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# Improving Student Learning Outcomes using Guided Inquiry Teaching Materials Based on Sociocultural

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**Abstract**: A guided inquiry-based learning model is a learning model that refers to research activities and describes relationships between objects and events. The purpose of this study was to improve student learning outcomes in elementary social studies subjects using guided inquiry teaching materials with sociocultural insight. This type of research is quasi-experimental. The sampling technique used is the type of Cluster Random Sampling. The subject of the research was the fourth-grade students at Elementary School 5 Klumpit and Elementary School 7 Klumpit as the experimental class while Elementary School 3 Klumpit and Elementary School 6 Klumpit as the control classes. Gain test results showed that the experimental class got an average score of 0.597 in the medium category, while the control class got an average score of 0.236 in the low category. The significance value of the t-test is $t\text{-}_{count} = 3.784 > t\text{-}_{table} = 1.990$ and sig. (2-tailed) of 0.000 < 0.05, it can be concluded that there is a difference in the average student learning outcomes between the experimental class using sociocultural guided inquiry-based teaching materials and the control class without using sociocultural guided inquiry-based teaching materials. The suggestion from this research is that because these sociocultural guided inquiry-based teaching materials are effective in improving student learning outcomes, teachers can develop teaching materials with other sociocultural insights on other themes and subjects.

**Keywords:** Guided inquiry, student learning outcome, sociocultural

## 1. Introduction

Quality education is continuously improved through curriculum development. Curriculum development is one of the strategies to improve educational attainment. Minister of Education and Culture Regulation number 65 of 2013 concerning standards for primary and secondary education emphasizes the learning process must be carried out through discovery-based learning activities, problem-based learning and emphasis on scientific thinking skills (scientific method) Murugayya & Nachiappan (2022). Students' learning activities tend to be more procedural, where students find their own answers through a series of activities that support the answer discovery process. In bridging the approach to the process of finding their own answers, it must be supported by student learning instruments such as teaching materials.

One of the subjects taught in Indonesian primary schools is Social Science which has become necessary and recognized for Indonesian citizenship. It is the subject of developing students to be good citizens and to interact dynamically in various forums (Aidinopoulou & Sampson, 2017). It is the backbone of the nation's education system as it also develops democratic and responsible citizens. Social science teaching plays a strategic and important role in shaping students' attitudes and everyday behaviours, making them good citizens (Raharjo, Khairudin, & Abd Baser, 2018).

Learning becomes more meaningful when the learning process integrates technology, nature, and culture to achieve educational goals. Behavioral changes that occur in a person are the result of the learning process. Utaminingsih & Zuliana (2018) explained in the process of learning, it is necessary to deepen the reference and reference of local advantages. In addition to understanding the materials, bringing local advantages into the learning process will also help educate the next generation against patriotism.

Nuswowati et al. (2017) explained that there are still many students in Indonesia who have not been able to connect the knowledge they have learned with phenomena that occur in their environment. This can happen because students do not have the experience to connect them during the learning process. Güney & Şeker (2017) explains that education should help students become more familiar with culture, so that they can absorb values about science and its socio-cultural interactions. Sharma (2016) explains that sociocultural not only positions students because they are actively involved in

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finding meaning during the learning process, but also suggests that students can be helped by collaborating with others who are more knowledgeable. In addition, socio-culture can be the basis for developing teaching materials that make elementary school children more familiar with their own values and culture

The reality in the field is that teachers only use improvised teaching materials to be used as a companion to theme books at school. Like elementary school teachers in Gebog District, most of them use improvised teaching materials. Another problem that occurs in the learning process is related to students' scientific thinking skills in the learning process only to receive material from the teacher's delivery, not yet exploring students' scientific thinking skills. Sociocultural Guided Inquiry-based teaching materials are teaching materials that explore the abilities of students, namely the development of attitudes, skills, and knowledge. Teaching materials link the material being studied with the environment as a source of learning so as to make learning meaningful and learning outcomes increase.

## 1.1 Conceptual Framework

Learning is a process to change, change to be more advanced than before. Support in learning is needed to achieve the expected results. Support is teaching materials that increase students' enthusiasm for learning so that student learning outcomes can increase.

