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The effect of inquiry-based learning assisted by story-map on students' spatial thinking skills in seismic studies

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ABSTRACT

Fundamental changes in 21st-century learning impact geography learning, which must be balanced with students' spatial thinking ability. This ability is a core ability in geography that students must have in the process and results of learning geography. The inquiry-based learning model, with the help of story maps, is an alternative way to stimulate students to develop the ability to think spatially. This study aims to determine how applying inquiry-based learning using story maps affects spatial thinking abilities, especially in seismic studies. The method used in this study was an experiment with a quasi-experimental type using a posttest-only control group design. Data collection techniques in this study used a test in the form of posttest and observation to observe the learning process during the study. Posttest data were obtained from 66 class X students of SMAN 1 Genteng, divided into control and experimental classes. The data were analyzed using the classic assumption regression test, and further hypothesis analysis was done using a simple linear regression test. The results of this study show an influence of the application of story map-assisted inquiry-based learning on students' spatial thinking abilities at 16.7%, as assessed by R Square. In addition, the findings in this study show that the average scores for each indicator of thinking ability are diverse. The highest average in both control and experimental classes, namely analogy and transition indicators. While the lowest average in both courses is the comparison indicator.

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INTRODUCTION

21st-century education has changed the learning paradigm from teacher-centered to student-centered, focusing on students' active contributions to learning. Adjustments to the learning curriculum at school are needed to achieve learning with students as the main subject. Currently, the curriculum used in learning is the independent curriculum. The characteristics of the separate curriculum focus on learning by developing character and competence and honing students' talents (Fitriyah & Wardani, 2022). In other words, the independent curriculum is an effort to achieve three main competencies in the 21st century, namely competence to think, act, and competition in the world of work (Stehle & Peters-Burton, 2019).

Implementing an independent curriculum in academic units must be balanced with implementing an appropriate learning model regarding student needs and learning objectives. Learning models that are by the character of the independent curriculum must be able to accommodate the four primary skills of students, which include critical thinking, communication, collaboration, and creativity (Indarta et al., 2022). Inquiry is an alternative learning model that can be implemented in an independent curriculum. The inquiry-based learning model aims to implement learning by actively involving students in authentic scientific discovery based on logical thinking skills (Pedaste et al., 2015).

Inquiry-based learning was first publicized by Richard Suchman in 1962 as an action to create a fun process by conducting research and explaining phenomena that have never been known before (Maknun, 2020). The syntax of this model includes orientation, conceptualization, investigation, conclusion and evaluation, and discussion (Pedaste et al., 2015). The syntax represents learning activities by designing authentic learning designs to attract students' interest, inviting them to gather information independently and identify problems through group learning. Furthermore, it directs students to present and evaluate the findings in groups.

Inquiry-based learning is classified as a learning model that can stimulate geographical understanding. Students must understand the information they encounter by connecting their current experience and new knowledge (Roll et al., 2018). Inquiry-based learning benefits students in terms of communication, collaboration, creativity, and deep thinking mendalam (Kriewaldt et al., 2021). Through this model, students memorize facts and information and understand concepts and methods to answer questions collaboratively through group learning activities (Schleicher, 2012).

Implementing an inquiry-based learning model can create deeper learning to strengthen conceptual understanding. This model also facilitates students to act as professional experts in conducting investigations, for example, thinking and acting like mathematicians, scientists, or geographers (Kriewaldt et al., 2021). This model allows students to engage thoroughly in learning as they can learn through independent activities. By engaging in inquiry practices, students learn to formulate disciplinary questions and how to find, connect, and interpret data to build knowledge. This ability is essential in the 21st-century curriculum as it expands students' capacity to think independently and allows them to develop (Kuisma, 2018).

