Students' Ability To Interpret Pattern Imagessocial Cultural Spatial Of The Google Maps Application

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Abstract – Spatial pattern material in learning requires strong visualization so that students can understand complex concepts. However, the use of conventional media that does not support interactive visualization can make it difficult for students to understand the material and develop interpretation skills. This research aims to overcome this problem by using the Google Maps application in interpreting images of socio-cultural spatial patterns for students at SMA Negeri 1 Kalianda.

The research was conducted in class The research results showed that 33 students or 94.29% could use the Google Maps application very well, 29 students or 82.86% were able to interpret the spatial patterns around their respective students' residences, 28 students or 80% were able to interpret socio-cultural spatial characteristics , and 30 students or 85.71% were able to conclude the spatial pattern of their area.

Thus, the use of the Google Maps application in interpreting images of socio-cultural spatial patterns has the potential to improve students' ability to interpret spatial patterns that are spread out, clustered and elongated, but further efforts are still needed to increase the number of students who achieve adequate interpreting criteria. This research has implications that learning approaches involving interactive applications such as Google Maps can be an effective alternative in developing students' interpreting skills in the field of geography.

Keywords – GoogleMaps Application, Image Interpretation, Interpreting.

I. INTRODUCTION

Learning using image interpretation can help in understanding and analyzing spatial patterns on the earth's surface. Geography is a science that involves imaging, explaining the nature of the earth, analyzing natural and social phenomena, and studying various patterns of life to find the function of the earth's elements in both space and time (Bintarto, 1977).). This is also strengthened by the research results of Afrizal, N. A. , & Arianto, F. (2021) , which was published in the journal entitled Remote Sensing Digital Simulation and Image Interpretation for Class X IPS Students in High School N 19 Surabaya , explained that the use of image interpretation in learning can also expand students ' thinking to be able to interpret spatial patterns that exist in the real world. This provides an opportunity to apply learning concepts practically and engage students in deeper spatial analysis .

Interpreting images has significant importance in various fields, especially in the digital era where everything is visual like now. Images or pictures are often used as a medium to convey information, and the ability to interpret images correctly can provide many benefits.

Spatial pattern material in Geography often requires strong visualization to understand complex concepts. By using conventional media that does not support interactive visualization, students may have difficulty understanding and motivating themselves to learn further resulting in students' lack of ability to interpret images, especially in Geography Learning. Learning activities that were too centered on the teacher were seen when the researcher carried out observations on February 23 2023 during learning activities in class This results in students' interest in learning and absorption of material decreasing.

A solution is needed so that students are able to learn actively and easily absorb the material that has been taught.

Implementation can be done through an innovative approach. There is a priority that using active student learning strategies is an alternative solution for educators and has been recognized as a substitute for the lecture method (Halimah, 2008: 105-106).

Geography learning in rural-urban spatial material carried out in class so far, students only memorize the material without having the desire to express opinions and solve problems during Geography learning. This is in line with the expression, "Indonesia's Memorizing Generation", from a member of the Jakarta Academy and Composer, Slamet A. Sjukur, in the book "Critical Pedagogik" by Tilaar, et al (2011). The rote generation in question is students who are taught to memorize lessons without understanding the meaning of the learning itself. As a result, students cannot master the knowledge given by the teacher and cannot apply it in real life. In fact, learning is not memorizing a number of facts or information (Sudjana. 2009:28). Learning is an effort to master scientific material which is part of the activities towards achieving a complete personality. (Sudirman 2004:21).

Information obtained by researchers through the subject teacher, namely Mrs. Wahida, during an interview on February 16 2023, stated that the ability to interpret images in the Geography Subject of class XII IPS 2 students at SMA Negeri 1 Kalianda was still low. Students also rarely express their opinions in class. "Indonesia's Memorization Generation", from a Member of the Jakarta Academy and Composer, Slamet A. Sjukur, in the book "Critical Pedagogy" by Tilaar, et al. The rote generation in question is students who are taught to memorize lessons without understanding the meaning of the learning itself. It can be seen that when the teacher asks students to ask questions about things they don't know related to the material on Socio-Cultural Spatial Patterns or Image Interpretation, students choose to remain silent and are afraid to bring it up.