The framework describes the framework of thought that is expected in the research. This section contains an overview of the research flow that is arranged systematically. The framework of thinking in this study contains problems, problem-solving techniques that are compiled based on theoretical concepts or empirical data, and the expected final results.

The problems in this study are 1) the teaching materials used in learning have not conditioned students to think scientifically or still use conceptual teaching materials, 2) the existing teaching materials have not guided students in the discovery process, and 3) students do not know the stages-stages of scientific thinking skills that must be passed in the discovery process using existing teaching materials. Learning by using teaching materials based on Sociocultural Guided Inquiry is expected to improve student learning outcomes.

## 1.2 Research Objectives

This study aims to improve student learning outcomes by using teaching materials based on Sociocultural Guided Inquiry for fourth-grade elementary school students. The purpose of using the inquiry learning model is to develop the ability to think systematically, logically, and critically, or to develop intellectual abilities as part of a mental process. An inquiry learning model is a form of student-oriented learning approach. The inquiry learning model is seen as an accommodating model for the implementation of social studies learning in schools today. The inquiry model bridges the transition from the old social studies teaching style which is still verbal and lacks tools to a social study teaching style that is more proportional to the nature of social studies. This learning model provides opportunities for students to construct their knowledge (Jamilah, Hartono, & Susiaty, 2017).

There are various types of inquiry learning, one of which is Guided Inquiry which is a process to solve a problem given by the teacher by involving students directly so that students are accustomed to behaving in science. Inquiry learning emphasizes student activities maximally to seek and find, meaning that this learning places students as learning subjects. In the learning process, students not only act as recipients of lessons through verbal teacher explanations, but they play a role in finding out for themselves the core of the subject matter itself so that it is expected to foster an attitude of confidence.

The challenge ahead is not only how to compete in developing technology but also how to maintain the existence of local cultures and characters so that they are not eroded by the pace of technological development and globalization. (Utaminingsih & Murtono, 2019). Sociocultural uses local wisdom to be involved in learning. From some of the expert explanations above, it can be formulated that sociocultural learning has characteristics including a) knowledge is actively built by students, b) the axis of the teaching and learning process lies with the students, c) teaching is helping students learn, d) the core in the learning process is more on the process and not on learning outcomes, e) emphasizes student participation, and f) the teacher is the facilitator. Some scientific knowledge emerges from the local context and in response to local needs (Calado, Scharfenberg, & Bogner, 2018).

# 2. Methodology

## 2.1 Research Design

The research design used in this experimental research is a quantitative model in the form of a quasi-experiment. Quasi-Experimental Design is an experiment that has a control group but cannot function fully to control external variables that affect the implementation of the experiment.

## 2.2 Research Respondents

The population in this study were the IV grade students at Elementary School in Gebog District, Kudus Regency. The sampling technique in this study was carried out by cluster random sampling obtained by the 3 Klumpit and 6 Klumpit Elementary School students as the control class and 5 Klumpit and 7 Klumpit Elementary School as the experimental class.

Data collection techniques using learning outcomes tests. The analytical test carried out is instrument analysis and data analysis. Instrument analysis includes a validity test. The data analysis method consisted of initial and final data analysis. Initial data analysis includes normality test and homogeneity test. Final data analysis includes score gain and t-test.

## 3. Findings and Discussion

The result of this study is an increase in student learning outcomes using materials based on Sociocultural Guided Inquiry for fourth-grade elementary school students. The increase in learning in the experimental class and control class was tested using the gain scores listed in Table 1.

**Table 1 - Gain score test results.**

| Class | Average (%) | | *n-gain* | desc |
|---|---|---|---|---|
| | Before | After | | |
| Experiment | 65.14 | 86.24 | 0.597 | Average |
| Control | 68.21 | 78.15 | 0.236 | Low |

The results of the n-gain analysis in Table 1 above show that the experimental class got an average score of 0.597 in the medium category, and the control class got an average score of 0.236 in the low category. From these results, the increase in gain scores between the control class and the experimental class was higher than the experimental class. Based on the effectiveness criteria of n-gain 0.30, the learning model using sociocultural guided inquiry-based teaching materials in class IV Theme 8 My Living Area is said to be able to improve student learning outcomes. If visualized in graphical form, it can be seen in Fig. 1 below.

