

Advantage Of Map As Geography Learning Media To Enhance Students Spatial Intelegence

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1 ADVANTAGE OF MAP AS GEOGRAPHY LEARNING MEDIA TO ENHANCE STUDENTS SPATIAL INTELLIGENCE

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ABSTRACT: Education cannot be separated from the learning process, which aims at useful and useful learners in the future. Geography as a subject in formal educational institutions, has objects of study regarding the spatial conditions of the earth's surface, these subjects are related to the formation of students' spatial thinking or known as spatial intelligence, one of the components students must have regarding their thinking. Through a descriptive qualitative approach and research method of literature study, where data are collected through scientific publications in the form of related journals, this article shows the role of maps as a medium for learning geography, which can improve students' spatial intelligence. The results showed that there was a positive correlation, between the use of maps as a medium for geography learning in increasing each indicator of students' spatial intelligence indirectly, the map shows the route from one object to another thereby increasing a) cognitive map, the map also connects between the characteristics of objects in the real world and the position of objects on the map so that it is formed b) cognitive collage, an understanding of the characteristics of the real world and the position of objects with a certain scale on the map so that students understand the spatial impact known as the ability c) spatial mental. In conclusion, the map is recommended to be used as a medium for learning geography to improve students' spatial intelligence, which will be indirectly beneficial for students.

Keywords: Maps, Spatial Intelligence, Learning Media

1. INTRODUCTION

Learning is a process in shaping and constructing some aspects in students, especially aspects of knowledge or cognitive, knowledge that will be formed or in this construction is very dependent on learning objectives [1]. The formation of spatial intelligence can thus be included as a nurturant effect or as an implicit goal or as an unconscious impact.

As a process, learning certainly will require interaction between its components, the interaction provides certain experiences that shape an impact for students, experience alone will not form structured learning, there must be a process that directs because that is what will give the meaning of learning through experience in the learning process[2]. Basically humans have the scientific nature, humans or individuals have the urge of curiosity, the urge of interest, the urge to see reality and the urge to discover new things. The potential must get threatment so that it can be facilitated properly [3] .

This earth is a dynamic place of interaction between the components of space on the surface of the earth to become or cause certain phenomena, geography has objects of study in spatial or space on earth's surface consisting of physical aspects and social aspects including several objects study.

Each other is integrated in one unit of space on the surface of the earth including 1) hydrosphere or seawater and surface water; 2) lithosphere or crustal layer of the earth's surface; 3) Earth's atmosphere or air layer; 4) the biosphere or environment of plants and animals; 5) anthroposphere or humans on the surface of the earth [4]. All aspects are integrated, interrelated and interact studied in spatial, territorial and environmental approaches.

Aspects in geography facilitate desires and desires, curiosity, interest, encouragement to see reality and discover new things related to phenomena that occur on the surface of the earth. Unwittingly, the earth as a human dwelling has a relatively broad size, humans with a size of 173 cm while the earth has characteristics, the earth is round, ie thick, thick at the equator, with radii from the center of the earth about 6,384 Km and 12,742 Km in diameter compared to the size of the human earth, humans will have difficulty in studying the phenomena that occur on the surface of the earth [5]. Either to study as a form of research or study the surface of the earth in the form of learning, of course a solution is needed in this case is the learning media, media learning has a function as a tool in understanding content or what is needed [6], learned in the learning process.

Furthermore Dale explains that instructional

media sequentially based on their impact in the learning process consists of 1) symbolic in the form of visual and verbal media; 2) iconic in the form of audio visual media and 3) enactive in the form of direct experience as shown in figure 1 [7].

