



## **The Influence of the Guided Inquiry Learning Model on the Critical Thinking Skills of Fifth-Grade Students in Social Studies Subjects**

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### **Article Info**

#### *History of Article*

Received:

24 August 2022

Revised:

25 October 2022

Published:

29 October 2022

### **Abstract**

The success of social studies learning is strongly influenced by the ability of teachers to provide critical thinking skills in the learning process activities. This research aimed to (1) determine the influence of the guided inquiry learning model on fifth-grade students' critical thinking skills in social studies subjects and (2) find out whether there are differences in fifth-grade students' critical thinking skills after applying the guided inquiry learning model and the direct instruction model. The research method applied quasi-experimental. The research design was a nonequivalent control group design. Data collection techniques used both test and non-test. The results highlighted the influence of guided inquiry learning models on fifth-grade of the State Elementary School of Taman Baru 2 students' critical thinking skills and differences in students' critical thinking skills before and after applying the guided inquiry learning model. Moreover, the post-test mean was more significant than the pre-test,  $83.89 > 49.47$ . The paired samples t-test also revealed that the sig. value of pair 1 was  $0.000 < 0.05$ , and the sig. value of pair 2 was  $0.000 < 0.05$ . Further, the mean experimental post-test was higher than the control post-test,  $83.89 > 71.89$ . The independent samples t-test also obtained the sig. value (2-tailed) of  $0.002 < 0.05$ . Hence, learning was more successful or influential through the guided inquiry learning model on the critical thinking skills of fifth-grade students in social studies subjects.

### **Keywords:**

Guided Inquiry, Critical Thinking, Social Studies

### **How to cite:**

Haedi, I., Jamaludin, U., & Taufik, M. (2022). The influence of the guided inquiry learning model on the critical thinking skills of fifth-grade students in social studies subjects. *EduBasic Journal: Jurnal Pendidikan Dasar*, 4(2), 199-208.

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**Info Artikel***Riwayat Artikel*

Diterima:

24 Agustus 2022

Direvisi:

25 Oktober 2022

Diterbitkan:

29 Oktober 2022

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**Abstrak**

Keberhasilan pembelajaran IPS sangat dipengaruhi oleh kemampuan guru dalam memberikan keterampilan berpikir kritis dalam kegiatan proses pembelajaran. Penelitian ini bertujuan untuk (1) mengetahui pengaruh model pembelajaran inkuiri terbimbing terhadap keterampilan berpikir kritis siswa kelas V pada mata pelajaran IPS dan (2) mengetahui apakah ada perbedaan keterampilan berpikir kritis siswa kelas V setelah diterapkan model pembelajaran inkuiri terbimbing dan model pembelajaran langsung. Metode penelitian yang digunakan adalah quasi-experimental. Desain penelitian adalah nonequivalent control group design. Teknik pengumpulan data menggunakan tes dan non-tes. Hasil penelitian menyoroti pengaruh model pembelajaran inkuiri terbimbing terhadap keterampilan berpikir kritis siswa kelas V dan perbedaan keterampilan berpikir kritis siswa sebelum dan sesudah menerapkan model pembelajaran inkuiri terbimbing. Selain itu, rata-rata post-test lebih signifikan daripada pre-test,  $83.89 > 49.47$ . Uji-t sampel berpasangan juga mengungkapkan bahwa sig. nilai pasangan 1 adalah  $0,000 < 0,05$ , dan sig. nilai pasangan 2 adalah  $0,000 < 0,05$ . Selanjutnya, rata-rata post-test eksperimen lebih tinggi dari post-test kontrol,  $83,89 > 71,89$ . Uji independent sample t-test juga didapatkan nilai sig. nilai (2-tailed) sebesar  $0,002 < 0,05$ . Dengan demikian pembelajaran lebih berhasil atau berpengaruh melalui model pembelajaran inkuiri terbimbing terhadap keterampilan berpikir kritis siswa kelas V pada mata pelajaran IPS.

