The Quality of Geography Textbook of Twelve-Grade and Their Implications for The Development of Students Geographic Thinking Skills

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Abstract: Geography textbooks are one of the best sources for supporting geographic skills development. Geography textbooks contain not only content knowledge, but also geography textbooks that should contribute to the development of geographic thinking skills. Quality textbooks can develop students' critical thinking skills. But in reality, students' geographical thinking skills are very low. This study has the purpose of, (1) analyzing the quality of the presentation of material in the high school geography textbook in developing students' geographic thinking skills, (2) identifying the achievement of skill development indicators and geographic thinking in the geographic textbooks used. The method used in this study is literature studies, in which the geographic textbooks used will be selected through the survey stage. The result of this research is to develop textbook analysis techniques for developing geographic thinking skills. The table used is a table that has never been tested because it is the result of a literature study only.

Keyword: Geography Textbook, Geographic thinking Skill.

How to Cite: Ambarwati, P. D., Maryani, E., & Yani. A. (2021). The Quality of Geography Textbook of Twelve-Grade and Their Implications for The Development of Students Geographic Thinking Skills *The 3rd International Conference on Elementary Education*, *3*(1). 342-348.

INTRODUCTION

In the context of formal education in schools today, textbooks are an important part of the education sector to achieve students' basic competencies. In the National Education Standards, textbooks are one part of the standard facilities and infrastructure that must be owned by an educational institution. Therefore, textbooks are the main component of learning resources in student learning in schools. "Textbooks are the heart of the social studies enterprise, the primary curricular resource for most elementary and secondary social studies teachers" (Finkelstein., 1993). Textbooks are the main curriculum for elementary, junior high, and senior high schools, aside from that, textbooks are the curriculum that is closest to students. This makes the textbook a guide for students to know the competencies they must have. The results of the Trends in International Mathematics and Science Study (TIMSS) survey show that on average about 40% of almost every subject teacher teaches using textbooks (Devetak & Vogrinc, 2013). The use of textbooks is very dominant compared to other learning sources. Therefore, textbooks are the main source for developing skills, expanding information, main reference materials for student content in learning, as well as the main reference for teachers in learning practices.

A good textbook must be able to guide students in synthesizing, evaluating, and analyzing information or producing meaningful relationships between phenomena. Textbooks will be much more useful in facilitating thinking skills than in reasoning phenomena (Jo and Bednarz, 2009). The research conducted by Bednardz is supported by the results of research conducted by Paxton (1999): “Besides, social studies/geography textbooks have come under criticism for not representing the epistemologies of the social sciences; for being poorly written in ‘textbooks. Besides, Chambliss & Calfee (1998) states that the Geography book is "for being badly organized". Overall Geography textbooks are textbooks that are generally inadequate but widely used.

Whereas the instructional value of a textbook can guide students in finding a comprehensive understanding of lessons and be able to develop students' skills for critical thinking (Wilen 2001; Myers and Savage 2005; Vogler 2005). Textbooks must also present the subject matter according to the correct concept. If there is a wrong concept in the subject matter, it will interfere with students in understanding the content of the text. Usually, this misconception is permanent (fixed) in students' thinking so that it is difficult to change. This is by the opinion of Aksa (2018) that "any wrong concept will disturb the reader in understanding the contents of the text, cause confusion in thinking, and

make it difficult to understand or compile generalizations by themselves".

Having thinking skills enables humans to find answers to various problems faced in their lives. This thinking skill can be learned by everyone through a series of exercises and possession of knowledge (Prastowo, 2013). Along with the times, humans are required to think rationally and think clearly in any job to solve every problem because these higher-order thinking skills are a valuable asset for someone. According to Ennis (2016), critical thinking is thinking reasoned, and reflective by emphasizing making decisions about what to believe or do. Geography has a unique way of thinking. The uniqueness of this way of thinking is known as a geographic thinking skill, where this way of thinking has procedural steps. Geography skills are important skills for every student to have. Mastering geography learning materials, developing geography skills, and also having a geography perspective are standard goals in geography education that students must have so that students have high geography learning competencies (National Geography Standards, 1994; National Geography Standards: second edition, 2012; Balciogullari, 2017).