Previous research that examines the application of inquiry-based learning models in geography learning in environmental knowledge in schools was conducted by (Refualu et al., 2022), with the results showing that 92.8% of students who get a mastery score ≥ 70 and only 7.1% of students are classified as learning achievement scores ≤ 70 with learning success standards if the learning group has $\geq 80\%$ of students obtaining mastery achievement scores ≥ 70. In addition, research was also conducted (Rosita, 2019) with results showing that the value of t count> from t table, so it was concluded that there was an influence of the application of inquiry-based learning models on students' critical thinking skills. Based on this research, the application of inquiry-based learning significantly affects the dependent variable that the researcher has formulated.

The advantage of inquiry-based learning models lies in the syntax that directs students to develop cognitive, affective, and psychomotor abilities in a balanced manner. The application of inquiry-based learning in geography has a high relevance because geography provides many opportunities for students to conduct investigations during learning activities both in and outside the classroom (Schlemper et al., 2019). This model focuses on results and the gradual learning process that utilizes inquiry to obtain and present data through communicative information (Adnan et al., 2021). Thus, the geography learning process becomes more meaningful because students are directly involved in seeking and finding information independently (Adawiyah & Haolani, 2021).

There are also disadvantages to using this model in terms of implementation and application in the learning process. Inquiry-based learning requires classroom management that must be carried out with complex processes, and teachers need to provide appropriate orientation so that students do not have difficulty finding factual information; there is a possibility that students who have better competence tend to be actively involved in learning than other students (Holden & Sahyar, 2015). In addition, applying this model requires careful planning procedures, longer learning duration, and media that can help the learning process based on inquiry but still needs to be evenly disseminated (Komalasari et al., 2019).

Combining appropriate learning media is necessary to support the application of inquiry-based learning in learning. A story map is the relevant alternative media to be incorporated into the syntax of inquiry-based learning. Story maps are websites that communicate and explain spatial information in a concise and easy-to-understand format (Vollstedt et al., 2021). Teaching with story maps can improve geographic literacy or spatial thinking in various science, technology, engineering, and 21st-century career support (Cope et al., 2018). The content on this website is constructed based on maps organized with informative content in the form of text, pop-ups, graphics, maps, and videos. In addition, story maps also offer an experience to translate and visualize scientific data to complex data with easier access, both for learning and general interests (Kerski 2015).

In theory and practice, spatial thinking skills are a core part of geography geography (Huynh & Sharpe, 2013). Spatial thinking ability combines spatial properties, spatial information, and spatial thinking processes (Lee & Bednarz, 2009). Students with good spatial thinking skills can accurately project, classify, and synthesize a phenomenon or spatial information on Earth (Yani et al. 2018). Schools still need to improve students' spatial thinking skills due to the low awareness of studying geography (Subhani & Agustina, 2018). Low awareness of studying geography is also caused by learning activities in geography subjects considered unattractive to students because learning is still focused on the teacher (Astawa, 2022).

Indicators are needed to accurately interpret spatial thinking components to determine and measure spatial thinking ability. According to the Association of American Geographers (AAG), this study uses spatial thinking indicators, including comparison, transition, analogy, and association. The use of AAG indicators has been adapted to the material used in the study. This indicator was chosen because it is more accurate and has also been studied for its application to school students (Aliman, et al., 2019). Previous research that has used this indicator includes spatial thinking skills in 21st-century learning (Wijayanto et at., 2020) and the effect of project-based learning assisted by Google Earth on spatial thinking skills (Oktaviano, 2017). Based on the results of these studies, this indicator is more accessible and can be adapted to learning models and geography materials at school.

This study uses class X lithosphere dynamics material on geological energy material in the form of seism. In the research, the material used includes various impacts arising from all exogenous and endogenous processes, such as plate tectonics, with impacts arising from landslides, earthquakes, and tsunamis. However, this research focuses on earthquake disasters and utilizes spatial information on Indonesia's distribution of earthquake phenomena. The specialization of lithospheric material on geological energy in the form of seismics aims to enable students to conduct spatial investigations related to earthquake events by spatially identifying the causes and impacts. This study aims to determine the effect of an inquiry-based learning model assisted by a story map on students' spatial thinking skills. The contribution of this research is expected to enhance students' understanding of geology and earthquake disasters, as well as develop their ability to analyze spatial information and identify disaster risks.