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**Kata Kunci:**

Inkuisi Terbimbing, Berpikir Kritis, Ilmu Pengetahuan Sosial

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**Cara Mensitasi:**

Haedi, I., Jamaludin, U., & Taufik, M. (2022). The influence of the guided inquiry learning model on the critical thinking skills of fifth-grade students in social studies subjects. *EduBasic Journal: Jurnal Pendidikan Dasar*, 4(2), 199-208.

## INTRODUCTION

Critical thinking skills are a necessity for students. Therefore, it takes the teacher's role to develop students' critical thinking skills. Critical thinking is an ideal goal in education since it prepares students for their future lives (Zakiah & Lestari in Simbolon et al., 2021). Critical thinking skills will also help them solve problems, which will provide opportunities for them to implement the knowledge gained in everyday life. In addition, it is to provide student satisfaction to find new knowledge and develop this new knowledge. Additionally, critical thinking is a stage of analyzing ideas or thoughts in a more specific direction, distinguishing them sharply, selecting, identifying, studying, and developing them in a perfect direction (Jamaludin & Rachmadtullah in Permana & Sujana, 2021). Moreover, everyone must have critical thinking skills as they will help someone when faced with a problem, and the same goes for elementary school students. In this case, developing students' critical thinking skills can be done through learning social sciences.

In elementary schools, social science describes the interactions between individuals and groups in the surrounding community. At the school level, social science aims to prepare students as citizens who master the skills, knowledge, attitudes, and values used as skills in social or personal problem-solving activities, decision-making skills, and participating in various activities in society to be good citizens. In this regard, the community environment, where individuals grow and develop as part of society, is faced with various problems that exist and occur in their surroundings. For this reason, social science education seeks to assist students in solving the problems they face to make them understand and comprehend the social environment of society better. Specifically, learning social sciences in elementary schools has a crucial role in the realization of the goals of the educational process in elementary schools, especially in the framework of students' understanding of social life, skills to play an active role in society, and functioning and being beneficial for the surrounding environment (Ni'mah & Mintohari, 2013).

Empirical facts about learning social science in the field analyzed from various angles uncovered that the development of students' critical thinking skills was still lacking, resulting in less-than-optimal social science learning. It was because the learning process of social sciences, especially in the fifth grade in elementary school, still demonstrated a teacher-centered learning process, and teachers utilized less learning media in student learning activities. As a result, student activities were limited to listening to teacher lectures and doing practice questions on student worksheets. Students also had not been able to give examples and explain again the material they learned. It then caused students to tend to be passive and only accept material conveyed by educators without developing it independently (Ratri, 2018). Supposedly, the process of learning social sciences is not only limited to transferring knowledge but also building a discovery (inquiry) process that involves the active role of students in developing their critical thinking skills to gain an in-depth understanding of concepts, not only memorizing them (Fauziah & Ismail, 2019).

Such learning conditions are undoubtedly a problem that will indirectly harm the achievement of students' critical thinking skills. Meanwhile, critical thinking skills are the ability to think logically, analytically, and systematically, applied in determining a consideration and making good decisions. In other words, someone with critical thinking skills cannot accept or reject a problem without going through the evidence or facts obtained (Affandy et al., 2019).

Based on the results of interviews conducted by the researchers in the preliminary study, the analysis of the problems obtained included the following: (1) the learning carried out was still teacher-centered, (2) students only learned concepts and formulas without understanding the meaning, (3) there was limited learning time in implementing the guided inquiry learning model in class, and (4) social studies learning was still passive, where students had not been able to develop critical thinking skills.

Consequently, it is necessary to apply a learning model whose activity process involves all students' skills to the fullest to seek

and investigate systematically, critically, logically, and analytically so they can confidently formulate their findings (Nurmayani et al., 2018). By being directly involved in learning activities, students can build knowledge through their experiences. The learning model must also be a way to create an optimal process of learning activities to achieve learning goals (Iswara & Sundayana, 2021). In this case, the guided inquiry model can assist students in finding answers to a problem raised by the teacher under intensive guidance. Students actively involved in every learning activity are essential to developing their skills since this involvement is a mental, intellectual, and social-emotional activity (Haryati et al., 2018). With this involvement, students tend to develop their intellectual mentality, i.e., to boldly accept, examine, appreciate, and propose solutions to existing problems. At the same time, students also practice developing their social emotions, which lead to their skills and abilities in responding to doing something, especially those related to the problems presented in the subject matter (Nurlaelah & Sakkir, 2020).