After getting information from the Geography teacher, the researcher then carried out initial observations which were carried out on February 23 2023. At the time the observation activity took place, with the number of students in class students or 42.86% did not pay attention to the explanation given by the teacher. Geography as a subject in the education curriculum has an important role in understanding space and place. In class _ _ _

The lack of students' ability to interpret images can be reflected in the low learning abilities obtained in geography subjects, especially in material related to urban village spatial patterns, where the learning given by teachers still uses the lecture method and conventional map learning media may not be able to relate abstract concepts with real examples that they can see and feel around them. This can make students feel that learning Geography is irrelevant or less interesting for them , even though with the use of widely available digital media, teachers can utilize digital technology, such as computers, GIS (Geographic Information System) software, or applications that allow Another interactive visualization of spatial patterns , this is also explained in the Introduction to Remote Sensing Image Interpretation (Purwadhi, SH, Tjaturahono, BS : 2008.).

Interesting learning with the use of varied media and can make students. Based on research conducted by Computer Technology Research (CTR), the results state that people are only able to remember 20% of what they see and 30% of what they hear. But people can remember 50% of what they see and hear and 80% of what they see, hear and do at once (Munir, 2016, p. 6). From the results of this research, it can be seen that the highest percentage is that people can remember what they see, hear and do at the same time. This is in line with the function of interactive multimedia which has several advantages, including the involvement of body organs such as the ears (audio), eyes (visual) and hands (kinetic). The involvement of these various organs makes the information conveyed easier to remember and understand (Arsyad & Anitah, 2017).

To select effective and innovative media during the learning process, several criteria are needed to state that the media is suitable for use. Criteria that need to be considered include (1) In accordance with the objectives (2) Can support lesson content which is facts, concepts, principles or generalizations (3) Effective and flexible (4) Teacher skills in using (5) Grouping targets (6) Technical quality (Arsyad, 2009).

Learning that is carried out only using the lecture method is less able to enable students to interpret, so learning can be provided using other methods such as *Project Based Learning* . *Project Based Learning* (PjBL) is a learning model that uses projects or activities as media. According to the Ministry of Education and Culture (2013). By implementing project-based learning (PjBL) in learning using the Goggle Maps application by interpreting images of socio-cultural spatial patterns, students are expected to be able to create illustrations or descriptions of the application process that are more interesting because they can be involved in every stage of project-based learning. , and can improve the interpreting skills of class XII IPS 2 students at SMA Negeri 1 Kalianda.

Based on the 2018 PISA results, the ranking of Indonesian students in the Science category is 71 out of 79 countries with an average of 396 which is still in the category below the international average of 500. This happens due to several factors, one of which is that Indonesian students still have low interpreting skills in solving high-level thinking problems. (OECD: 2019) . Such conditions will certainly have a negative impact on students. In the entire educational process at school, teaching and learning activities are the most basic activities. In reality, there are still many students who do not have the ability to interpret , due to students' belief in being results-oriented and not process-based

Referring to the description above, the author intends to look at the use of Google maps media in Spatial Pattern material with students' interpreting abilities. Therefore, research will be carried out with the title *"ANALYSIS OF STUDENTS' ABILITY IN INTERPRETING IMAGES OF SOCIAL AND CULTURAL Spatial PATTERNS USING THE GOOGLE MAPS APPLICATION"* .

II.   RESEARCH METHODOLOGY

In this thesis research, the researcher used a qualitative approach. The qualitative research approach is referred to as a type of research whose findings are not obtained through statistical procedures or other forms of calculation (Imam 2013 : 80). Creswell (2013: 18) explains that a qualitative approach is a research approach that seeks to understand phenomena from the perspective of people who experience them, through collecting and analyzing descriptive data. Merriam (2009 : 04) states that a qualitative approach is a research method that obtains data from the people being examined or from situations in the field, and then uses interpretation as a means to explore the meanings of the observed phenomena.

In this research, researchers use methods as a way to obtain various things that support the achievement of a goal. This is in accordance with what was stated by Sugiono (2010: 3) "In general, research methods are defined as scientific ways to obtain data with specific purposes and uses", In this research, researchers used processing data collection and drew conclusions regarding the results of student analysis on image interpretation obtained from Google Maps and how students analyzed by interpreting in the field of socio-cultural spatial patterns in the area around the house.

