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The Effect of Using Digital Geography Textbooks Based on the Merdeka Curriculum on Students' Learning Motivation and Critical Thinking Skills

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Abstract: This study aimed to analyze the effect of using a digital geography textbook on students' learning motivation and critical thinking skills in Grade X at SMA Negeri 1 Tangse. The research employed a quantitative approach with a pre-experimental one-group pretest-posttest design. The sample consisted of 32 students selected through purposive sampling. Data were collected through questionnaires and documentation and analyzed using a paired-sample t-test at a significance level of 0.05. The results showed a significant difference between students' pretest and posttest scores in learning motivation after the implementation of the digital geography textbook ($t = 28.651$; $p = 0.000 < 0.05$). The mean learning motivation score increased from 56.41 to 68.95. In addition, there was a significant difference between the pretest and posttest scores of students' critical thinking skills ($t = 49.193$; $p = 0.000 < 0.05$), with the mean score increasing from 61.41 to 70.22. These findings indicate that the use of a digital geography textbook positively affects students' motivation to learn and critical thinking skills. A systematically designed, digitally based geography textbook can enhance students' engagement in the learning process and foster the development of critical thinking skills in Geography.

Keywords: geography book; learning motivation; critical thinking skills

INTRODUCTION

Advances in science are driving innovation in the use of students' interests and motivation to learn. Globalization is also having a major impact on education, so efforts to improve its quality must be sustained (Hasan et al., 2019). The Indonesian government continues to strive to improve the quality of formal education, as the roles of teachers and students greatly influence educational success. Education is fundamentally aimed at creating an environment that supports students in fully developing their potential and enables them to play an active role in their personal and social lives (Amaliyah & Rahmat, 2021). Furthermore, education is part of a constantly evolving culture, making change and innovation inevitable (Jailani & Isma, 2024).

Every student has different talents and abilities, so they require varied learning approaches. Education plays a role in developing that potential, including for students with exceptional intelligence and talents. Giftedness is no longer measured solely by IQ but also encompasses creativity and the motivation to excel (Ulfa & Aridhona, 2022). In Indonesia, geography education plays a vital role in building an understanding of the

relationship between humans and the environment and fostering awareness of global issues such as climate change, environmental degradation, and natural disasters. In line with the 2013 Curriculum and the Merdeka Curriculum, geography education is designed to strengthen spatial, environmental, and data literacy through a contextual approach (Tue & Lukum, 2025).

In the Merdeka Curriculum, high school geography is positioned as a key subject for developing spatial literacy, geographical reasoning, and problem-solving skills through inquiry-based, spatial, data-driven project approaches. In Phase E (10th grade), learning outcomes emphasize mastery of basic concepts in geography, maps, remote sensing, GIS, and research methodology, as well as skills in processing and analyzing spatial information (Sarinastiti & Wibowo, 2021). Geography education also aims to develop students' spatial awareness, environmental awareness, and critical thinking skills (Lausan et al., 2024). These three aspects are integrated to form the foundation that enables students to gain a comprehensive understanding of issues ranging from local to global (Isnaini et al., 2023).

In Indonesian education, textbooks remain the primary learning resource in high schools. Limited access to facilities, internet, and digital literacy means that many schools still rely on text-based learning. Textbooks serve as a source of material, a guide for assignments, and the basis for assessment (Hasudungan, 2021). In geography education, textbooks play a crucial role by covering spatial concepts, maps, and geosphere phenomena that support the development of spatial awareness and critical thinking. However, the use of conventional textbooks, which lack visualization and interactivity, still predominates, leading to low student engagement. In fact, geography requires a visual and contextual approach through maps, satellite imagery, infographics, and various other spatial media.

The digital geography textbook used in this study was designed in accordance with the characteristics of geography instruction in the Merdeka Curriculum. The textbook presents material systematically and in context, supplemented with digital maps, images, infographics, graphs, and spatial data relevant to students' daily lives. In addition, the textbook provides multimedia links, problem-solving exercises, case studies of geosphere phenomena, and questions that foster Higher Order Thinking Skills (HOTS). These features enable students not only to acquire information but also to independently analyze, interpret data, evaluate, and draw conclusions about various geographic phenomena.

The advantage of digital geography textbooks lies in their ability to integrate various multimedia elements such as digital maps, infographics, videos, images, and spatial data that can visualize geographic phenomena more concretely. Additionally, digital textbooks enable the presentation of case-study-based exercises and problem-solving activities that encourage students to analyze, evaluate, and draw conclusions based on available data. These characteristics make the learning process more interactive, contextual, and student-centered, thereby potentially increasing students' motivation to learn while developing their critical thinking skills.