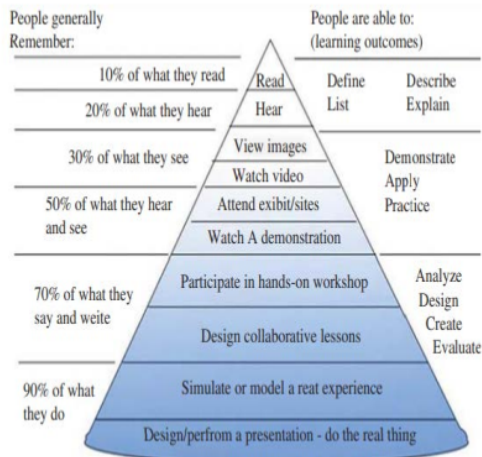


Fig. 1 Dale's cone experience: the wider the cone down, the greater the impact in the learning process[7].

Map is a media to see the surface of the earth, the map is a representation, picture of elements or abstract appearance regarding the surface of the earth which is illustrated by measuring certain scales presented in a flat plane, through a map of phenomena or the surface of the earth can be visualized more clearly [8]. Furthermore it turns out the map in the learning process correlates with the formation of abilities in the form of intelligence or known as spatial intelligence.

Maps as a learning medium can also connect several things including: (1) showing a picture with a certain scale of the natural environment that is a resource for human life; (2) showing variations in the distribution of humanity; (3) describe the spatial interactions between humanity and its environment; (4) connecting regional unity consisting of land, air and water [9] it is a characteristic of geographic science, students will synthesize their understanding of the surface of the earth and form intelligence.

There are nine intelligences that can be formed in humans as a potential as the results of Gardner's research humans have 9 different types of intelligence including Linguistic intelligence, mathematical logic, visual spatial, kinesthetic, music, interpersonal, intrapersonal, environmentally and spiritually [10].

Maps are highly correlated with spatial visual intelligence. Spatial intelligence is the ability to correlate between one point or concept with

another point or concept, this represents two different factors where one is related to spatial or geometric and one is related to manipulative visualization in the form of position change or transformation [11].

More specifically these spatial intelligence indicators including a) cognitive mapping in the form of a mental map of remembering or connecting landmarks and routes based on the results of certain experiences; b) cognitive collage or the ability to visualize landmarks and routes in abstract thought based on survey experience into place and c) mental spatial or ability to predict, impact and represent the impact of phenomena that are remembered and visualized in his mind [12].

Intelligence is formed when information enters through the five senses and then enters the brain as a pattern of darkness detection where incoming information will sequentially enter the senses → receive messages by neurons → enter six layers of the neo cortex → enter the whole brain → information develops into neuronal pattern → corpus kallosum: bridging left and right brain → hippocampus: comparing information obtained → limbic system: carrying out emotional processing → overall brain developing holistic thinking → pre frontal cortex triggers the body to move according to information [13].

The use of maps in geography learning must also be in accordance with the age of the students because each age represents how intelligence itself is formed, based on that the phase of intelligence formation includes a) the first week of birth. Cells in the human brain are formed when humans are not yet born and the tissue of each cell is formed when there is an interaction with the environment. In the first week of birth, humans have begun to learn about the five senses and begin to form a network of information capture cells; b) Phase 1 - 18 months. The five senses are very limited at this time to certain distances and movements, such as vision which only functions a few centimeters and can only wink. Human intelligence begins to form where it begins to understand cause-effect relationships, begins to recognize those closest to it, can recognize different sounds, has begun to imitate low-pitched sounds and can already understand concepts; c) Phase 18 Months - 3 Years. The senses and the motor begin to increase in this phase, the ability to remember such as being able to match each color, can use something as simple as holding a drawing tool and moving it, better understanding the concept of cause and effect such as holding something hot will feel uncomfortable in the hand, tend to be more able focus and have begun to understand other people's thoughts such as prohibitions and expressions from the caregiver; d) Phase 3-5 years. The motor and senses of the human body develop even more, by

making motor movements more complicated. In this phase humans begin to have intelligence such as symbolic behavior (pretending and speaking), discovering that one's own views dominate, are more interested in the concept of cause and effect, begin to be able to identify color differences, begin to understand the ability to recognize simple symbols such as numbers 1-20, understand the concepts of more or less, small, large, begin to grow sympathy and empathy for others and begin to be able to plan and complete certain tasks.