METHOD

This study uses quasi-experimental research with data collection techniques using post-tests for both class groups, namely practical and control classes, without pretests. This study was designed with two groups of classes that were given a post-test after giving treatment. In the experimental class, treatment was delivered using an inquiry model assisted by a story map. In contrast, using a purposive sampling technique, the control class used a conventional model combined with the study's lecture method determination of experimental and control classes. The study, conducted in the even semester of the 2022/2023 academic year, used the subjects of students in grades X-7 and X9, with a total of 33 students in each class.

The research procedure was carried out with several steps in accordance with the syntax of inquiry-based learning which consisted of; 1) The opening activity is to prepare two class groups, namely the experimental class and the control class; 2) Orientation, namely giving students directions related to the material to be discussed using a story map and then forming discussion groups; 3) Conceptualization, namely students together with the group collect various information related to the phenomenon of earthquakes in Indonesia that has been presented in the story map; 4) Investigation, carried out by students by identifying the causes and effects of the earthquake phenomenon; 5) Conclusions and evaluation, carried out by students reflecting on the findings from the use of story map media on the topic of seism in groups then reflections are presented to the teacher; 6) Discussion, carried out by students making presentations and attaching written reports to discussion sheets; 7) The closing activity is the stage of doing the post-test by students.

The data collection results with test techniques processed in this study are the post-test scores of students' spatial thinking skills in closing activities outside of learning activities. The spatial thinking ability test instrument uses essay questions with four items based on indicators of spatial thinking ability developed by the Association of American Geographers. These indicators are comparison, aura, region, hierarchy, transition, analogy, pattern, and association. This research uses four indicators from these indicators, including contrast, transition, analogy, and association. The indicators in this study were chosen because they are most suitable for using the study material, namely those related to seism. The research instrument was first tested on students in grades X-8 and X-12 using validation and reliability tests for each item according to the indicator. The results of the question validation show a significance value <0.05, which means that the question can be declared valid. Then, the results of the reliability test showed a sig value. 0.692> 0.60, which means the question is declared reliable.

The research data analysis consists of 2 types: the classic assumption test and hypothesis testing using the regression model. The traditional assumption test consists of a normality test using One-sample Kolmogorov Smirnov with data declared normal when the significance value> 0.05 on the unstandardized residual value (Res_1). Furthermore, a linearity test is carried out with decision-making. If the significance value of linearity> 0.05, then a significant linear relationship exists between the inquiry model assisted by the story map and spatial thinking ability. After conducting the linearity test, we continued with the heteroscedasticity test with the condition that the significance value> 0.05 and no symptoms of heteroscedasticity were in the post-test data. This prerequisite test is carried out to determine the residual variance of each data. Hypothesis testing uses a simple linear regression test with the condition that if the significance value <0.05, the inquiry-based learning variable assisted by the story map affects the spatial thinking ability variable. Based on the hypothesis test results, it can be stated that H0 is rejected and H1 is accepted, or there is an influence of the two variables. In addition, to determine how much impact the independent variable has on the dependent variable, the value of R Square is used as a percentage.

RESULT AND DISCUSSION

Result

This research was conducted for four meetings: three central meetings for learning activities and one meeting outside the main learning hours for post-test. In learning activities, the experimental class used an inquiry-based learning model assisted by a story map, and the control class used a conventional model. The post-test was given to students with 50 minutes of testing time using the Google Forms platform. The following presents the post-test results from both class groups.