The Geography skills required for learners consist of five skill sets adapted to the Guidelines for Geography Education: Primary and Secondary Schools, prepared by the Joint Committee for Geographic Education by the American Geographical Association and the National Council for Geographic Education (National Geography Standards, 1994; National Geography Standards: second edition, 2012). The five skills are as follows: 1) Asking Geographic Questions; 2) Acquiring Geographic Information; 3) Organizing geographic information; 4) Analyzing geographic information; 5) Answering geography questions. The five skills are procedural activities that must be carried out in geography learning. Each of these geography skills cannot be separated because of every step of the way students can understand the world by thinking geographically.

The development of geography textbooks as teaching materials in addition to being following the developing curriculum in Indonesia must also be in line with the objectives of geography in developing geographic thinking and skills that have been developed by the National Geography Standard. The five skill standards set by the National Geography Standard must be presented in textbooks so that they can stimulate students to think critically and creatively (Lee & Catling, 2016). Prastowo (2013) states that "a good textbook is an attractive presentation and is equipped with images and complex descriptions." Therefore, captions in textbooks can be a good representation tool in improving geographic thinking skills. Based on research on geography textbooks, there are still many misconceptions. However, from the overall research that has been done, research on geography textbooks based on the five skills developed by the national geographic standard is still limited, especially in Indonesia. Textbook research based on five geographic thinking skills is research that needs to be done to develop students' critical thinking skills in understanding geography learning. Therefore, the formulation of the problem in this study are:

1. How is the quality of the presentation of the material in the Geography textbook for SMA based on the development of geographic thinking skills?
2. How are the efforts of teachers and students in developing geographic thinking skills through textbooks?

From the formulation of the above problems, the objectives of this study are 1) To analyze the quality of the presentation of material in high school geography textbooks based on the development of geographic thinking skills, 2) to determine the efforts of teachers in developing students' geographic skills.

METHOD

This research is ex-post facto research with a literature study research approach. Where in this research will doing a survey conducted on geography textbooks class XII in Bandung, questionnaires to students, and questionnaires to teachers. The subjects of this study were textbooks that were most widely used in Bandung, and teacher surveys and student surveys, where the teacher and student samples were taken based on the most widely used geography textbooks. Based on literature studies to determine the quality of geography textbooks, namely by using the analysis technique model from Beck and Mckeown, and to find out how students and teachers improve geographic thinking skills, namely

by using a questionnaire to determine the extent of the methods used by teachers to students in improving thinking geographically. Student and teacher data analysis in this study using the SPSS version 2.0 program. The test used is a descriptive statistical analysis.

RESULT AND DISCUSSION

Geography Textbook Quality

According to Muslich (2010), the characteristics of textbooks are divided into two, namely general and specific. In general, textbooks are scientific papers, consequently, the figure of a textbook is the same as the figure of scientific writing in general. In terms of content, textbooks contain a series of knowledge or information that can be justified scientifically. Textbooks are oriented towards the learning activities of students textbooks are prepared for students, not for teachers. Therefore, the presentation of the material must be directed to the learning activities of students. When reading textbooks, students can carry out a series of learning activities, both to achieve the goals of understanding, skills, and attitudes. The style of the textbook presentation can bring out the creativity of students in learning activities. To bring out the creativity of students in learning activities, the style of the textbook presentation should be as follows: 1) Can encourage students to think; 2) Can encourage students to do and try; 3) Can encourage students to assess and behave; 4) Can familiarize students to create.

Based on the 2013 Curriculum, there are general concepts of textbooks, namely: 1) Using a scientific approach through 5M, namely: observing, asking, trying, reasoning, and presenting; 2) Lead students to find the concepts that are being studied through deduction (Discovery Learning). Learners as much as possible are invited to find out, not immediately told; 3) Contains assessment of learning outcomes in stages starting from reviews, exercises, problem-solving, challenges (challenges that require deep thinking), and projects (joint activities in solving problems that require support from other sources); 4) Emphasize the use of clear, logical, and systematic language.