Next on e) phase 5-8 years, Intelligence continues to develop by starting to pay attention to a detail, recognize and be able to write the name yourself, can persevere diligently doing something with adult supervision, can see a lot of information from a similar perspective, for example, with just one view can distinguish colors, shapes, volume, size, length and the like. Then in this phase humans also begin to understand and are interested in symbols such as numbers and begin to play their logic about the concept of cause and effect; f) Phase 8 - 12 years. In this phase the christian period arises which triggers its development. Human intelligence in this phase including thinking has begun to be logical, organized and flexible. Starts to have the ability to concentrate and remember, can plan ahead, can reason something abstract, begin to enjoy activities and start liking a number of things that are different from other individuals, the appearance of spatial reasoning, understanding the motives behind actions, memory strategies that start to be designed and the appearance of curiosity drug and liquor and g) Phases over 12-14 years. This phase is in the middle school level, i.e. junior high school and senior high school. In this phase, human intelligence develops even more complex, which is already starting to think about various possibilities, thinking prospectively, thinking about hypotheses, thinking about the process of thinking itself, thinking beyond conventional limits. In this phase also began to grow the moral and spiritual concepts. The age at which the brain is greatly affected by external factors in forming students' spatial intelligence. At this time the incoming information is relatively important to shape intelligence, school culture and learning geography with certain environmental content in this phase should contribute to the formation of spatial intelligence. In this phase most of the various aspects of intelligence have been formed, environmental factors do not dominate even though they remain influential. Intelligence is almost completely formed. [14]

Intelligence is formed due to genotype or innate factors and birth phenotypes or environmental influences as long as humans are students, grow and develop [15].

Map as a learning medium becomes one of the stimuli in growing spatial intelligence because maps regarding the surface of the earth and maps become one of the important things in geography learning, providing a stimulus function in forming various indicators in spatial intelligence. Intelligence according to Gardner can be measured and provides several contribution capabilities including 1) the ability to solve problems that occur in the lives of individuals in several aspects of life in this case are problems relating to spatial problems; 2) the ability to produce new problems to be solved, because along with the times the problem will develop into increasingly complex and need more complex solutions as well and 3) the ability to create something or appreciation in one's culture related to spatial concepts such as local wisdom, protecting the environment [16].

The use of maps as a medium for learning geography is inseparable from the teacher's ability that must be possessed to be able to use the media appropriately. Based on the law of the Republic of Indonesia number 14 of 2005 concerning teachers and lecturers the abilities that must be possessed are already included, among other things a) pedagogical competence. with regard to teacher competence in managing learning, namely content knowledge, pedagogical content knowledge and technological pedagogical content knowledge; b) personality competence. a teacher is required to have a good personality from the emotional side and can be an example for students by reflecting on the formation of morals which becomes the self-actualization of a teacher as a person with a consistency of good attitude so that it can be an inspiration for students.

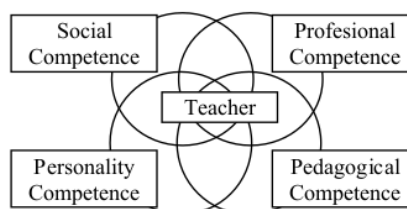


Fig. 2 The role of instructional media helps teachers deliver material

Next c) social competence. teachers are formed to have social skills that show their profession in terms of communication both verbally and in writing to all elements in educational institutions and communities where they are active given the diversity of ethnicities and religions in Indonesia so that teachers can adapt and work together wherever the place is assigned and d) a professional competence teachers are required to have mastery skills in the education and learning process with regard to content, curriculum,

educational issues and adequate insights regarding related material.

This article seeks to describe the use of maps as a medium of geography learning that turns out to have a positive impact on improving the spatial intelligence of students, is one indicator of achieving learning objectives.