The inquiry learning model for critical thinking skills has been presented by other researchers (Hendra et al., 2021). Their study explained that audio-visual assisted guided inquiry learning models affected students' critical thinking skills and social science learning outcomes. Through this learning model, the influence before and after being given treatment greatly improved critical thinking skills and learning outcomes. Several previous studies demonstrate that using the inquiry learning model on students' critical thinking skills is very influential during the learning process (Riyadi et al., 2015; Rositawati, 2018).

From the description of the problem background, the researchers intend to find out more and research the influence of the guided inquiry learning model on the critical thinking skills of fifth-grade students in social studies subjects.

## METHODS

This study used a quasi-experimental method. Quasi-experimental research was applied because, in reality, it was difficult to get a control group used for research. This study also employed a nonequivalent control group design. From this research design, one class was taken. Then, it was divided into two groups. The first group, the experimental class, was treated using the guided inquiry learning model, while in the second group, the control class, learning activities implemented the direct instruction model.

The location of the research conducted by the researchers in the 2021-2022 academic year was at the State Elementary School of Taman Baru 2. This research was carried out for one month. The researchers visited the State Elementary School of Taman Baru 2 six times. At the first meeting, a pre-test was performed. In the experimental class, learning activities were conducted using the guided inquiry learning model in two meetings. Meanwhile, in the control class, learning activities were conducted using the direct instruction learning model in two meetings. The activity ended by doing a post-test.

The general population was all the State Elementary School of Taman Baru 2 students, whereas the target population was all fifth-grade students at the State Elementary School of Taman Baru 2. Then, sampling in this study utilized a cluster random sampling technique. The sample in this study was 19 students in the experimental class and 19 in the control class. The research procedure carried out had stages, including the preparation, the implementation, and the final stages.

Furthermore, data collection techniques used a pre-test, post-test, observation, interviews, and documentation. The analysis of the research instrument used was logical validity. It could be expected to obtain an instrument with logical and empirical validity, which was carried out by piloting it in the sixth grade of the State Elementary School of Taman Baru 2. Then, instrument reliability analysis, difficulty level instrument analysis, and discriminatory instrument analysis were conducted. To test the influence, a t-test was employed.

## RESULTS AND DISCUSSION

### Result

The instrument used in this study was a test of students' critical thinking skills, consisting of five essay questions. The instrument had previously been tried out on fifth-grade students who had previously obtained and understood the subject matter of types of self-managed businesses. Furthermore, the test was carried out in two meetings for each class, i.e., before students studied the subject matter in the pre-test activity and after learning the subject matter in the post-test activity. The test results were then used to determine the critical thinking skills of fifth-grade students in social science subjects in the experimental and control classes.

The data analyzed in this study were descriptive and inferential statistical data on students' critical thinking skills from pre-test and post-test scores. The data were then employed to answer the problem formulation. Descriptive statistical analysis of students' critical thinking skills in social science subjects can be seen in the below table.

**Table 1.** Descriptive Statistics of Critical Thinking

	N	Min	Max	Mean	Std. Deviation
Pre-Test Experiment	19	20	80	49.47	15.504
Post-Test Experiment	19	60	98	83.89	8.653
Pre-Test Control	19	12	68	44.00	17.385
Post-Test Control	19	44	92	71.89	13.424

The specific data on pre-test and post-test results of students' critical thinking skills in social science subjects can be seen in the below table.