Textbooks as one of the teaching materials at the primary and secondary education levels do not follow the flow of the decision-making process approach and the problem-solving approach. In the textbooks that are currently available, there is no meaningful integrity of geography learning, so it needs to be studied in a more actual manner, where the textbooks in geography subjects are provided more to actualization, understanding the dynamics of life, skill development, and character development. In the context of their use, most of the textbooks have been criticized as being very boring in their presentation. The truth of sentences in textbooks has errors related to their structure and the ideas conveyed are not clear (Susanto, 2016). The subject matter contained in textbooks in circulation does not match the learning indicators (Wardani, 2010). Besides, there are still many misconceptions in textbooks. This is consistent with the results of research by Chusnah (2009) that "the concrete concepts contained in geography textbooks are mostly classified as incorrect concepts because they are defined." The pattern of misconceptions that occur in these textbooks tends to be the same. The pattern of errors that occur, namely defined concrete concepts, abstract concepts that are still mixed up between conjunctive and disjunctive. In addition to concepts, the components that need to be analyzed in a geography textbook include the suitability of the material content with the curriculum, the correctness of the concept, the correctness of the information (both in the form of maps, pictures and graphics), current information, approach to problems in content and image functions. Where these elements are indicators for developing geography skills. Textbooks are a tool for measuring students' level of geographic thinking, and several studies suggest that ways to improve geographic thinking can be achieved through the development of explicit instructional tools (Newcombe, 2010; Uttal, 2013). Guiding students in identifying critical information in textbooks help build strategies for analyzing the information provided and stimulates students to improve problem-solving skills (Jo and Bednarz, 2009). But in reality, only a few have tested Geography textbooks, especially from a Geography point of view, especially from the point of view of their geographical skills (Jo and Bednarz, 2009). Based on the statements and results of previous research, it is important to analyze geography textbooks that can develop students' geographic thinking skills. The textbook analysis technique in this study uses cognitive

development techniques developed by Beck and McKeown. The book analysis table is in table 1.

Table 1. Analyze Geographic thinking skill in textbooks

No	Code	Description	Total Paragraph	Score
		Readability of Textbook Content		
1	Code 1	Textbooks present too many concepts in each paragraph (Too many concepts). The book content presents too much theory in each paragraph so that students are too focused on theory, if the paragraphs only present theory and there is no teaching material for discussion, the book content falls into this category. In code 1, the classification of the cognitive domain is from C1 to C2.		
2	Code 2	The content of the textbooks provides many examples of comparisons according to the concept (Adequate examples and comparisons). The textbook content contains appropriate examples of the text as well as a comparison of examples from both local and regional scales. In Code 2, the classification of the cognitive domain is at C2 to C3		
		Updating information on Textbook Content		
3	Code 3	Presentation of regional problems (Issues in the presentation of the world region): problems in the textbook can cover the area where students live so that students can apply it in their lives. In code 3, the classification of the cognitive domain is from C3 to C5.		
4	Code 4	Use of previous information and new information (Using previous and new information): comparison of information over time can help students overcome geographic problems. In code 4, the classification of the cognitive domain is at C2.		
5	Code 5	Content contains phenomena following the chronology of time (sense of time): Examples of phenomena and content presented in textbooks must be able to trigger students to think, discuss problems and have a clear chronology of time so that the recent applicable examples help students understand the situation and present conditions.		
		Contextual Textbook Content		
6	Code 6	Discuss problem analysis (Analysis of a problematic discussion). The content of the textbook contains various kinds of problems that can stimulate students to discuss, describe, organize so that they can solve problems. In code 3, the classification of the cognitive domain is in C4 to C5.		
7	Code 7	Explanation of cause and effect (cause without a consequence): The concept presented must assist students in understanding the causal relationship in content in geography. In code 3, the classification of the cognitive domain is in C4 to C5.		
Total				

The table above was compiled by researchers to analyze textbook indicators in improving students' geographic thinking skills. This table is expected to be able to measure the quality of textbooks developed to date, especially to develop geographic skills.

Teacher and student geographic thinking skills

In the 2013 curriculum, the emergence of core competencies, the teacher's goals become very clear in the learning process, where in addition to transferring knowledge, teachers are also required to be able to develop student skills. Skill is the ability to use reason, thoughts, ideas, and creativity in doing, changing, or making something more meaningful, to produce value from work. Skills come from the word skilled which means competent, capable, and agile. Iverson (2001) said that skills need training and basic abilities that everyone has can help produce something more valuable more quickly**.** Geography skills are important skills for every student to have. Mastering geography learning materials, developing geography skills, and also having a geography perspective are standard goals in geography education that students must have so that students have high geography learning competencies (National Geography Standards, 1994; National Geography Standards: second edition, 2012; Balciogullari, 2017). Geography skills enable people to gather and analyze information, come to informed conclusions, and make reasoned decisions about actions. Geography skills also help in the development and presentation of effective and persuasive arguments on public policy issues (National Geography Society, 2017). Geography skills continue to develop at every level of education in schools. Teachers and other curriculum developers should be aware that students' mastery of geographic skills must be sequenced effectively so that learners maintain and build their understanding. Geographic skills based on the 2012 geography standards second edition. The five skills are as follows: 1) Asking Geographic Questions; 2) Acquiring Geographical Information; 3) Organizing geographic information; 4) Analyzing geographic information; 5) Answering geography questions.

