Inquiry-Based Learning Improving Critical Thinking Ability in View of Elementary School Students Learning Motivation

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ABSTRACT

The low critical thinking ability of students in learning Social Studies in elementary schools is a concern for teachers in improving students' abilities. The purpose of this study was to determine the difference in critical thinking of students given the Inquiry Based Learning model and the Lecture model in terms of student learning motivation. This study used the 2x2 Quasi Experiment method with a sample of 56 students from the experimental group and the control group. The results of this study showed that: (1) critical thinking ability between students who learn with Inquiry Based Learning model is higher motivation compared to students who learn with Lecture model (2) there is interaction between learning models on students' critical thinking ability (3) critical thinking ability of students who are given Inquiry Based Learning model treatment is higher than the Lecture model in the group of students who have high learning motivation (4) critical thinking ability of students who are given Inquiry Based Learning model treatment is higher than the Lecture model in the group of students who have low learning motivation. Thus, students' critical thinking skills are significantly influenced by learning motivation and the learning model used by the teacher.
Keywords: Inquiry-Based Learning Model; Critical Thinking; Learning Motivation

ABSTRAK

Rendahnya kemampuan berpikir kritis siswa dalam pembelajaran Ilmu Pengetahuan Sosial di sekolah dasar menjadi perhatian guru dalam meningkatkan kemampuan diri siswa. Tujuan penelitian ini adalah untuk mengetahui adanya perbedaan berpikir kritis terhadap siswa yang diberikan model pembelajaran *Inquiry Based Learning* dan model Ceramah ditinjau dari motivasi belajar siswa. Penelitian ini menggunakan metode Quasi Eksperimen 2x2 dengan sampel 56 siswa dari kelompok eksperimen dan kelompok kontrol. Hasil penelitian ini menunjukan bahwa: (1) kemampuan berpikir kritis antara siswa yang belajar dengan model *Inquiry Based Learning* motivasinya lebih tinggi dibandingkan dengan siswa yang belajar dengan model Ceramah (2) terdapat interaksi antara model pembelajaran terhadap kemampuan berpikir kritis siswa (3) kemapuan berpikir kritis siswa yang diberikan perlakuan model pembelajaran *Inquiry Based Learning* lebih tinggi dibandingkan dengan model Ceramah pada kelompok siswa yang memiliki motivasi belajar tinggi (4) kemampuan berpikir kritis siswa yang diberikan perlakuan model

pembelajaran *Inquiry Based Learning* lebih tinggi dibandingkan dengan model Ceramah pada kelompok siswa yang memiliki motivasi belajar rendah. Dengan demikian, kemampuan berpikir kritis siswa secara signifikan dipengaruhi oleh motivasi belajar serta model pembelajaran yang digunakan oleh guru.

Kata Kunci: Model *Inquiry Based Learning*; Berpikir Kritis; Motivasi Belajar

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INTRODUCTION

Critical thinking skills are increasingly essential in educational contexts, particularly in elementary school teaching and learning activities. In an age where global information flows freely, students are inundated with both beneficial and harmful content that can impact their mental and educational development (Nzomo et al., 2023). Therefore, fostering a clear and imaginative ability to critically assess evidence, employ logic, and explore alternatives is crucial. This capability not only guides students through the complexities of the information age but also enhances learning outcomes (Borah, 2021).

The ability to think critically directly influences students' cognitive processes and behavior. It enables students to deeply comprehend their studies, moving beyond rote memorization to achieve a more profound understanding (Daryanes et al., 2023; Mareti & Hadiyanti, 2021). Implementing appropriate learning models is essential to support this cognitive development. Effective learning models can foster student engagement, motivation, and improved learning outcomes (Hadriwani et al., 2022; Khasanah, 2021; Mareti & Hadiyanti, 2021; Selsiana et al., 2023). Specifically, innovative teaching tools and models, such as Inquiry-Based Learning (IBL), have been shown to significantly enhance students' interest and performance in subjects like history (Sampson & Johannessen, 2020). From this statement, using an inquiry-based learning model can generate motivation and stimulate learning activities. It is expected that by using this inquiry model, the activity and learning outcomes of students will be better than by using other media .