The observations revealed low student motivation, characterized by boredom, drowsiness, lack of enthusiasm, and limited curiosity, attributed to inadequate learning materials. This situation was evident in students' behavior, including lack of focus, frequent comings and goings from the classroom, noise, and even cheating on assignments. This situation indicates that students' critical thinking skills have not developed to their full potential because they still rely heavily on textbooks and are not

yet able to express their opinions independently. In fact, critical thinking is essential for training students to make logical, systematic decisions from multiple perspectives, and it can be developed through purposefully designed learning activities. From a cognitive development perspective, high school students are already at the formal operational stage, which enables abstract thinking; thus, they have great potential to be developed through more active, reflective, and meaningful geography instruction.

Various studies show that research on textbooks generally falls into two distinct categories: those that focus on learning motivation and those that address critical thinking skills. Some quantitative studies have found that the use of instructional materials, such as handouts, textbooks, and digital learning materials (flipbooks and e-modules), positively impacts student motivation and participation at the elementary and middle school levels. Additionally, the frequency of textbook use correlates with students' attitudes and interest in the subject, serving as a form of intrinsic motivation (Ismayani et al., 2025). Meanwhile, experimental research and the development of instructional materials indicate that science literacy-based textbooks have a significant impact on critical thinking skills and serve as a strategic tool for their development. However, most studies still examine these relationships separately, so research that models the interrelationships among textbooks, learning motivation, and critical thinking skills simultaneously within a single integrated framework remains limited.

Based on this background, this study formulates two main research questions: whether the use of digital geography textbooks has a significant effect on students' learning motivation and critical thinking skills in the geography course for 10th-grade students at Tangse State High School 1. In line with these research questions, the objective of this study is to empirically analyze the effect of using digital-based geography textbooks on students' learning motivation and critical thinking skills in the 10th-grade geography class at SMA Negeri 1 Tangse.

METHOD

This study employs a quantitative experimental approach, applying treatments to examine the effects of independent variables on dependent variables under controlled conditions (Sugiyono, 2019). The research design was a pre-experimental one-group pretest–posttest model. This design was chosen because the study involved only one experimental group without a control group. Although this design has limitations, including relatively low internal validity, it was deemed appropriate for measuring changes in students' learning motivation and critical thinking skills before and after exposure to a digital geography textbook. In the one-group pretest-posttest design, measurements are taken twice: before the treatment (pretest) and after the treatment (posttest). The pretest is administered to determine the initial levels of students' learning motivation and critical thinking skills. At the same time, the posttest is administered to assess changes resulting from the use of the digital geography textbook. In this design, the researcher compares changes in students' learning outcomes before and after the treatment is administered.

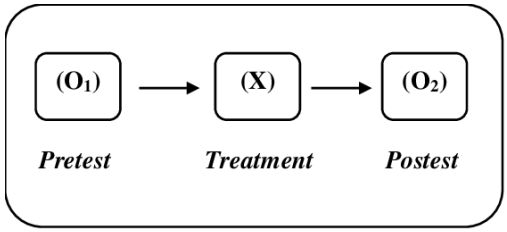

Figure 1. One-group pretest-posttest design (Sugiyono, 2013)

Description:
(O_1): pretest
(X): Guidelines for Using Digital Geography Textbooks
(O_2): posttest

The sampling technique used was purposive sampling, which is a method of selecting a sample based on specific criteria (Sugiyono, 2021). Based on these considerations, Class X1 was selected as the experimental class with 32 students because it was deemed representative and ready to implement digital-based learning. The research variables consist of an independent variable and dependent variables. The independent variable (X) in this study is the use of a digital-based geography textbook, while the dependent variables consist of students' learning motivation (Y_1) and critical thinking skills (Y_2).

The treatment involved using a digital geography textbook in the geography learning process over several sessions during the odd semester of the 2025/2026 academic year. The treatment involved using a digital geography textbook for the atmospheric science unit taught to 10th-grade students. The atmospheric science unit was selected because it aligns with the learning outcomes for Phase E of the Merdeka Curriculum in Geography and has features that enable students to analyze various environmental phenomena in daily life. Data collection techniques included observation, questionnaires, and documentation. The primary research instruments were Likert-scale questionnaires consisting of a learning motivation questionnaire and a critical thinking skills questionnaire. The learning motivation instrument comprised 20 statements covering indicators: (1) perseverance in learning, (2) interest in learning, (3) attention during the learning process, (4) courage to express opinions, and (5) effort to complete tasks. Meanwhile, the critical thinking skills instrument consists of 20 statements covering the following indicators: (1) the ability to identify problems, (2) the ability to analyze information, (3) the ability to provide logical reasoning, (4) the ability to evaluate information, and (5) the ability to conclude.