2. METHOD

This research was conducted to see the function of maps in providing understanding in the learning process as a means or medium to channel information related to the indicators of the spatial intelligence of human individuals as measured by three indicator includes a) cognitive map; c) cognitive collage and c) mental spatial with a qualitative approach to get the results of in-depth descriptions regarding their relevance, the data collected by the literature study publication of scientific research results in the form of research journals supported by other theoretical references in book form [12].

The data that has been collected is then analyzed for its relevance in the form of a matrix table and is described so that it can be seen how the use of maps as a learning medium builds students' spatial intelligence.

3. RESULT AND DISCUSSION

The learning process in geography is related to the spatial intelligence of students, several learning objectives including the objectives of national education namely increasing devotion to almighty divinity, intelligence, skills, heightening mind character, strengthen personality and strengthen the spirit of nationalism and love for the country [9]. Then implemented in the curriculum of education in Indonesia, known as the curricular goal of providing knowledge that is useful and useful for survival in the future.

Philosophical learning of geography provides benefits to students, one of which is to grow the potential of their spatial intelligence. The process of intelligence formation. The process of intelligence formation into 2 things first that intelligence is formed from innate or genetic factors and second that intelligence is formed due to factors from the environment that provide stimulus [15].

Intelligence can grow and develop due to the influence of the environment or certain stimulus ie the five senses will win certain stimuli or information then the information will quickly enter the recipient of the message the brain, the neuronak, is transmitted in the neo-cortex brain region and then all parts of the brain process the information and the information develops into a

pattern (neural pattern) that is embedded into an information or intelligence that determines decision making [13]. Spatial intelligence consisting of a) cognitive map; c) cognitive collage and c) mental spatial indirectly grows and develops by receiving certain stimuli from the learning process of geography.

3.1 Learning Geography with Map Learning Media as a Stimulus of Forming Spatial Intelligence

Learning more specifically is the process carried out by the teacher to shape the behavior of students in accordance with the goals or expectations that are desired as a form of response from the stimulus carried out [17]. Learning geography in this case the science that has the object of study consisting about [4]:

- 1) Hydrosphere include oceans and seas; water of the land (surface and ground water), glacial and icecaps.
- 2) Lithosphere includes earth materials (bedrock, regolith especially soil, minerals); surface configuration (continent, island, major and minor landform)
- 3) Atmosphere includes weather and climate
- 4) Biosphere includes native plant and animal
- 5) Anthroposphere include population; cultural; settlement; economies activity; transportation; and communication.

Students learn spatial aspects on the surface of the earth, which consists of lithosphere, atmosphere, hydrosphere, biosphere and anthroposphere. Earth with a relatively large size and humans have a relatively limited size to study various phenomena, the map is needed as a medium.

The map is a form of the surface of the earth that is made flat that will help teachers convey the message of where the location and geographical position of an area. The work process is to show maps, calculate latitude, longitude etc., according to the learning objectives. This becomes a stimulus in increasing or growing students' spatial intelligence.

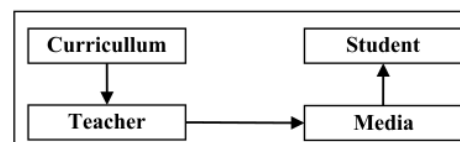


Fig. 3 The role of instructional media helps teachers deliver material

The use of maps and geography learning can be a good stimulus in growing students' spatial

intelligence with several learning strategies and methods which includes the following [16]:

- 1) Effective Questioning Procedure. This ability means demanding active students in asking questions, in other words students are given many opportunities to ask questions and then the question is not answered directly by the teacher but ask other students to answer, and then the answers are directed according to the answers they should.
- 2) Concept Development and Generalization. The point is that in this process students must know the concepts of geographic material which then the concept must be able to be applied in accordance with real conditions in daily life making it more applicable. Students are able to conduct analysis, synthesis and evaluation of the earth's surface space, indirectly students already have the ability to liberalize concepts.
- 3) Value and Attitude Investment. Basically education to instill positive values for students. Learning geography has the object of study in the form of environmental conditions with all aspects that must be able to instill the value of beauty, humanity and even divine value. The actual values of environmental degradation can be prevented because these values will bring about a positive mental attitude.
- 4) Skills Development. Important skills for survival and teaching of geography provide several skills including (1) physical skills relating to the ability to control the body, because in teaching geography the sensory aspects will be very used in observing environmental phenomena; (2) intellectual skills relating to speed of thinking, responding

to and solving problems; (3) social skills to tell the others people.