From a social studies perspective, critical thinking is pivotal. Social studies education aims to develop students' problem-solving abilities through a systematic thought process, encouraging them to seek primary sources and interact directly with their social environment (Klykken, 2022; Maghbouleh, 2022). This method fosters the emergence of new ideas, equipping students to solve problems that traditional methods cannot address .

Critical thinking in social studies involves analyzing information, deconstructing arguments, and drawing logical conclusions, which are essential skills for understanding topics such as history, geography, economics, and politics (Arya Chandra Wiguna et al., 2023); (Wiggan et al., 2022). Each topic has a lot of information that must be understood by students. Critical thinking helps students to sort out relevant and important information, and understand the relationship between the information (Majerczyk et al., 2019).

The results of interviews conducted by researchers with teachers of SDN Sipak 01 Jasinga on Wednesday, October 25, 2023, obtained quite surprising results, social students of SDN Sipak 01 Jasinga who used chrysanthemum plants as mulch were 35% and those who did not use chrysanthemum plants as mulch were 65%. From the data above and based on the results of interviews with students of SDN Sipak 1 Jasinga, it can be seen that the quality of social studies learning at SDN Sipak 1 Jasinga is still relatively low, this can be seen from the characteristics of students who are less able to respond or convey something thoughtfully,

people who lack concentration in learning, people who are less quickly bored and quickly bored when they deliver material orally, especially material in social learning, people who are less able to analyze information systematically, Students are able to distinguish facts and opinions in a learning material, students are able to use reasoning and logical thinking in solving problems. Lack of student knowledge in the learning process and learning motivation in social learning is one of the factors that affect the quality of student learning outcomes.

Initially, social studies learning in grades VA and VB of SDN Sipak 01 Jasinga still used conventional learning models. In the classroom, the teacher gives the students the lesson material that has been given previously and the teacher gives assignments to the students. Students are asked to open their notebooks and work on assignments or answer questions given by the teacher. The learning process with this learning model is still not enough to provide in-depth learning to students, because the role of the teacher in delivering the material is still more dominant than the role of students. The students often give more explanations rather than giving attention to the students to respond to the material given, students do more learning activities, and their motivation and critical thinking are also lower.

The low level of education in the social field is one of the problems to be improved, for this reason, it is very important to improve education in the social field to improve the low level of education. Despite the recognized importance of critical thinking, current teaching methodologies in elementary social studies often fail to adequately foster these skills. Traditional instructional methods, characterized by passive learning and rote memorization, do not engage students effectively, leading to poor critical thinking development ((Luo et al., 2020). Specifically, at SDN Sipak 01 Jasinga, observations and interviews revealed that a significant portion of students struggled with critical thinking tasks, such as analyzing information and reasoning logically. This gap indicates a pressing need for more dynamic and engaging teaching approaches. Learning ability is the ability possessed by a person who has good learning ability, which is the ability or skill possessed by a person who has good learning activities. By making students passive, the learning done by scholars makes it difficult for students to improve their critical thinking skills. In this case, interaction between scholars and students is needed, with this interaction it is hoped that students can build their self-identity. To achieve educational goals and student abilities related to critical thinking skills, the right learning model is needed, one of which is the Inquliry-Baseld Learning (IBL) learning model.

Current research underscores the benefits of IBL in various educational settings. For instance, (Orbán-Mihálykó et al., 2022), found that IBL significantly enhances students' critical and analytical thinking skills. Moreover, studies by (Baldock & Murphrey, 2020) demonstrated that IBL positively impacts student motivation and learning outcomes, particularly in subjects requiring higher-order thinking skills. However, there is limited research on the application of IBL specifically within elementary social studies contexts, particularly in Indonesian schools. This study seeks to fill this gap by examining the effects of IBL on critical thinking and learning motivation among elementary students at SDN Sipak 01 Jasinga.