To answer the problems in the research above, it is necessary to use appropriate and effective research methods. Therefore, in order for the researcher to get a description of the results of the analysis of students who think critically, the researcher used descriptive qualitative research with visual analysis data collection. Where the use of media has several objectives, namely: (1) visual media is used to obtain information and knowledge; (2) providing support in learning activities; and (3) making it a means of persuasion and learning motivation for students.

Overall, visual data analysis is an important method in qualitative research to gain a deeper understanding of the phenomenon under study. In this research, visual data was obtained from the assignments of class

Data In accordance with the qualitative research approach and the data sources that will be used, the data collection techniques used are document analysis, observation and interviews.

1.   Observation

   Observation is a technique or way of collecting data by observing ongoing activities (Nana: 2009). In this research, observation techniques are used to strengthen the data. In research observations, interpreting students is when they carry out experiments to interpret images of socio-cultural spatial patterns using the Google Maps application. Students can observe the results of their experiments closely and gather relevant information to critically analyze those results.

2.   Interview

    Interviews were conducted in two forms, namely structured interviews and unstructured interviews. An interview is a conversation directed at a particular problem; This is an oral question and answer process, where two or more people physically face each other (imam 2013: 130). In this research, interviews are used by teachers or researchers to measure students' ability to interpret and provide feedback to students about their ability to analyze and evaluate information objectively.

3.   Documentation

The documentation technique is looking for data regarding things in the form of notes, transcripts, books, newspapers, magazines, and so on. This documentation technique is carried out to support the research process, where not everything can be known just by observation and interviews. This documentation technique is also used to measure students' interpreting by recording observations and reflections about their interpreting abilities during the learning process.

The data analysis process used by Miles & Huberman suggests three stages that must be carried out in analyzing qualitative research data, namely as follows. (imam 2013: 210-216)

1. Data Reduction Reducing data is an activity of summarizing, selecting the main things, focusing on the important things, and looking for themes and patterns. Data that has been reduced will provide a clearer picture and make it easier to collect data. Findings that are considered foreign, unknown, and do not yet have a pattern are the ones that are of concern because qualitative research aims to look for hidden patterns and meanings behind visible patterns and data. Qualitative data can be simplified and transformed in various ways, such as through rigorous tests, summaries/brief descriptions, grouping them into one larger pattern and so on.

2. Data Display (Data Display) Data that has been reduced, the next step is to display the data. Presentation of data as a collection of structured information, and provides the possibility of drawing conclusions and taking action. Data presentation is used to further improve case understanding and as a reference for taking action based on understanding and analysis of the data presentation. In this research, the data that will be obtained will be in the form of student work test results, sentences, words related to the research focus. words in sequence so that the presentation of data which is a collection of information arranged systematically can provide the possibility of drawing conclusions.

4. Conclusion Drawing Conclusion drawing is the result of research that answers the research focus based on data analysis. Conclusions are presented in the form of descriptive research objects guided by research studies. When continuous data analysis activities are completed, both in the field and after completion in the field, the next step is to draw conclusions. To lead to this conclusion, it is of course based on the results of data analysis, which comes from observations, tests and interviews.

III. RESULTS AND DISCUSSION

The results of the interview on Tuesday, August 15 2023 with Mrs. Wahida are as follows One of the research informants , it can be seen that Mrs. Wahida's view as a teacher so far in studying Geography at SMA Negeri 1 Kalianda in the material on Spatial Patterns, especially on the interpretation of images of socio-cultural spatial patterns, is that students have weaknesses in expressing their opinions in order to be able to interpret them. During the interview, Mrs. Wahida described her experience of feeling helped in improving students' ability to interpret spatial patterns through using the Google Maps application to interpret images of socio-cultural spatial patterns. Mrs. Wahida realizes that this application has great potential in helping students understand and analyze the relationship between geographic space and the socio-cultural factors that exist within it.

At the end of the interview, Mrs. Wahida expressed her joy in seeing the progress of her students in learning spatial pattern material, especially in interpreting images of socio-cultural spatial patterns using the Google Maps application. He hopes that this learning method can continue to be used to help students improve their interpreting skills and deepen their understanding of

Based on the results of observations and interviews of XII IPS 2 students in the field, it can be seen that learning using the Google Maps Application in Image Interpretation of Socio-Cultural Spatial Patterns improves the interpreting abilities of class XII IPS 2 students at SMA Negeri 1 Kalianda. The data obtained from the results of observations and student responses were taken after participating in learning using the Google Maps Application. In the Interpretation of Images of Social Spatial Patterns, observation was used to determine students' ability to interpret the learning that had been given.