Before use, the research instruments were first tested for validity and reliability. The validity test was conducted using Pearson's product-moment correlation with a significance level of < 0.05. The test results showed that all items in the learning motivation and critical thinking skills instruments were deemed valid. Furthermore, the reliability test using Cronbach's Alpha yielded 0.961 for the learning motivation variable and 0.912 for the critical thinking ability variable. These values are greater than 0.70, so the instruments were deemed highly reliable. Data analysis was conducted using SPSS version 25 through descriptive and inferential statistics. Descriptive statistics were used to determine the mean values and percentages of the research data. The inferential analysis in this study used a paired-samples t-test because the study employed a one-group pretest-posttest design with a single sample group assessed before and after the

intervention. This test was used to determine whether there was a significant difference between pretest and posttest scores after using a digital-based geography textbook. Given that the study had two dependent variables, learning motivation and critical thinking skills, hypothesis testing was conducted using two paired-sample t-tests: (1) a paired-sample t-test on students' pretest and posttest scores for learning motivation, and (2) a paired-sample t-test on students' pretest and posttest scores for critical thinking skills.

Before testing the hypotheses, prerequisite tests for the analysis were first conducted, including tests of normality, homogeneity, and linearity. The normality test was performed using the Kolmogorov–Smirnov method to determine whether the residual data were normally distributed. The results of the normality test showed a significance value of 0.440 for the learning motivation variable and 0.625 for the critical thinking ability variable. These values are greater than 0.05, so the data are considered to be normally distributed. The linearity test was conducted to determine the linear relationship between the use of digital geography textbooks and students' learning motivation and critical thinking skills. The test results showed deviations from linearity of 0.446 for the learning motivation variable and 0.115 for the critical thinking ability variable. These values are greater than 0.05; therefore, the relationship between the variables is deemed linear. Additionally, a homogeneity test was conducted to determine the equality of variances in the research data prior to regression analysis. The data is considered homogeneous if the significance value is greater than 0.05.

Hypothesis testing was conducted using a paired-sample t-test to determine the difference between pretest and posttest scores after the intervention was administered. In addition, simple linear regression analysis was also used to determine the direction of the effect of using digital-based geography textbooks on students' learning motivation and critical thinking skills, using the equation:

$$Y = \alpha + bX$$

Description:
(Y) : dependent variable
(a) : constant
(b) : regression coefficient
(X) use of digital geography textbooks

In addition, the coefficient of determination (R^2) was used to assess the extent to which the use of digital geography textbooks contributes to students' motivation to learn and critical thinking skills.

The main hypothesis in this experimental study was tested using a paired-sample t-test. This test was used to determine differences in mean pretest and posttest scores for the variables of learning motivation and critical thinking skills among students after exposure to a digital geography textbook. The test was conducted on two pairs of data, namely: (1) pretest and posttest scores for learning motivation, and (2) pretest and posttest scores for critical thinking skills. The decision criterion was based on comparing the significance value (Sig.) with a significance level of $\alpha = 0.05$. If the Sig. value is < 0.05, then there is a significant difference between the pretest and posttest scores after the intervention.

RESULT AND DISCUSSION

Result

The Effect of Using Geography Textbooks on Students' Motivation to Learn

Based on the descriptive statistics in table 1, the mean score for students' learning motivation was 68.95, with a standard deviation of 15.492. This score indicates that students' learning motivation fell into the "fairly good" category after the implementation of digital-based geography textbooks in the classroom. The standard deviation indicates variation in students' motivation levels, but the data distribution remains within normal limits.

Table 1. Descriptive Statistics on Learning Motivation

Variabel	N	Mean	Std. Deviation
Learning Motivation	37	68.95	15.492

A paired-sample t-test was conducted to determine whether there was a difference between the pretest and posttest motivation scores in the experimental class. This test was used because the data came from the same subjects before and after the treatment, with the following hypotheses:

H_0: There was no difference in students' motivation to learn before and after the intervention.

H_1: There was a difference in students' motivation to learn before and after the intervention.