Inquiry-based learning is similar to environmental-based learning that emphasizes the active participation of students in the learning process where in this environmental-based learning, students are encouraged to develop knowledge, gain information, and solve problems through inquiry-based learning (Careja & Harris, 2022; Demirdağ, 2021; Gumasing & Castro, 2023). inquiry-based learning not only develops knowledge, but also develops

critical skills such as problem solving, data analysis, and rational thinking (Mukumbang et al., 2020; Sotiriou et al., 2020). In inquiry-based learning, teachers act as facilitators who provide direction and support, while students have greter control over the learning process. This involvement not only helps students to stay in school, but also stimulates their intelligence in learning and helps them to learn for life (Marie Bahn et al., 2022; Sreejun & Chatwattana, 2023). Therefore, inquiry-based learning not only teaches students what to learn, but also how to learn more effectively.

The relationship between problem-based learning models and students' critical thinking skills is that it focuses on developing skills and habits of mind that can help students to think critically, logically, identify problems, and find their own answers through maximum engagement (Handika et al., 2022; Siregar & Firmansyah, 2021). Problem-based learning can help students to recognize the steps in learning, which can increase students' awareness of what they are learning and what they should do. The application of inquliry-based learning model can change the way students learn to practice higher-order thinking through learning. In addition, the problem-based learning model can increase students' learning motivation by providing a learning environment that supports the development of critical thinking skills and problem identification (Adning et al., 2023; Kang, 2022; Khasawneh et al., 2023; Nurhadi et al., 2020).

Previous research on teaching methods often highlights the limitations of traditional approaches. For example, studies by (Sugrah, 2020) and (Malkan et al., 2023) illustrate that conventional lecture methods fail to engage students effectively, resulting in lower critical thinking skills. In contrast, their findings suggest that interactive and inquiry-based methods significantly improve cognitive outcomes. Despite these insights, most studies have focused on secondary or higher education settings, leaving a gap in understanding the impact of these methods at the elementary level. Furthermore, the data analysis in previous research often lacks a detailed examination of the interaction between different teaching models and student motivation levels.

This study introduces a novel approach by integrating animated videos with the IBL model, aiming to enhance the learning experience and outcomes for elementary students in social studies. Unlike previous research, which primarily focuses on traditional media, this study explores the efficacy of combining multimedia tools with IBL to boost both critical thinking and motivation. By critically analyzing the interaction between teaching methods and motivational levels, this research provides a comprehensive understanding of how innovative teaching practices can be tailored to meet the needs of young learners.

In conclusion, the existing research highlights the positive impact of the IBL model on improving critical thinking skills and learning motivation. This study aims to further investigate the effects of the IBL model on elementary students' critical thinking abilities in social studies, providing valuable insights into the efficacy of this approach in an educational setting.

METHODS
Type and Design
The method used in this research is the Quasi-Experiment method, chosen for its ability to compare the effects of different interventions in natural settings, allowing researchers to

infer causal relationships. This design helps in understanding the impact of the Inquiry-Based Learning (IBL) model versus the Lecture model on students' critical thinking skills. The purpose of this research is to determine the differences in critical thinking abilities of students who are taught using the Inquiry-Based Learning model compared to those taught using the Lecture model. The research also aims to explore the interaction between learning models and students' motivation levels, contributing to more effective teaching strategies. Quasi-experiment is a method used to see the effect on the object under study by providing treatment and comparing it with other objects. The research design applied in this study is the Posttest control group design (Setemen et al., 2023). This design is an experimental design that is carried out with observation once, namely after the experiment. Observations made after the experiment are called post-tests. The variables studied were learning models as independent variables by considering motivation as an attribute variable and the dependent variable was students' critical thinking skills. The independent variable of learning model (A) consists of the Inquiry-Based Learning model (A_1) and Lecture model (A_2). While the attribute variable is motivation which consists of three types, namely High (B_1), and low (B_2). The research design used can be seen in the following table:

Table 1. Treatment By Level Design 2x2

Learning Motivation (B)	Learning Model (A)	
	Inquiry-Based Learning (A_1)	The Learning Model (A_2)
High Motivation (B_1)	A_1B_1	A_2B_1
Low Motivation (B_2)	A_1B_2	A_2B_2

Description:

A_1 = Inquiry-based learning model treatment

A_2 = Lecture model treatment

B_1 = Group of students who have high learning motivation

B_2 = Group of students who have low learning motivation

A_1B_1 = Group of students whose social studies lessons use inquiry-based learning and supported by high learning motivation.