INDICATOR	THE NUMBER OF STUDENTS THAT MEETS THE ASSESSMENT CRETERIA							
	4(SB)	%	3 (B)	%	2(C)	%	1(K)	%
Use the Google Maps Application Well	33	94.29	2	5.71	0	0	0	0
Able to interpret house spatial patterns	29	82.86	3	8.57	4	11.43	0	0
Interpretation of Socio-Cultural Spatial Characteristics	28	80	2	5.71	5	14.28	0	0
Infer the spatial pattern of the area	30	85.71	4	11.43	1	2.86	0	0

From the results of the observations carried out, it turns out that the total number of students in Class whether the pattern is longitudinal, central or spread out. Students are also able to interpret socio-cultural characteristics such as knowledge systems, economics, social organization and technology in the community around the house. The observations resulting from this class have received a total score with Good Criteria and even Very Good score criteria.

The results of the observations presented in the table above show that as many as 33 students or 94.29% can use the Google Maps application very well, 29 students or 82.86% are able to interpret the spatial patterns around their respective students' residences, 28 students or 80 % were able to interpret socio-cultural spatial characteristics, and 30 students or 85.71% were able to infer regional spatial patterns.

The results of the analysis of research on the use of the Google Maps application among XII IPS 2 students at SMAN1 Kalianda showed that the majority of students were immediately able to use the Google Maps application when the teacher first introduced it. This can make students increasingly proficient in using the Google Maps application to quickly and efficiently determine travel routes, find specific locations, and calculate estimated travel times. They are also able to use advanced features such as real-time navigation and explore surrounding information, such as restaurants or places of interest, so they can maximize their travel experience. Furthermore, data collection in the form of interviews was carried out on August 9 2023 during the 9-10th class hour. Data collection using interview techniques was carried out in the classroom.

Primary data is data obtained directly from informants or research objects (Sugiyono: 2017). Informants are determined according to the research problem. The informants in this research came from students. In this research, primary data can help students to collect facts and information needed to understand a problem, evaluate this information objectively, and solve problems logically. Other students can still take part in teaching and learning activities in class. One student is selected from other students whose indicators of creative thinking ability in solving problems are at the same level.

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so they can maximize experiences on their journey. With these capabilities, they can be more independent in navigating the real world and make better decisions regarding their travels.

Learning Geography in using the Google Maps application in interpreting the ideal socio-cultural spatial patterns around their homes, it turns out that they discovered many new things, such as the assignment submitted by a student named Aziza Ankalpara according to the living conditions in the Banding area which is on the coast, becoming a pattern. The settlements fall into an elongated pattern, because they follow the pattern along the coast, whereas for some students the settlement pattern is spread out, one of which is Ahmad Dzaki Ekaputra, who interprets the spatial pattern of the houses as spread out because the positions of the houses are not close to each other and are not clustered in public facilities or extending along the road. kingdom.

Based on the characteristics of the interpretation of residence in the Azizah area, it is classified as a village, why is it called a village because: Life is still simple, the road network is not so congested/congested but currently along the coast there is a wave breaker project so there are lots of trucks passing by and hindering users other vehicles and air pollution, looking at the social and cultural aspects of livelihood, the majority are fishermen and farmers, the residential areas are houses and yards and rice fields, the technology here is also adequate, for example you can install Wifi, the existing facilities can also be said to be advanced because there are community health centers, elementary schools, middle schools, high schools, etc. available. The economic level is also advanced, with a village head's office that is ready to serve every need of its residents, it is not left behind by other villages and runs smoothly, the means of transportation are also not modern (but it depends on the quality of the people's work), and mutual cooperation is still implemented.

Just like Azizah, Kharismapara, Violita, M Rafi Pramudya and other students, they have also been able to interpret socio-cultural characteristics seen from the knowledge system that they interpret from the space, many of whom are still not highly educated. The economic characteristics which can be seen from the image of the area are plantation areas. so that many residents still make a living from gardening (agrarian), seen from social organization, and other technologies also still have rural characteristics. Only a few students have sufficient criteria for interpreting images.