Table 2. Frequency Distribution

No.	Value Range	Qualification	Experiment Class		Control Class	
			Frequency	Percentage	Frequency	Percentage
1	91 – 100	Very good	9	27.2	2	6.0

No.	Value Range	Qualification	Experiment Class		Control Class	
			Frequency	Percentage	Frequency	Percentage
2	81 – 90	Good	16	48.4	14	42.4
3	71 – 80	Simply	8	24.2	16	48.4
4	0 – 70	Less	0	0	1	3.0
Total			**33**	**100**	**33**	**100**
Mean			**87.1**		**81.3**	
Min			**80**		**70**	
Max			**95**		**95**	

The information contained in Table 2 is related to the proportion and frequency of the results of the post-test scores in the control and experimental classes. This table is obtained from the post-test scores, which are then calculated as scores and deepened in the intervals according to the amount of post-test data. This table is helpful to make it easier to find the results of descriptive statistical analysis of the data set of posttest scores for spatial thinking ability before further calculating the average of each indicator of spatial thinking ability in the control and experimental classes. So, this table represents the overall results of the posttest scores of the two research classes more simply.

Table 3. Mean Values of Spatial Thinking Skills Indicators for Experimental and Control Classes

No.	Indicator	Information	Average	
			Experiment	Control
1	Transposition	Identify changes in place that occur gradually and irregularly	4.7	4.5
2	Association	Analyze the Symptoms of a Phenomenon in Pairs that Tend to Occur Together in Specific Locations	4.5	4.1
3	Comparison	Comparing the Location of a Phenomenon that has Similarities and Differences	3.7	3.1
4	Analogy	Analyze Locations that may have the Same Conditions	4.5	4.6
Total			**17.4**	**16.3**

Table 3 shows a difference in the average value between the experimental and control classes on each spatial thinking indicator. The difference occurred due to differences in treatment given between the two classes. In the practical class, before students take the post-test, they are given treatment by applying inquiry-based learning syntax for three meetings before the post-test and are equipped with worksheets that contain inquiry syntax. Thus, students get a more significant opportunity to stimulate spatial thinking skills appropriately when doing the post-test. In the control class, students only did a few activities independently, and the teacher still had complete control over the learning process.

The table also contains information on the average results of the most dominant or highest average spatial thinking indicators in both classes: transition and analogy. One of the reasons these two indicators get the highest scores is the characteristics of indicators that are more representative of stimulating students, especially in working on post-test questions. Thus, students tend to master these two indicators more. In addition, some indicators have the lowest average, namely comparison. The triggering factor is that performing and applying this indicator is more complex than others. To bring up this indicator in learning activities, students first need to recognize a phenomenon that has never been known. Then, students begin to observe the phenomenon until they can find and compare differences from a presented phenomenon.

Other information that can be found in the table, namely, the average value on the analogy indicator of the control class, is higher than that of the experimental class. The average value of other indicators tends to be higher in the practical class. The acquisition of these results is typical even though, in the learning process, students in the experimental class have a more significant opportunity to stimulate spatial thinking skills in all indicators. Measurement of spatial thinking ability cannot be represented in just one indicator but must be done as a whole. The table above shows that the experimental class tends to have a higher average spatial thinking ability than the control class, which can be observed from the total average produced.

Table 4. Classical Assumption Test

No.	Classic Assumption Test	Significance	Information
1 2	Residual Normality Test Kolmogorov Smirnov	Asymp.Sig. (2-tailed) .200	Normally Distributed
3	Linearity Test	Deviation from Linearity .972	There is a Linear Relationship Between Two Variable
4	Heterokedastisitas Test	Sig. .774	No Symptoms Occur Heteroscedelasticity

Table 4 shows the significance level in The residual normality test of 0.2 with a decision-making sig value> 0.05, meaning the post-test value data is usually distributed. Then, the linearity test has a significance value> 0.05, which is 0.972, which means a linear relationship exists between inquiry-based learning and spatial thinking skills. The heteroscedasticity test shows a significance value of 0.774 or > 0.05. So, it shows that the value of the post-test results does not offer any equality in the residual variance. Following the results of the classical assumption test above, the post-test results show a significance value> 0.05, meaning they meet the requirements to proceed to hypothesis testing using simple linear regression.