- 5) Development of Inquiry and Critical Thinking. Ikuiri and christian thinking is a unity that requires students to actively seek answers to problems and curiosity of students, especially with regard to teaching geography. The inquiry step referred to in the teaching of geography includes (1) questioning; (2) make references and conclusions; (3) comparing and grouping; (4) make a hypothesis; (5) seeking and exploring evidence regarding hypotheses; (6) draw conclusions about what is learned.
- 6) Those are some of the processes of learning geography using maps can be a stimulus in growing or developing the spatial intelligence of students with various indicators therein.

3.1 Map as a Learning Media that Forms Cognitive Maps

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Spatial intelligence starts from the **cognitive map**, is the ability of individual humans to remember certain locations or routes which are then included in his abstract mind [12]. The role of maps to shape cognitive maps in geography learning is very clear, although individual humans have not visited the place, for example students can determine the position of shopping centers from where they are, from point A to point B.

When students are not at point A they will **main remembering the distance and direction from point A to point B**. As illustrated in Figure 3. Students will remember which position the Cileduk Sugar Factory is in which direction from the station, even though he is in Ciledug Square he will still remember that direction.

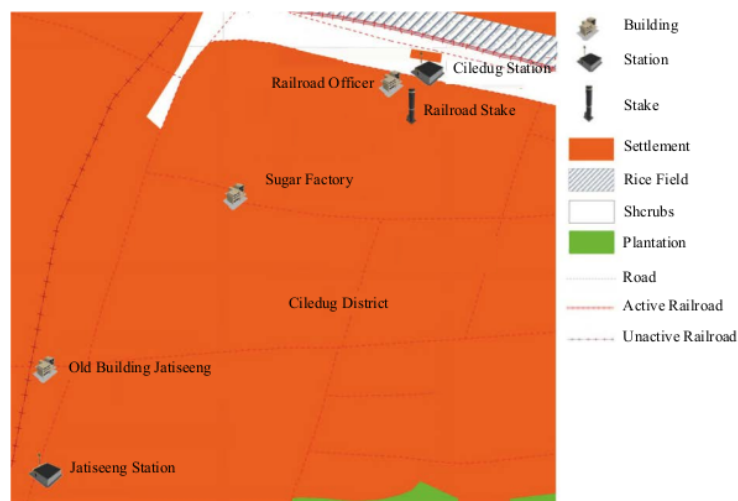


Fig. 4 Map pieces provide clear information on the position of landmarks in Cirebon City, West Java Province.

Maps become a stimulus in forming cognitive maps, however the surface of the earth is a relatively broad aspect compared to the limitations of the human body which range from 2 meters less, while the distance between one object and other objects on the surface of the earth is relatively far away, to be able to connect the position between one object with other objects required map media that function to shrink large and closer distances by using a certain scale approach, without changing the original condition, so that it indirectly becomes a stimulus that will form neural patterns in the learner's brain, wherever he is he can determine where his position and where one object with another object is based on the direction of the compass or known as the ability of cognitive maps in spatial intelligence.

The basic ability of spatial intelligence known as cognitive maps is very useful for the survival of students in the future for one of them to hit the geographical indication of landmarks, or a unique place that only exists in the area.

Such as monas in the city of Jakarta, Gedung Sate in the city of Bandung, gadang houses in the city of Padang and so forth. Sinaga [8] (1995: 7) divides the map into 5 types of scale, the larger the scale, the more seconds the landmark is displayed on the map, conversely the smaller the scale, the less detailed the landmarks at a location are displayed, so it is better to foster students' spatial intelligence in the learning process using a large scale of $> 1:10,000$.