A_1B_2 = Group of students whose social studies lessons use inquiry-based learning and supported by low learning motivation

A_2B_1 = Group of students whose social studies lessons use lecture model and supported by high learning motivation.

A_2B_2 = Group of students whose social studies lessons use lecture model and supported by low learning motivation.

Data and Data Source

The data for this study were obtained from all fifth-grade students of SDN Sipak 01, comprising a sample of 56 students, with class VA consisting of 28 students and class VB also consisting of 28 students. Class VA utilized the Inquiry-Based Learning Model with animated video media, while class VB employed a traditional lecture learning model. The objective was to assess the effect of the Inquiry-Based Learning model on student learning motivation in social studies. This study was conducted during the even semester of the 2023/2024 academic year at SDN Sipak 01, from December 2023 to March 2024.

Data collection technique

The data collection tools used in this research are observation, learning achievement tests, interviews, documentation and questionnaires. Observation is shown to student activities during teaching and learning activities. Observation aims to obtain data about members of the population, especially about the abilities and behavior of the control class and experimental class.The test given is in the form of a post-test which is given based on a grid of questions that are compiled in advance based on the curriculum of SD / MI classes Va and Vb in 2023 and textbooks that must be used. The test aims to measure students' mastery of concepts after learning material in the classroom. The tests given to students in this study were 20 multiple choice questions and 5 description questions. Questionnaires were utilized to gather data through observation and tests, capturing students' opinions or attitudes after experiencing teaching with the Inquiry-Based Learning model and evaluating their motivation

Data Analysis

The analysis used includes: descriptive analysis, analysis of the requirements test, and inferential analysis. The purpose of this data analysis is so that the conclusions obtained from testing the research hypothesis can be accounted for. İn descriptive analysis, this method is employed to summarize and describe the main features of the data collected from the study. It involves presenting raw data in a structured format using frequency distribution tables and visual aids such as histogram graphs. The key statistical measures like mean, median, mode, variance, and standard deviation are calculated to provide a clear overview of the data distribution and central tendency. The Liliefors test is used to check whether the data follows a normal distribution. This non-parametric test involves comparing the observed sample distribution to a theoretical normal distribution. The null hypothesis (H0) assumes that the data is normally distributed, while the alternative hypothesis (H1) suggests it is not. The test results are evaluated against a significance level (α) of 0.05. Levene's test is applied to assess the equality of variances for the different groups being compared in the study. This is essential to validate the assumptions of subsequent statistical tests. The null hypothesis (H0) for this test is that the variances are equal across the groups, while the alternative hypothesis (H1) indicates that they are not. The main technique used for inferential analysis is two-way Analysis of Variance (ANOVA). This statistical method helps in understanding the interaction effects between independent variables (learning models and motivation levels) on the dependent variable (critical thinking skills). It examines whether there are statistically significant differences between the groups. The F-test is used to determine if the observed differences are significant, comparing the calculated F-value to a critical value from the F-distribution table at a significance level of 0.05.

RESULTS AND DISCUSSION

The experimental design that has been arranged in this study, then there are 4 groups of learning outcomes and will be described, namely: 1) social studies learning outcomes with high learning motivation treatment using the Inquiry-Based Learning model; 2) social studies learning outcomes with low learning motivation given treatment using Inquiry-Based Learning model; 3) social studies learning outcomes of students who have high learning

motivation with lecture learning model; 4) social studies learning outcomes of students who have low learning motivation with lecture learning model.

Social studies learning outcomes that are through the treatment of Inquiry-Based Learning model in students who have high learning motivation. Description of data in experimental classes that have high learning motivation, without distinguishing students who have high learning motivation with a sample size of 8 students. The lowest to highest score range is 7, with the lowest score being 29 and the highest score being 36. The average score is 32.8, the median score is 33.17, and the mode score is 33.50. The variance is 4.982 and the standard deviation has a score of 2.232.