**Table 2.** Data on Pre-Test and Post-Test Results

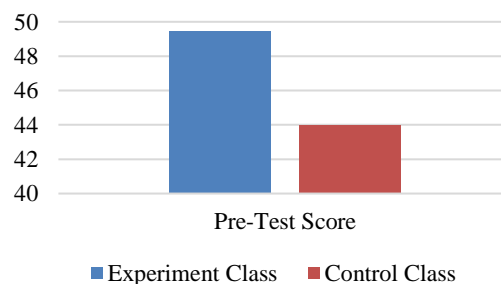
Class	Experiment		Control	
	Pre-test	Post-test	Pre-test	Post-test
Number of Students (N)	19	19	19	19
Lowest Score	20	60	12	44

Highest Score	80	98	68	92
Mean ( $\bar{x}$ )	<b>49.47</b>	<b>83.89</b>	<b>44.00</b>	<b>71.89</b>
Standard Deviation	15.504	8.653	17.385	13.424

Based on Table 2 above, it can be seen that the pre-test in the experimental class with a total of 19 students obtained a mean score of 49.47, the lowest score of 20, and the highest score of 80. Meanwhile, the control class with 19 students had a mean score of 44.00, the lowest score of 12, and the highest score of 68.

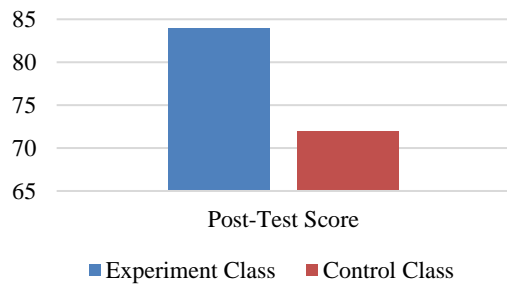
The pre-test mean scores in the experimental and control classes attained results that were not much different. It could be seen from the Shapiro-Wilk test data analysis results. The data obtained from the pre-test results were normally distributed and homogeneous. For the post-test in the experimental class with 19 students, the mean score was 83.89, the lowest score was 60, and the highest score was 98. Meanwhile, in the control class with 19 students, the mean score was 71.89, the lowest score was 44, and the highest score was 92.

Observed from the descriptions in the post-test experimental and control classes, the students' critical thinking skills revealed data that the students' ability in the experimental class using the guided inquiry learning model was better than the control class applying the direct instruction model. It was proven from the post-test data analysis conducted by the researchers with the Shapiro-Wilk test. The post-test data obtained were normal and homogeneous. Meanwhile, the pre-test mean scores in the experimental and control classes can be seen below.



**Figure 1.** Pre-test Mean of Students' Critical Thinking Skills Scores

Based on Figure 1 above, the difference in the pre-test mean scores of students' critical thinking skills is evident, where the experimental class was better than the control class, i.e., the experimental class mean of 49.47 and the control class mean of 44.00. Furthermore, the post-test mean scores in the experimental and control classes can be seen in Figure 2 below.



**Figure 2.** Post-test Mean of Students' Critical Thinking Skills Scores

Figure 2 presents the difference in the post-test mean scores for the experimental and control classes, with the experimental class being 71.89 and the control class being 83.89. Thus, it can be concluded that the results of critical thinking skills in both classes after treatment were better than before by looking at the mean score.

The statistical analysis of students' critical thinking skills in social science subjects can be seen in the several below statistical results.

a. Normality Test of Pre-test and Post-test

**Table 3.** Normality Test Results of Pre-test and Post-test

Class Pair	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Stats	df	Sig.	Stats	df	Sig.
Pre-Test Experiment	.169	19	.154	.948	19	.366
Post-Test Experiment	.156	19	.200*	.918	19	.103
Pre-Test Control	.146	19	.200*	.932	19	.190
Post-Test Control	.181	19	.104	.930	19	.174

Based on the table above, the normality test results using the Shapiro-Wilk demonstrated the significance values of students' critical thinking skills for the experimental class pre-test of 0.366 and the control class pre-test of 0.190. Hence, significance values greater than 0.05 ( $P \geq 0.05$ ) were obtained. Then, the significance value of the post-test for the experimental class was 0.103, and the control class was 0.174. It indicates that the pre-test and post-test data in the experimental and control classes were normally distributed.