Fig. 5 Mount Bromo as a landmark of East Java Province with its distinctive characteristics.

3.2 Map as a Learning Media that Forms Cognitive Collage

Second is cognitive collage as the second ability in the ability of spatial intelligence. Is the ability to visualize landmarks or routes that were previously displayed on the map. This ability is obtained from remembering object information on the map, this information can be given or sought by students themselves. For example Ciledug

Station as illustrated in figure 2 can be explained as having shape, size, height, building material, design and so on, but this information will be more visualized in students' abstract minds when surveying locations or objects on the map, for example on illustrations figure 3.

Geography learning has a material object in the form of a geosphere consisting of layers of the lithosphere, atmosphere, hydrosphere, biosphere and anthroposphere. Through this approach geography examines a landmark on the surface of the earth, so that when he sees landmarks such as Mount Bromo in figure 3. Students can explain the lithosphere conditions ie as a form of collision tectonic plates, atmospheric conditions at an altitude of 2500 mdpl so that it has a relatively cold climate, conditions the hydrosphere is an upstream river and water catchment area in East Java Province, the biosphere has a unique flora and fauna of the Bromo Tengger Sumeru Mountains. Then the condition of the anthroposphere is an area with residents of Hindu Majapahit diversity.

Students after seeing the position of Mount Bromo on a map at a certain scale, then given information about the physical and social characteristics of the surrounding community as in the previous paragraph in accordance with geographic material objects will form a memory of its characteristics, this memory is known as cognitive collage, understanding of landmarks This is very important to remember certain places, for example when students want to vacation on the beach he already knows how the characteristics of the beach so that he will get what he is looking for. This ability will also provide information regarding the function of each surface of the earth or around where students live.

2 Map as a Learning Media that Forms Spatial Mental

The highest ability of spatial intelligence is mental spatial, namely the ability to analyze, predict, relate symptoms or impacts between one place and another that can occur as a phenomenon on the surface of the earth. Geography as a science that studies the relationship between phenomena on the surface of the earth will strengthen this ability, for example when Mount Bromo erupts, volcanic ash will make the surrounding area fertile.

Another example when we throw garbage in the coastal area carelessly in relatively large amounts will make the habitat of marine animals become damaged and disturbed. This ability is very important for the lives of students in the future, especially in maintaining the environment on the surface of the earth. Because the surface area of the earth is relatively large compared to the ability of the senses and the physical size of

humans themselves, the map will help provide a reinforcement.

Indirectly, the map gives an accompanying impact in the form of the formation of spatial intelligence in the learning process of geography, the high or low ability of students, is strongly influenced by various factors such as 1) the condition of the students themselves; 2) the teacher as a facilitator who teaches content through maps; 3) the clarity of the map itself used.

Mental spatial can be formed through learning geography that provides a stimulus, because in learning there are concepts of interaction, interrelation and interdependence which we call the connectivity of phenomena that occur on the surface of the earth. Every aspect of connectivity on the surface of the earth is relatively far from one object to another, its size is relatively broad with the size of the human body itself, maps become media and tools to overcome these limitations. Besides students who have mental spatial abilities can make and develop maps of predictions of the occurrence of phenomena on the surface of the earth, these predictions will be taken into consideration in decision making. This will also be a consideration of students in doing something that has a spatial impact, for example the student will start thinking about how the spatial impact of the actions he does.