Table 2. Frequency Distribution of Social Studies Learning Outcomes Given the Treatment of Inquiry-Based Learning Model in Students Who Have High Learning Motivation

No	Score	F	Class Limit	fk	fr
1	29 – 30	1	28,5	1	12,5%
2	31 – 32	2	30,5	3	25,0 %
3	33 – 34	3	32,5	6	37,5%
4	35 - 36	2	34,5	8	25,5%
	Total	8			100%

Table 2 shows that students who scored in the 29-30 interval class were 1 student (12.5%), in the 31-32 interval class were 2 students (25.5%), in the 33-34 interval class were 3 students (37.5%), in the 35-35 interval class were 2 students (25.5%). This frequency can be seen in the histogram as follows:
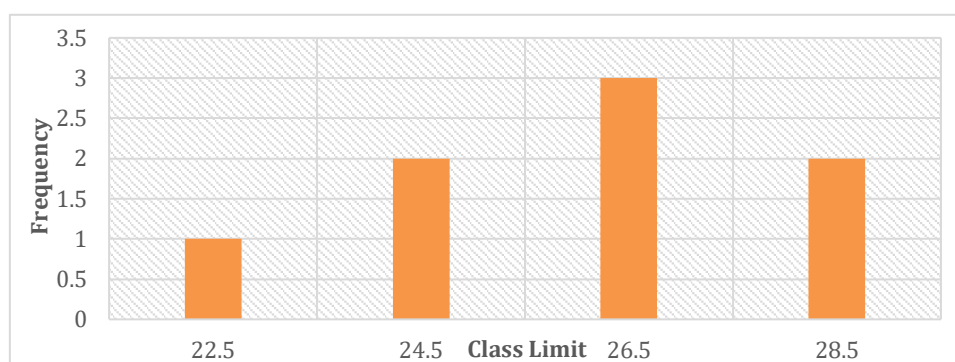

Figure 1. Histogram of Social Studies Learning Outcomes Given the Treatment of Inquiry-Based Learning Model in Students Who Have High Learning Motivation (A_1B_1)

From the data about social studies learning outcomes that are given the treatment of Inquiry Based Learning learning model in students who have low learning motivation. Description of data in experimental classes that have low learning motivation. Description of data derived from a sample size of 8 students. The range of the lowest score to the highest is 7, with the lowest score of 20 and the highest score of 27.. The following is the frequency distribution table of the A_1B_2 group A_1B_2:

Table 3. Frequency Distribution of Social Studies Learning Outcomes Given the Treatment of Inquiry-Based Learning Model on Students Who Have Low Learning Motivation (A_1B_2)

No	Score	F	Class Limit	fk	fr
1	20 – 21	3	19,5	3	37,5%
2	22 – 23	2	21,5	5	25,0 %
3	24 – 25	1	23,5	6	12,5%
4	26 – 27	2	25,5	7	25,5%
	Total	8			100%

Table 3 shows that students who scored in the interval class 20-21 were 3 students (37.5%), in the interval class 22-23 were 2 students (25.5%), in the interval class 24-25 were 1 student (12.5%), there were interval classes 26-27 were 2 people (25.5%). The frequency can be seen in the histogram as follows:
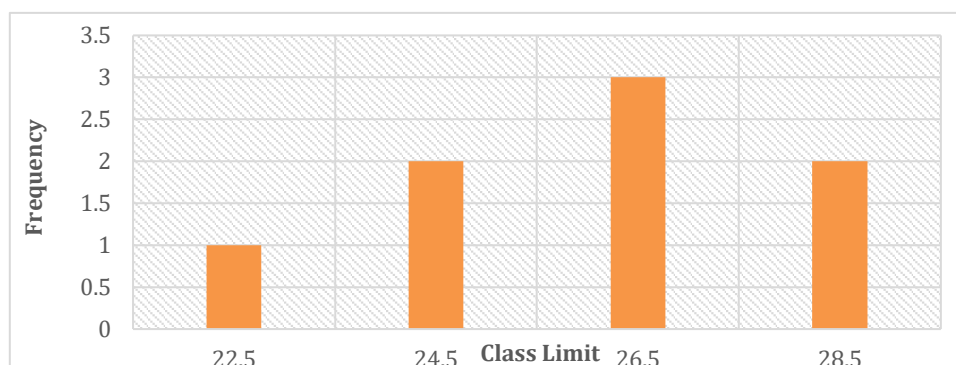