Table 5. Hypothesis Test

No.	Model	R	R Square	Adjusted R Square	Sig.
1	1	.408[a]	.167	.140	.018

Based on the results of the hypothesis test calculation seen from the R square in Table 5, it is known that the R square value is 0.167, which means that the effect of variable X (inquiry-based learning) and variable Y (spatial thinking ability) is 16.7%. As a basis for decision-making by comparing the significance value with a probability value of 0.05, it is stated that the inquiry-based learning variable affects the spatial thinking ability variable because of the sig value. 0.18 > 0.05.

Discussion

The study's results based on the R Square value show an influence of 16.7% of the application of inquiry-based learning assisted by story maps on spatial thinking ability. The existence of the influence is also shown in the comparison between the significance value and the probability value, which shows the result of 0.18> 0.05. The research results that show the effect are supported by the characteristics of the inquiry model that can develop in-depth thinking skills through the findings of the results of the investigation carried out gradually to form a conclusion (Favier & Van Der Schee, 2012). In addition, the inquiry-based learning model can also stimulate students' curiosity in learning through investigative activities (Mieg, 2019). Using story map media with seismic material can facilitate students in thinking comprehensively about earthquake disasters because the story map is packed with visualizations that can describe the actual conditions when the earthquake occurred in Palu, Mentawai, and Cianjur. The material contained in the story map is equipped with pictures and maps to provide illustrations to students to represent the material being studied (Egiebor & Foster, 2019).

The components used in the story map media consist of 7 sections, which include 1) a Dashboard section that presents a description related to the location of the earthquake along with supporting information such as earthquake strength, earthquake type, and earthquake impact; 2) Tools that display the story map to full screen; 3) A simple map legend that pops up when clicked; 4) Search tools used by students to find information on the story map, but only limited to the content that has been provided; 5) Display of sub-materials from the story map content; 6) Legend of the disaster distribution map presented in the story map; 7) Tools used to enlarge and reduce the size of the map. The inquiry-based learning model assisted by a story map improves spatial thinking ability because students can be directly involved in conducting investigations and discoveries using the concept of thinking independently. In addition, this model consists of the teacher as the main subject and invites students to identify related earthquake phenomena, including causes, consequences, and actions that students can contribute as prospective geographers in minimizing the impact after an earthquake. These learning activities can be found in the syntax of the inquiry-based learning model, which includes 1) Orientation or identifying a phenomenon, 2) Conceptualization, 3) Investigation, 4) Conclusion and evaluation, 5) Discussion or conveying the results of the investigation (Makar & Fielding-Wells, 2018).

In the learning process, the first activity carried out by students is identifying a phenomenon (orientation). At this stage, the activities stimulate students by listening to the content of the earthquake phenomenon contained in the story map. In addition, a simple map related to the distribution of earthquakes that occurred in several regions of Indonesia was also presented. By presenting the story map content, learning activities become more attractive to students and provide an initial description of the phenomenon being discussed (Groshans et al., 2019). After listening to the material in the story map, the teacher instructs students to respond or ask questions. From the results of learning activities through this syntax, students allowed to ask questions and answer the material in the story map have indirectly carried out one of the spatial thinking indicators: a comparison. This indicator is the ability to compare the location of a phenomenon that tends to have similarities and differences according to the phenomenon being discussed (Wijayanto et al., 2020). This is because the content at the beginning of the media provides an overview of the impact of earthquake phenomena. The emergence of comparison indicators in the orientation syntax is characterized by several students who can provide statements following the intent of the material content. For example, students can correctly describe the pre- and post-earthquake conditions in several different locations according to the aerial photos presented in the story map content.