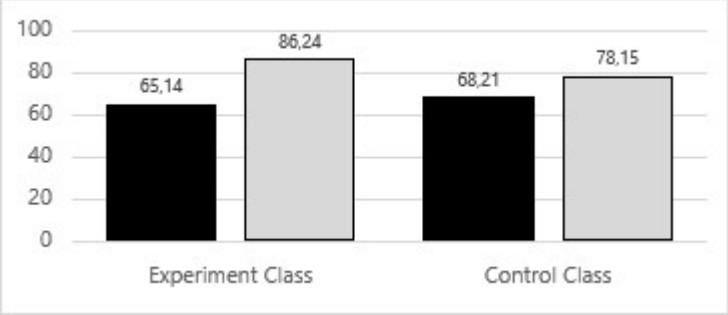


**Fig. 1 - Improved learning outcomes.**

The next analysis is using the t-test. The results of the Independent Sample Test student learning outcomes are listed in Table 2.

**Table 2 - Independent samples test.**

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
| | | | | | | | | | Lower | Upper |
| Results | Equal variances assumed | .115 | .736 | 3.784 | 79 | .000 | 8.084 | 2.137 | 3.832 | 12.337 |
| | Equal variances not assumed | | | 3.771 | 76.924 | .000 | 8.084 | 2.144 | 3.815 | 12.353 |

Based on the output of Table 2, the Independent Samples Test of student learning outcomes above obtained the value of $t\text{-}_{count}$ = 3.784 > $t\text{-}_{table}$ = 1.990 and the value of sig. (2-tailed) of 0.000 <0.05, it can be concluded that there is a difference in the average student learning outcomes between the experimental class using Sociocultural Guided Inquiry-based teaching materials and the control class without using Sociocultural Guided Inquiry-based teaching materials.

These results are in accordance with research conducted by Bernedette, Rita, & Ibe (2019) which concluded that socio-culture has a significant effect on students' social studies academic achievement. Maknun's research (2020) shows research results that the application of the guided inquiry learning model has the ability to improve conceptual understanding. A similar study also conducted by Anugrah Putra (2021) showed that teaching and learning activities using the guided model showed a positive relationship with student learning outcomes. The guided learning model also significantly mediates the relationship between teaching and learning activities, learning activities, and student learning outcomes.

Improving student learning outcomes cannot be separated from the use of teaching materials that facilitate and relate to the student environment, such as research conducted by Wuryandani (2020) concluding that well-structured socio-cultural-based teaching materials can provide many benefits for students, namely for students who are actively involved in learning activities and can also attract students' interest to be involved in learning activities.

Relevant research on the use of socio-cultural learning and inquiry models conducted by Mavuru & Ramnarain (2017) finds conclusions in his research that the incorporation of socio-cultural backgrounds of students in lessons provides authentic learning situations that promote the development of critical and analytical thinking skills for students. Nugraha, Hartono, & Nuswowati (2019) in their concluded that in this study the results of the experimental group's science process skills using the sociocultural inquiry model were higher than the control group's science process skills. Local wisdom-based thematic teaching materials can be used as a source of learning for teachers to improve learning outcomes and instill a sense of love for students of local wisdom where they live (Utaminingsih & Murtono, 2019).

## 4. Conclusions and Recommendations

Based on the results of the study after being analyzed and discussed in accordance with the relevant theory, it can be concluded that the learning outcomes of the experimental group of students who used the Sociocultural Guided Inquiry-based teaching materials were higher than the control group's learning outcomes.

Related suggestions from the results of this study are that the learning process using Sociocultural Guided Inquiry-based teaching materials can improve student learning outcomes, so it is recommended for teachers to develop other materials. it is necessary to develop further research related to sociocultural learning of subject matter and other fields of study.

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## Conflict of Interest

The authors declare no conflicts of interest.

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