b. Homogeneity Test of Pre-test and Post-test

**Table 4.** Homogeneity Test Results of Pre-test and Post-test

	Levene Statistic	df1	df2	Sig.
Based on Mean	3.930	1	36	.055
Based on Median	2.337	1	36	.135
Based on the Median and with adjusted df	2.337	1	28.518	.137
Based on trimmed mean	3.529	1	36	.068

Based on the table above, the test results utilizing the SPSS 22 program obtained a significance value (Sig.) based on a mean of  $0.055 > 0.05$ . Therefore, it can be concluded that the data variance in the experimental and control classes was the same or homogeneous.

c. Paired Sample T-test

**Table 5.** Paired Sample T-test

	Paired Differences			t	Sig. (2-tailed)
	Mean	Std. Dev	Std. Error Mean		
Pre-Test Experiment-Post-Test Experiment	-34.421	15.152	3.476	<b>-9.902</b>	<b>.000</b>
Pre-Test Control-Post-Test Control	-27.895	16.512	3.788	<b>-7.364</b>	<b>.000</b>

Based on pair 1, the sig. (2-tailed) of  $0.000 < 0.05$ . Thus, it can be denoted that there was a difference in the mean students' critical thinking skills for the pre-test and the post-test of the experimental class using the guided inquiry learning model. Then, in pair 2, the sig. value (2-tailed) of  $0.000 < 0.05$  was obtained. Hence, it can be inferred that there was a difference in the mean students' critical thinking skills for the pre-test and the post-test in the control class applying the direct instruction model. Overall, it can be concluded that there was an influence of the guided inquiry learning model on students' critical thinking skills.

d. Independent Sample t-test

Independent sample t-test with assumed variances found sig. value (2-tailed) of  $0.002 < 0.05$ . Therefore, it can be concluded that there was a mean difference in students' critical thinking skills between the guided inquiry learning model and the direct instruction model.

**Discussion**

This study aims to determine the effect of the guided inquiry learning model on the critical thinking skills of fifth-grade students in social science subjects. The research was conducted at the State Elementary School of Taman Baru 2, with fifth-grade samples as the experimental class treated with the guided inquiry model and the control class with the conventional learning model.

The pre-test data analysis of students' critical thinking skills in the experimental and the control classes revealed that the mean was not much different. It was shown from the mean score obtained in the experimental class of 49.47 and the control class of 44.00. Thus, the researchers concluded that the critical thinking skills possessed by the experimental class students had a different mean score from the control class before receiving treatment.

Then, the results of the post-test data analysis of students' critical thinking skills in the experimental class using the guided inquiry learning model showed differences in critical thinking skills between the post-test results in the control class using the direct instruction model. It was indicated by the post-test mean results for the experimental class as more significant than the post-test mean for the

control class, i.e., 83.89, higher than 71.89, with a difference of 12.

The difference in the post-test mean scores between the control and the experimental classes was caused by the learning activities in the experimental class applying the guided inquiry learning model to provide opportunities for students to practice critical thinking skills actively. It aligns with Khairul (in Kurniati et al., 2018) that the characteristics of the guided inquiry model that must be considered include the following: (1) Through specific observation activities to make conclusions or generalizations, students can develop thinking skills. (2) Understanding the process, observing an event/object, and then compiling related generalizations are the goals of guided inquiry. (3) The teacher guides students at specific stages, such as events, data, and subject matter, and acts as the class leader. (4) Each student analyzes to create a meaningful pattern based on the observations obtained. (5) The guided inquiry learning laboratory used is class. (6) In general, several certain generalizations are obtained from students. (7) The teacher motivates students to communicate their generalization results so all students can use them (Sukma et al., 2016).

The results of critical thinking skills obtained from the pre-test and post-test activities were then tested for normality and homogeneity. The normality test results had a significance value higher than 0.05 ( $P \geq 0.05$ ). It proves that the pre-test and post-test data in the experimental and control classes were normally distributed. Next, the homogeneity test was calculated. The calculation results of the homogeneity test for the two classes attained a significance value (sig.) based on a mean of  $0.055 > 0.05$  so that it can be concluded that the data variance in the experimental and control classes was the same or homogeneous.