Entering the core part of the inquiry-based learning syntax, the teacher divides students into eight groups, each getting one discussion sheet containing guidelines and instructions for learning activities adapted to the syntax of the inquiry-based learning model. Discussion sheets are distributed in groups to stimulate and hone the ability to think in groups (Aldilha, et al., 2019). Each group consists of 4 people so that the division of tasks in the group is more organized. Then, the teacher explains the activities during the learning process. In this activity, eight groups get three different earthquake case studies. This means that two groups will get 1 of the same topic. The topics in this learning activity are related to earthquakes in Mentawai, Palu, and Cianjur. The aim is for groups with the same topic to complement the information obtained. In the second stage, students seek and gather information conceptually and factually according to the case study topic of each group. At this stage, students carry out the second syntax of inquiry-based learning, namely conceptualization. This syntax is a student activity in collecting information through theories and phenomena (Pedaste et al., 2012). This information is gathered from various sources, both from articles and content on the story map. In this stage, students discuss the division of labor with each group and write down the details. In this stage, the teacher has the task of guiding and supervising students in gathering information through the problem formulation provided on the student discussion sheet.

The third stage is investigation. At this stage, students are asked to identify the causes and impacts of earthquake phenomena in several regions of Indonesia, especially in the Mentawai region. Palu and Cianjur. This syntax is an activity carried out by students to analyze and investigate the information that has been collected previously (Pedaste et al., 2012). So, this investigation activity is carried out by students using the findings of information sourced from story maps and articles previously carried out at the conceptualization stage. At this stage, each group can obtain data from articles, papers that can be accounted for, and story map content. Through this stage, students can build and discover their knowledge concepts (Oktavianto, 2017). Students will be stimulated to bring up spatial thinking indicators in this syntax. Namely, association (correlation) is the ability to analyze symptoms of a paired phenomenon that tend to occur together in specific locations. In addition, there is also a transition or the ability to identify changes in places that occur gradually and irregularly, and analogy or the ability to analyze locations that may have the same conditions (Wijayanto et al., 2020).

Some examples of activities carried out by students that give rise to these indicators are: 1) Students can correctly write the results of the analysis of the case study, which includes the causes, impacts, and minor natural disasters that may occur as a result of earthquakes; 2) Students can correctly reconstruct an understanding of the relationship between earthquakes that occur in the same place in different periods; 3) Students can correctly identify the differences in the causes of earthquakes according to different case study locations. Based on the findings of these activities, this syntax most influences students' spatial thinking skills because it can stimulate three indicators of spatial thinking in one syntax. The fourth stage is the conclusion and evaluation. In this syntax, the activities conclude and evaluate the investigation results (Pedaste et al., 2012). In this stage, all group members will discuss and write down the findings in the worksheet. Each group that has collected data from the literature review process is then summarized in a discussion worksheet according to each group's topic. The activities carried out by students in this stage not only carry out the syntax of inquiry-based learning but also the attitudes reflected in the profile of Pancasila students, which include critical reasoning, creativity, respect for differences of opinion, and collaboration. In addition to stimulating spatial thinking indicators, at this stage, students can also implement the Pancasila learner profile after implementing the independent curriculum at school.

The next stage is students presenting the investigation results through a simple presentation. At this stage, all data and information that has been collected has passed the stage of secondary data review, which has been analyzed. This final stage determines whether the investigation results are based on the collected data and information (Pedaste et al., 2012). Students in groups make presentations and take notes on the results of other groups' presentations. At this stage, students also make conclusions on the investigation results by combining all information from the results of group presentations presented in concept maps and tabulations. The purpose of the conclusion part of the presented results is so that students can reconstruct spatial thinking indicators comprehensively. Finally, at the conclusion and evaluating and discussing syntax stages, spatial thinking indicators can be stimulated simultaneously. This is because, in the two syntaxes of the final stage, students have carried out disclosure activities with the results in the form of information related to the complete case study. All stages of the inquiry-based learning model and the achievement of spatial thinking indicators in each syntax can be represented in the following flowchart.