4. CONCLUSION

The relatively large surface of the earth is inversely proportional to the ability of the senses and the physical condition of humans in studying the surface of the earth, therefore in the process of learning geography, maps are needed as a medium to reduce objects with relatively large sizes. The map used in the learning process of geography indirectly forms the level of ability of spatial intelligence, the first ability is to remember routes and landmarks on the surface of the earth displayed in plots on the map. The second is the ability to visualize routes and landmarks on the surface of the earth starting from the knowledge of its location. Third is the ability to analyze and predict the impact of interrelationships between phenomena on the earth's surface. Each level is formed influenced by various factors namely the students themselves, the scale of the map used and the teacher as a facilitator in conveying information using maps as a medium for learning geography. Intelligence is formed based on two factors, namely because of innate and environmental influences. Starting from the five senses capturing the stimulus then the brain processes the information and is stored in the brain as a neural pattern, this stimulus will determine the shape of the neural pattern or the process of

intelligence formation. Geography learning using map learning media is a good stimulus to form neural patterns of students' spatial intelligence formation as explained.

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6. REFERENCES

- [1] Putrayasa, I.B. A Texbook: Basics Learning Published by Universitas Pendidikan Ganesha, 4 ngaraja, 2012, pp. 6-7.
- [2] Loughran, J. Effective Reflective Practice In Search Of Meaning In Learning About Teaching. Monash University. Journal Of Teacher Education. Vol 53, Issue 1, 2002, pp. 33-43.
- [3] Sumaatmadja, N. A Book: Geography Teaching Methodology published by Bumi Aksara, Jakarta, 1997, pp. 1-2.
- [4] Kendal, H., Glendinning, R and MacFadden, 11 A Book: Introducing to Geography Thid Edition published by Harcourt, Brace and 7 world inc, New York, 1962, pp. 1-2.
- [5] Mohr, P J and Taylor, B.N. An Article: Unit of length (meter) published online in NIST Reference on Constants, Units, and Uncertainty. <https://physics.nist.gov/cuu/Units/>, 2000 Accessed in 28 July 2019.
- [6] Riyana, C. A Lecturer module: Curriculum and Learning (Learning Components), published by Universitas Pendidikan Indonesia, Bandung, 2000, pp. 31-32.
- [7] Davis, 5 everly & Summers, Michele. An article: Applying Dale's Cone Of Experience To Increase Learning And Retention: A Study Of Student Learning In A Foundational Leadership Course, published in Qscience Proceedings World Congress on Engineering Education, West Lafayette, 2015, pp. 2-4.
- [8] Sinaga, M. S. A book: Map Knowledge published by Faculty of Geography, Universitas Gajah Mada, Yogyakarta. 1995, pp. 3-5.
- [9] Sumaatmadja, N. A Book: Geography Teaching Methodology published by Bumi Aksara, Jakarta, 1997, pp. 23-45.

- [10] Kusmayadi, I. A Book: Interpersonal Skill of Teacher published by PT Pribumi Mekar, Bandung, 2010, pp. 5-25
- [11] McKee, L. A Book: The Accelerated Trainer published by Khaifa, Bandung, 2008, pp. 87-3.
- [12] Tversky, B. Cognitive Maps, Cognitive Collages, and Spatial Mental Models. In Frank, A.U. and Campari, I. (Eds.) Spatial Information Theory: A Theoretical Basis for GIS, Proceedings COSIT '93. Lecture Notes in Computer Science published by Springer, Berlin., Vol 716, pp. 14-24.
- [13] 10er, L and Hyerle, D. A Book: Thought Maps: School-Based Research, Results and Models for Achievement Using Visual Tools published by PT Indeks, Jakarta, 2012, pp. 19-20.
- [14] Meggit, C. A Book: Understand Child Development published by PT Indeks, Jakarta Barat, 2012, pp. 34-181.
- [15] Slywester, R. A Book: Understanding Children's Development and How the Brain Works published by PT Indeks, Jakarta, 2009, pp. 19-20.
- [16] Mainaki, R. A Thesis: The Effect of School Culture and Geographic Learning to Spatial intelligence Junior and Senior Higschool Students in Cimahi City published by Universitas Pendidikan Indonesia, Bandung, 2017, pp. 23-38
- [17] Sugandi, A Book: Learning Theory published by UPT Universitas Semarang Press, Semarang, 2008, pp. 7-9.

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