Figure 2. Histogram of Social Studies Learning Outcomes of Students Treated with Inquiry-Based Learning Model for Students with Low Learning Motivation (A_1B_2)

Social studies learning outcomes given the treatment of the Lecture Learning Model on students who have high learning motivation. Description of data derived from a sample size of 8 students. The range of scores from the lowest to the highest score is 10, with the lowest score being 27 and the highest score being 17. . The following is the frequency distribution table of the A_2B_1 group data below:

Table 4. Frequency Distribution of Social Studies Learning Outcomes Given the Lecture Learning Model for Students with High Learning Motivation (A_2B_1)

No	Score	F	Class Limits	fk	fr
1	17 – 19	2	16,5	2	25,0 %
2	20 – 22	3	19,5	5	37,5%
3	23 – 25	1	22,5	6	12,5%
4	26 – 28	2	25,5	8	25,5%
	Total	8			100%

Table 4 shows that students who scored in the interval class 17-19 were 2 students (25.5%), in the interval class 20-22 were 3 students (37.5%), in the interval class 23-25 were 1 student (12.5%), in the interval class 26-28 were 2 people (25.5%). The frequency can be seen in the histogram as follows:
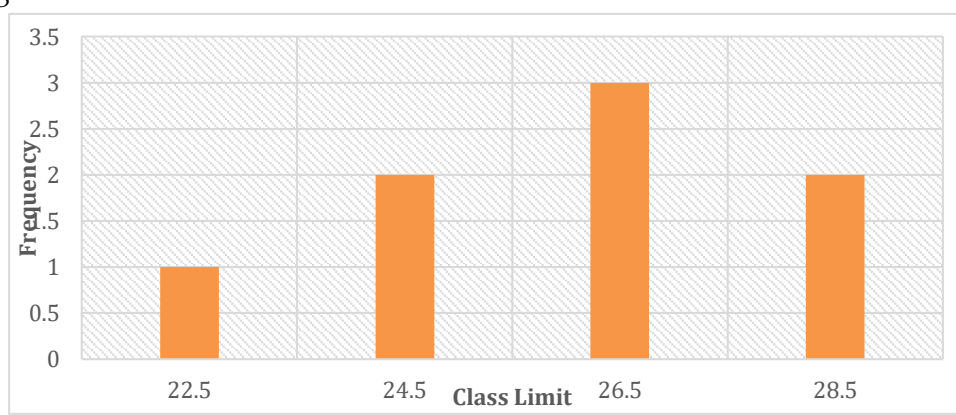
Figure 3. Histogram of Social Studies Learning Outcomes Given the Lecture Learning Model Treatment for Students Who Have High Learning Motivation

Social studies learning outcomes given the treatment of the Lecture Learning Model on students who have low learning motivation. Description of data derived from a sample size of 8 students. The range of scores from the lowest to the highest score is 6, with the lowest score being 23 and the highest score being 29. The average score is 26.75, the median score is 27.17, and the mode score is 27.50. The variance is 4.786 and the standard deviation has a score of 2.188 The following is the frequency distribution table of the A_2B_2 group data below:

Table 5. Frequency Distribution of Social Studies Learning Outcomes Given the Lecture Learning Model for Students with Low Learning Motivation (A_2B_2)

No	Score	F	Class Limit	fk	fr
1	23 – 24	1	22,5	1	12,5%
2	25 – 26	2	24,5	3	25,0 %
3	27 – 28	3	26,5	6	37,5%
4	29 – 30	2	28,5	8	25,5%
	Total	8			100%

