attitudes and science learning outcomes (Saraswati et al., 2013) show that applying the problem-solving learning model oriented to open mathematics is better than the mathematics learning outcomes of students who do not follow the application of problem-solving learning models. There are differences in student mathematics learning achievement.

Based on the explanation above, it can be stated that the results of learning mathematics in groups of students who are taught using guided inquiry learning models are oriented toward open problem-solving in the experimental and learning groups without applying the guided inquiry learning model with open problem-solving orientation in the control group in Gugus VI, Kecamatan Buleleng, Kabupaten BulelengAcademic Year 2019/2020 shows that there are differences in Mathematics learning outcomes. The two groups' data analysis results showed that the average student learning outcomes in the experimental group were 18.17 and the control group was 11.04. After that, a statistical test was carried out using the t-test, and the results of t count was 17.825 and t table was 1.680. Thus, it is stated that there is an effect of guided inquiry learning model oriented open problem-solving influences the mathematics learning outcomes of fourth-grade students of SD Gugus VI, Buleleng District, Buleleng Regency.

In this guided inquiry learning model, students must explore various strategies to solve problems to foster students' critical thinking skills. According to (Faridah et al., 2016; Mustamiroh et al., 2019), open problem solving is a learning process that provides open questions to students who have more than one answer or strategy. When giving open-ended questions, students are free to determine solutions based on the knowledge gained. Open problem-solving focuses on problem-solving skills and provides opportunities for the formation of a theory. So, if students are accustomed to solving an open problem, they can hone critical thinking skills. The concepts described above show that an open-ended approach is an approach. The learning process offers a learning process whose process starts with a problem related to the mathematical concept. The problems given are open, which means that they challenge students to solve problems, find various solutions to problems, and interpret problem-solving. Open-ended problems also provide the widest possible opportunity for students to answer questions in their way but still on the right line. Students' main goal with open-ended problems is not to get answers but rather emphasizes how to arrive at an answer. So, there is not only one approach or method in obtaining answers, but several or many (Rhosyida & Jailani, 2014; Sariningsih & Herdiman, 2017).

Thus, the application of this open problem-solving oriented guided inquiry learning model can train students to develop critical thinking skills in the learning process. By using open problem solving, students can explore and find solutions to problems with various solutions. So that students can gain experience in developing knowledge and skills. Students also have new ways of thinking through solving these open problems. Open problem solving has advantages including; (1) students participate actively in learning, (2) students can express ideas in the learning process, (3) students have more opportunities to use knowledge and skills to solve a problem, (4) students with less ability to cope problems in their way, and (5) students also have more experience to find solutions in solving these problems (Mustamiroh et al., 2019; Parwati, 2012).

Several studies that are relevant and support this research, such as (1) research conducted by (Saraswati et al., 2013), obtained the results that students who took part in learning using the guided inquiry learning model obtained learning outcomes that were in a good category; (2) research conducted by (Yulianti, 2016), found that there was an influence of environmentally-based guided inquiry learning models on students' understanding of concepts and character; (3) research conducted by (Suryaningsih et al., 2016), found that the implementation of a game-based guided inquiry learning model can increase the creativity of early childhood.

This research has implications for learning in primary schools. Using guided inquiry learning models oriented open problem solving can increase student concentration in learning activities to foster innovative learning. Students will be interested in learning in the learning process because students'

curiosity arises in solving a teacher's problem during the learning process. Students can also ask if something is not understood. The guidance creates good interaction and communication between teachers and students. This kind of learning atmosphere makes the teacher's relationship with students closer (intimate). The knowledge they acquire will be remembered longer by students. Through this open problem-solving oriented guided inquiry learning model, the teacher can train students to think creatively and critically, affecting student learning outcomes.

Applying the guided inquiry model with open problem-solving orientation also has implications for the teacher. The teacher can get new experiences regarding the implementation of guided inquiry learning models with open problem-solving orientation. Teachers also can add insight by reading books or attending KKG, and attending learning seminars to broaden their knowledge of other innovative learning models. Teachers can make updates that can improve the classroom's quality of learning and create innovative, active, and meaningful learning.

4. Conclusion

From the discussion results, it can be concluded that the application of guided inquiry learning models oriented to open problem-solving has a positive effect on the mathematics learning outcomes at fourth-grade students of SD Gugus VI, Kecamatan Buleleng, Kabupaten Buleleng, 2019/2020 academic year. This study can have implications for learning in elementary schools. Learning activities using guided inquiry learning models oriented open problem solving can increase student concentration in learning activities to foster innovative learning. Applying the guided inquiry model with open problem-solving orientation also has implications for the teacher. The teacher can gain new experiences regarding the implementation of guided inquiry learning models with open problem-solving orientation.

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