85.71% of the students in class develop all potential optimally, this is characterized by the ability of the community to interact with outside communities, exchange goods with other areas (trade). Swakarya Village was also concluded as a spatial pattern of their home area because they looked at the existing characteristics, such as Qotrunada Musaffa looking at the characteristics of residents who have various jobs.

The differences in the spatial patterns of each student enable them to interpret in carrying out the PJBL assignments that have been given by the teacher, where students are invited to see the shape of the spatial patterns and they understand what ethnic group is around their house. Although they are able to make observations and analysis, there are several errors in concluding or describing socio-cultural spatial patterns. However, they still show progress and potential to improve their interpreting skills with further help and guidance from teachers or classmates.

Based on the results of interviews conducted, a differentiation approach can be applied to meet individual student needs. Teachers can provide additional support and hold tutoring sessions for students who are having difficulty developing their interpreting skills. Increases in formative evaluation and constructive feedback can also help students to improve their understanding and abilities as learning progresses.

It is important for schools and teachers to reflect and evaluate the learning that has been carried out. By analyzing observational data, they can identify weaknesses in teaching methods and improve them to improve student learning outcomes. Apart from that, professional development for teachers is also important so that they can integrate technology applications more effectively in the learning process.

By looking at these improvement steps, it is hoped that students' interpreting abilities in interpreting images of socio-cultural spatial patterns will improve over time. Data from these observations and interviews provide a foundation for improving learning and helping students reach their full potential in better interpreting and analyzing geographic information.

IV. CONCLUSIONS AND RECOMMENDATIONS

Conclusion

Based on the results of research and discussions where learning uses the Google Maps application in interpreting images of social spatial patterns, it is known that as many as 33 students or 94.29% can use the Google Maps application very well, 29 students or 82.86% are able to interpret the spatial patterns around them. where each student lives, 28 students or 80%

were able to interpret socio-cultural spatial characteristics, and 30 students or 85.71% were able to conclude the spatial pattern of their area.

The conclusion of this research is that the use of the Google Maps application in geography learning has had a positive impact in improving students' interpreting abilities. Through interpreting images of socio-cultural spatial patterns around the school and home using this application, students can observe, analyze and draw conclusions critically based on the available information. In this context, Class XII IPS 2 students at SMA Negeri 1 Kalianda showed that they had mastered the ability to interpret well. This can be seen from their ability to understand the relationship between geographic space and the socio-cultural factors contained in the spatial pattern images studied.

By using the Google Maps application, students in class They can also compare and contrast socio-cultural spatial patterns between different regions, involving critical thinking to identify factors that influence these patterns. These results indicate that the use of relevant technology in learning can help students develop their interpreting skills, which are important skills in a deep understanding of the relationships between geography, society, and culture.

Suggestion

Based on research that has been carried out on the theme of learning using the Google Maps application in interpreting images of social spatial patterns, here are some suggestions for teachers and students:

Advice for Teachers:

1. Plan and develop learning activities that involve effective use of the Google Maps Application. Create a structured lesson plan that combines image interpretation of social spatial patterns with critical learning.

2. Create guides and modules for students to use the Google Maps application well. Provide clear instructions on how to explore the map, zoom in/out on images, search for places, and explore other features relevant to socio-cultural spatial patterns.

3. Motivate and direct students to observe and analyze images of socio-cultural spatial patterns using the Google Maps application. Provide structured questions or assignments that require students to identify important elements, spatial relationships, and sociocultural impacts of observed spatial patterns.

4. Provide constructive feedback to students about their interpreting abilities in interpreting images of social spatial patterns. Give praise and appreciation for their efforts and provide guidance to improve their understanding and analysis.

Advice for Students:

1. Take advantage of the Google Maps application as a tool to interpret images and understand socio-cultural spatial patterns. Explore maps, satellite images and related information from various places in the world. Make careful observations of elements that can influence social culture in an area.

2. Ask critical questions and think broadly about the observed socio-cultural spatial patterns. Consider factors such as physical geography, cultural diversity, relationships between communities, and environmental influences on these spatial patterns.

3. Discuss your findings and observations with your teacher and classmates. Share the knowledge and understanding you gain from interpreting images of socio-cultural spatial patterns using the Google Maps Application. Exchange opinions and perspectives to broaden mutual understanding.

4. Get involved in assignments or projects that encourage critical thinking, such as creating conceptual maps, constructing evidence-based arguments, and comparing socio-cultural spatial patterns between different regions.

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