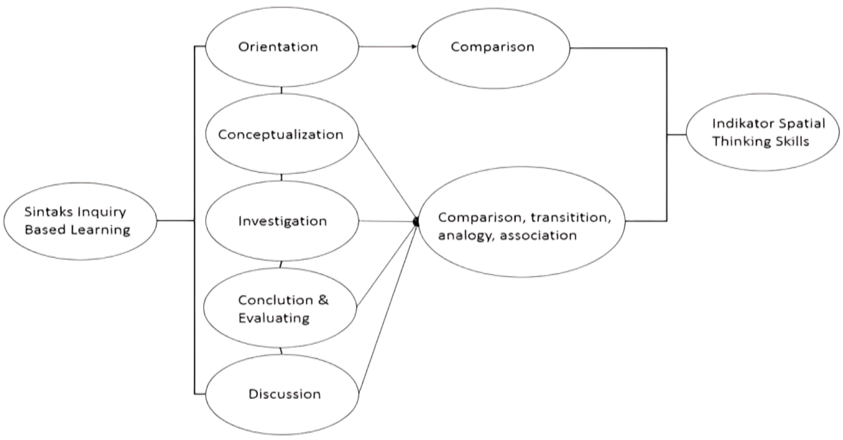

Figure 1. Flowchart of Inquiry-Based Learning

Based on the flowchart, orientation is the syntax that influences the comparison indicator the most. In comparison, other syntaxes can appear together when applying four syntaxes after orientation. In addition, from the students' learning process conducted during the research, the comparison indicator can be stimulated in all syntaxes of inquiry learning. Another finding is the syntax that initiates the stimulation of all spatial thinking indicators, namely conceptualization. Although this syntax is the first syntax that can stimulate all spatial thinking indicators, there is an investigation syntax that can be more dominant. It has been explained in the previous section of the inquiry syntax stages that the activities of this syntax can thoroughly accommodate spatial thinking indicators, including comparison, conceptualization, transition, analogy, and association.

After conducting the entire series of research processes, the inquiry learning model can accommodate students to stimulate and think spatial because several syntax stages can be applied to indicators of spatial thinking ability. In addition, in the learning process, students conduct group investigation activities so that it is easier to find a concept that can be used as a way to identify a phenomenon. This learning model is also an appropriate means to develop students' thinking skills independently because the teacher provides facilities for learning. In addition, combining media as a story map in a spatial-based learning model makes students more interested because this is the first time they are presented with media similar to a story map. Because in this media, visualizations describe the actual location of the phenomenon (Egiebor & Foster, 2019). This visualization includes images, aerial imagery, and earthquake distribution maps adapted to seismic material.

The study results showed the effect of applying the inquiry-based learning model assisted by the story map on students' spatial thinking skills based on ¬R Square of 16.7%. These results prove that there is an influence but not yet significant. The results that have not been significant can be influenced by various factors that arise in research and data collection. Based on the results of observations by observers during the study, the findings include 1) Limited learning hours to shorten the syntax of investigation and discussion; 2) Constraints on school projectors that have an impact on the presentation of story map media so that in some syntax orientation students listen to media content using their respective devices; 3) Limited material content on story map media used in the learning process so that not all syntax of inquiry-based learning uses story map media. Therefore, it can be said that the inquiry-based learning model assisted by a story map can be implemented in learning activities in geography subjects as a modification to learning activities. However, more careful preparation and adjustments must be made regarding teachers, students, the availability of school facilities, and the material to be studied.

CONCLUSION

This research was conducted in 4 meetings divided into the first three meetings for learning activities using the inquiry-based learning model assisted by story maps, while the last meeting was to carry out a post-test to measure students' spatial thinking skills. The results of the post-test assessment showed that the most dominant indicators of spatial thinking ability, namely transition and analogy, were mastered by students in both experimental and control classes, as evidenced by the acquisition of the highest post-test average score. Meanwhile, the indicator of spatial thinking ability still has a lower average value than both classes, namely comparison. Based on the results of post-test data processing seen from R Square, the application of inquiry-based learning models assisted by story maps has a 16.7% influence on students' spatial thinking skills. In addition, the sig. Value shows the result of 0.18 <0.05, which means that there is an influence from applying the independent variable on the dependent variable. Suggestions for further research: Researchers should provide orientation to students at the beginning of learning related to the inquiry-based learning model. Thus, the application of learning syntax is more accessible for students. In addition, to apply the inquiry-based learning model, researchers can further customize the use of media and materials being studied.

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