The table above shows that students who scored in the interval class 23-24 were 1 student (12.5%), in the interval class 25-26 were 2 students (25.5%), in the interval class 27-28 were 3 students (37.5%), in the interval class 29-30 were 2 people (25.5%). The frequency can be seen in the histogram as follows:
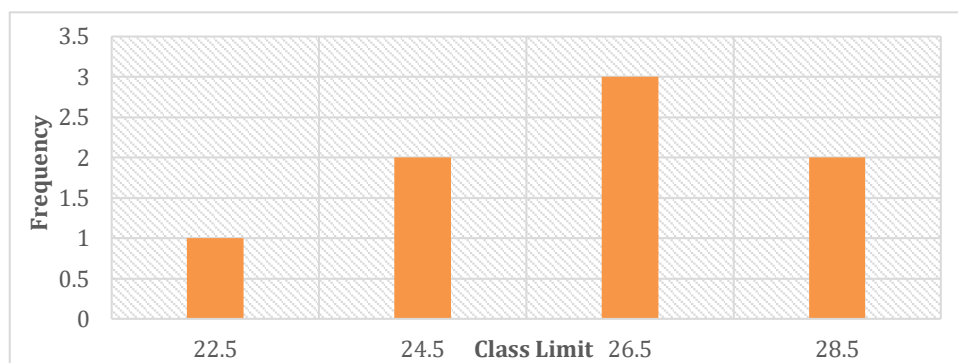

Figure 4. Histogram of Social Studies Learning Outcomes Given the Treatment of Lecture Learning Model on Students with Low Learning Motivation

Analysis Requirements Testing. This study conducted hypothesis testing using two-way analysis of variance (ANOVA). Normality test is done to find out that the research sample is normally distributed, and homogeneity test is done to find out the sample from a homogeneous population. Normality testing is done using the Liliefors test at the significance level α = 0.05 for the criteria, namely if L_{hitung} (L_0) is smaller than L_{tabel} (L_t), it can be said that

the research data is normally distributed. The calculation results on the data from this study are as follows:

Table 6. The Results (*liliefors*) Social studies Learning Outcomes

Group	α	N	L_{count}	L_{table}	Description
A_1B_1		8	0,103	0,313	Normal
A_1B_2	0,05	8	0,255	0,313	Normal
A_2B_1		8	0,120	0,313	Normal
A_2B_2		8	0,163	0,313	Normal

Table 6 presents the results of the Lilliefors normality test for social studies learning outcomes across four groups. All groups (A1B1, A1B2, A2B1, A2B2) show Lcount values lower than Ltable, indicating that the data for each group is normally distributed.

Tabel 7. Results of Test for Homogeneity of Variance of Treatment Combination Group

Sample	DB	Variants	The combined variance	B	X^2_{Count}	X^2_{table}	Description
A_1B_1	7	4,98					
A_1B_2	7	6,98	7,076	23,749	1,855	7,81	Homogen
A_2B_1	7	11,55					
A_2B_2	7	4,79					

Table 7 shows the results of the homogeneity of variance test using Levene's test. The combined variance and the Chi-square (X2) count for the groups indicate that the variances are homogeneous, with X2count less than X2table for the respective groups.

Table. 8 Calculation Results of Analysis of Variance Two-Way ANOVA

Variance Source	DK	Sum	Mean Square	F_{count}	F_{table} 0,05	F_{table} 0,01
Learning Model (A)	1	101,53	101,53	14,349	4,20	7,64
Motivation Learning (B)	1	53,53	52,53	7,424	4,20	7,64
Interaktion	1	442,53	442,53	62,541	4,20	7,64
Rf	28	198,13	7,08			
Total reduced	31	794,72				