1) Ask Geography Questions

At this stage, students are directed to prepare geographic questions about the phenomena that occur, whether provided in the form of written chronology, graphics, photos, maps, and so on. (Bahbahani, 2016)

2) Gathering Geographical Information

In the second stage of geography skills, students are expected to be able to collect geographic information. Geographical information is location information that includes data about the characteristics and physical and human conditions or phenomena anywhere on the planet.

3) Organizing geographic information

The Geographical information that has been collected should be organized and presented in a way that assists analysis and interpretation. Data needs to be organized systematically. Different types of data can be disaggregated and classified in visual and graphic forms: paper and computer maps, various geospatial images (photographs, aerial photographs, remote sensing images), charts, cross-sections, graphs, diagrams, tables, and cartograms Written information from documents or the interview can be compiled into a citation or tabular form as appropriate. Geographical information can also be organized in GIS. This approach allows students various options in displaying and organizing information.

4) Analyze geographic information

Analyzing Geographic information involves searching for patterns, relationships, and connections. When students analyze and interpret information, meaningful patterns or processes emerge (Ruhimat, 2013). They can then synthesize their observations into coherent explanations. Learners must record associations and similarities between areas, recognize patterns, and draw conclusions from maps, charts, diagrams, tables, and other sources.

5) Answering geography questions

In every academic discipline, good questions drive good answers. The skills required to construct such an answer require a multi-faceted and complex structure. Students must learn not only to manage data but also to assemble it so that it is clear and concise. The answers obtained from such a process can be arranged in the form of graphs (maps, tables, graphs, and other geo-visualizations) as well as an oral and written narrative. Whatever the format, responses must be based on provable and relevant facts that inspire interpretation, analysis, reasoning, and, if appropriate, the subtleties of conclusions (Riansyah, 2013).

Based on the standard national geography statement, it is important to know the extent to which teachers and textbooks can develop students' geographic thinking skills. Therefore, we need to know student responses to indicators of learning geographic thinking skills that have been carried out by the teacher. Table 2 is a questionnaire regarding student responses and the researcher adds an example description that is needed in data collection.

Table 2. Student responses to geography learning

No	Indicators	Score				
Geographic skill						
1.	Asking Geographic Question	1	2	3	4	5
	a. Ask about a place or location					
	b. Ask about the location in detail, especially in the physical, social and cultural environment					
	c. Ask about what affects geographic phenomena in a location					
	d. Collect questions in the form of a questionnaire for an interview					
2.	Acquiring Geographic Information	1	2	3	4	5
	a. Once assigned to sketch geographic objects in the field					
	b. Have made observations in the field					
	c. Have conducted interviews with resource persons (example: traders, farmers, teachers, etc.)					
	d. Able to record data from interviews with sources					
3.	Organizing Geographic Information	1	2	3	4	5
	a. Assigned to create maps manually					
	b. Commissioned to make maps digitally					
	c. Assigned to tabulate data from field observations using Microsoft Excel					
4.	Analyze Geographic Information	1	2	3	4	5
	a. Has been assigned to interpret the map					
	b. Once assigned to interpret the map and use it as a means of solving problems					
5.	Answering Geographic Question	1	2	3	4	5
	a. Able to read and interpret map scale					
	b. Can explain graphical data in front of the class					
	c. Can explain data in the form of a table in front of the class					

The two tables have been adapted and this table has never been used, for this reason, the two tables need to be tested before being used for research.

CONCLUSION

Textbooks play an important role in geography instruction, especially in teaching concepts, also geography textbooks must consider aspects of geographic thinking when designing, developing, and selecting geography textbook content. Because students habitually think geographically can train students in critical thinking (High Order Thinking Skill). Geographical thinking skills competencies, especially students, need to be measured and or researched. The results of the research will be useful for mapping the ability to think geographically among students and are expected to be used as a database for policy formulation, the formulation of the geography curriculum, the formulation of student competency standards, and the development of future geography textbooks.

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