Afterward, hypothesis testing was done by testing paired sample t-tests and independent sample t-tests. In the paired samples t-test, pair 1 had a sig. (2-tailed) of  $0.000 < 0.05$ . Then, in pair 2, the sig. value (2-tailed) of  $0.000 < 0.05$  was obtained. Thus, it can be concluded that there was an influence of the guided inquiry learning model on students' critical thinking skills. In the independent sample t-test, the sig. value (2-

tailed) was  $0.002 < 0.05$ , so it can be denoted that there was a difference in the mean students' critical thinking skills. Overall, the researchers concluded that the guided inquiry learning model influenced the critical thinking skills of fifth-grade students in social science subjects.

It is reinforced by Ilhamdi et al. (2020) and Muliani & Wibawa (2019), stating that the guided inquiry model emphasizes discovering a concept, resulting in a scientific attitude in students. In the guided inquiry model, students are given facilities to design and find answers directly to the problems posed by the teacher. The guided inquiry learning model is also student-centered; students are trained and allowed to develop critical thinking skills.

In this study, the mean score of the experimental class students was better since the syntax of the guided inquiry learning model helped students develop critical thinking skills. The teacher's task here is to stimulate students to be actively involved in carrying out something. Teachers come to class presenting a problem for students to solve, and then they are directed to find the best solution to solving the problem. Learning with the guided inquiry model also aims to encourage students to be more courageous in making decisions or solving problems and be creative. According to Sapriya (in Juniarsih, 2018), critical thinking fosters the emergence of new thoughts. In addition, it is used to examine a thought, provide an assessment of an idea, estimate the value, and evaluate the implementation and practice of a value.

Meanwhile, in the direct instruction model in this study, there was a relatively good increase in grades, but the critical thinking level was still lower than that of students treated with the guided inquiry learning model. It was because students only had a few opportunities to participate actively when learning took place (Supartini, 2021). Also, students did not have extensive learning experiences and only focused on the explanations given by the teacher. Consistent with that, Yanti (2019) asserted that the learning model with demonstration and discussion by the teacher through assignments and student feedback encourages them to acquire the knowledge and skills needed for further learning, and from this process,

learning outcomes will be obtained. However, to gain critical thinking, learning activities must be carried out deliberately, consciously, and well-structured to get optimal learning results (Zulkarnain et al., 2019).

It is supported by research conducted by Azizah et al. (2016), in which students treated with the guided inquiry learning model had better critical thinking skills than students treated using the conventional learning model. It is since, in the guided inquiry learning model, students are given time to make temporary conjectures first, prove conjectures made by conducting experiments with groups, and carry out problem-solving activities by determining experimental results suitable or relevant to the problems presented, affecting the students' critical thinking skills to increase.

Based on the discussion described, the researchers can draw the conclusion that there was an influence of the guided inquiry learning model on students' critical thinking skills in social science subjects in fifth-grade students, and there were differences in students' critical thinking skills after the guided inquiry learning model and the direct instruction model were applied.

## CONCLUSION

From the research results and discussion, it can be concluded that there were differences in students' critical thinking skills before and after the guided inquiry learning model was applied. It was shown that the mean score obtained in the post-test was higher than the pre-test, i.e., 83.89 was more significant than 49.47. Then, in the paired samples t-test, the sig. value (2-tailed) of pair 1 was  $0.000 < 0.05$ , and the sig. value (2-tailed) of pair 2 was  $0.000 < 0.05$ . Therefore, it is denoted that the guided inquiry learning model influenced the critical thinking skills of fifth-grade students at the State Elementary School of Taman Baru 2, Serang City.

Moreover, there were differences in students' critical thinking skills after applying the guided inquiry learning and direct instruction models. It was indicated that the post-test mean score of the experimental class was more significant than the post-test control class, with 83.89 more significant than 71.89. Then, on the independent samples t-test, the



sig. value (2-tailed) of  $0.002 < 0.05$  was obtained, so it is concluded that there was a mean difference in students' critical thinking skills between the guided inquiry learning model and the direct instruction model. In other words, the guided inquiry learning model is more effective in enhancing critical thinking skills than the direct instruction model.

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