Table 8 presents the results of the two-way ANOVA analysis, showing the effects of the learning model, learning motivation, and their interaction on social studies learning outcomes. The Fcount values for the learning model (14.349), learning motivation (7.424), and their interaction (62.541) are all higher than the Ftable value (4.20), indicating significant effects.
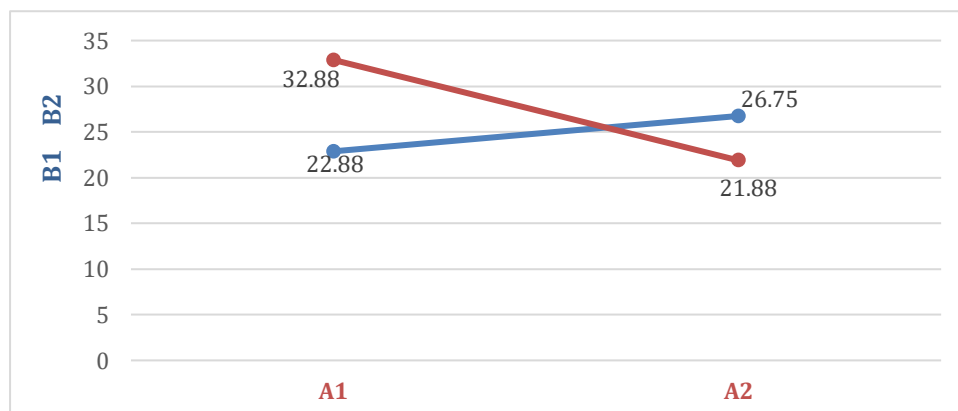
Figure 5. Graph of Interaction between Learning Model, Learning Motivation and Social Studies Learning Outcomes

Based on hypothesis testing, the results show a significant influence of the Inquiry-Based Learning (IBL) model on social studies learning outcomes of elementary school students. IBL is more capable of optimizing social studies learning outcomes compared to the lecture model. IBL actively involves students, motivates them to learn, and helps them build their own understanding of the material (Nisa & Astriani, 2022; Sari et al., 2021; Tuan et al., 2005; Utami & Sundari, 2019). Students trained with IBL develop skills in problem formulation, observation, data collection, analysis, communication, and presentation, leading to a deeper understanding and increased learning motivation. In connection with learning motivation, the applied learning model also affects learning outcomes. Different levels of learning motivation show different effects according to their suitability for the applied learning model. The IBL model shows a significant effect and its suitability for students with high learning motivation. Students with high learning motivation are better able to organize, evaluate needs, and conclude information obtained during learning. Conversely, the lecture model, while informative, does not fully engage students' motivation.

Research by Samadun et al., (2023) supports these findings, showing that students taught using the IBL model exhibit higher critical thinking skills compared to those taught using the lecture model. This research used a quasi-experimental design and found that IBL significantly improves critical thinking and learning outcomes, especially for students with high motivation. Another study by Haryanti et al., (2022) found that the IBL model enhances critical thinking skills in elementary school students. Additionally, Saekawati & Nasrudin, (2021) and Yusuf et al., (2022) demonstrated that the use of real cases in IBL improves elementary students' critical thinking skills, supporting the application of IBL in enhancing analytical and problem-solving abilities. This aligns with findings from Baldock & Murphrey, (2020), which showed that secondary students perceive IBL positively, as it promotes active learning and engagement.

The significance of these results lies in the demonstrated ability of the IBL model to improve critical thinking and learning outcomes. By engaging students actively in the learning process, IBL not only enhances their understanding of the material but also fosters intrinsic motivation and analytical skills. This is particularly important in the context of social studies, where critical thinking and the ability to process complex information are essential. The comparison with relevant research underscores the robustness of the findings and suggests that IBL is a superior method for fostering higher-order thinking skills and improving educational outcomes in various contexts.

CONCLUSION

The research demonstrates that the Inquiry-Based Learning (IBL) model significantly enhances critical thinking abilities and learning motivation among elementary school students, outperforming the traditional Lecture model. Students exposed to the IBL model showed markedly better critical thinking skills and higher levels of motivation in social studies. The study specifically addressed three objectives: identifying the difference in critical thinking between the IBL and Lecture models, examining the interaction between learning models and student motivation, and assessing the effectiveness of the IBL model across different

motivation levels. The results revealed that the IBL model was particularly effective for students with high motivation but also beneficial for those with lower motivation. These findings have important implications for educational practice, suggesting that integrating the IBL model, especially with animated video media, can create a more engaging and effective learning environment. Educators and policymakers should consider adopting the IBL approach to foster higher-order thinking skills and improve overall academic performance among students.

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