Table 2. Results of the paired-sample t-test for motivation

Variable	Mean	N	Std. Deviation	t counting	Sig. (2-tailed)
Pretest Motivation	56.41	37	13.50	28.651	0.000
Posttest Motivation	68.95	37	15.49		

Based on the results of the paired-sample t-test in table 2, the mean pretest motivation score was 56.41, while the mean posttest motivation score was 68.95. It indicates an increase in students' motivation to learn after the intervention. The test results yielded a calculated t-value of 28.651 with a significance level (Sig., 2-tailed) of 0.000. Since the significance level of 0.000 is less than 0.05, H_0 is rejected, and H_1 is accepted. It can be concluded that there is a significant difference between the pretest and posttest scores for students' learning motivation in the experimental class. It means the intervention increased students' motivation to learn.

The results of the t-test show that the variable "use of geography textbooks" has a calculated t-value of 12.061 with a significance level of 0.000. This significance value is smaller than the significance level of 0.05, so the null hypothesis (H_0) is rejected, and the alternative hypothesis (H_a) is accepted. Thus, the use of geography textbooks was found to have a significant effect on students' motivation to learn.

The Effect of Using Geography Textbooks on Students' Critical Thinking Skills

Based on the descriptive statistics in table 3, the average score for students' critical thinking skills was 70.14, with a standard deviation of 3.250. This score indicates that students' critical thinking skills fall into the "fairly good" category, with a relatively low degree of data dispersion, suggesting that their critical thinking skills tend to be homogeneous.

Table 3. Descriptive statistics on students' critical thinking skills

Variable	N	Mean	Std. Deviation
Critical Thinking Skills	37	70.14	3.250

A paired-samples t-test was conducted to determine whether there was a difference between pretest and posttest critical-thinking scores among students in the experimental class. The hypotheses were as follows:

H_0: There was no difference in students' critical thinking skills before and after the intervention.

H_1: There was a difference in students' critical thinking skills before and after the intervention.

Table 4. Results of the paired-sample t-test for critical thinking

Variabel	Mean	N	Std. Deviation	t hitung	Sig. (2-tailed)
Pretest Berpikir Kritis	61.41	37	3.59	49.193	0.000
Posttest Berpikir Kritis	7022	37	3.45		

Based on the results of the paired-sample t-test in table 4, the mean pretest score for critical thinking was 61.41, while the mean posttest score was 70.22. It indicates an improvement in students' critical thinking skills after the intervention. The test results showed a calculated t-value of 49.193 with a significance level (Sig., 2-tailed) of 0.000. Since the significance level is less than 0.05 ($0.000 < 0.05$), H_0 is rejected, and H_1 is accepted. It can be concluded that there is a significant difference between the pretest and posttest scores for the students' critical thinking skills in the experimental class. It means the intervention improved the students' critical thinking skills.

The results of the t-test show that the variable "use of geography textbooks" has a calculated t-value of 4.421 with a significance level of 0.000. This significance value is smaller than the significance level of $\alpha = 0.05$; therefore, the null hypothesis (H_0) is rejected, and the alternative hypothesis (H_a) is accepted. Thus, the use of geography textbooks was found to have a significant effect on students' critical thinking skills.

Based on Figure 2. the average critical thinking ability of students is higher than the average learning motivation.

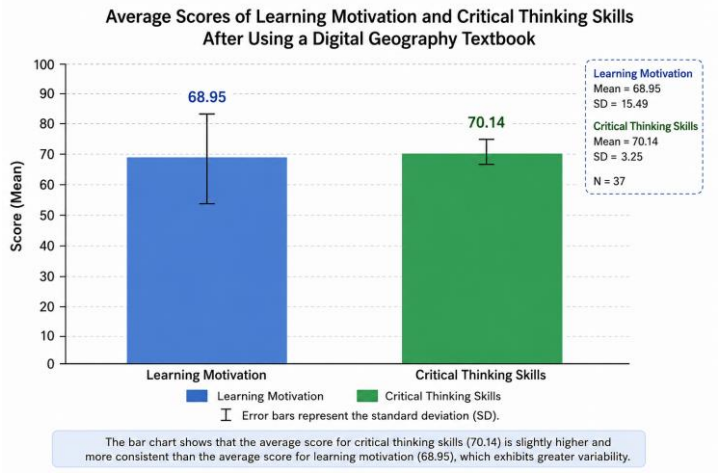

Figure 2. Bar chart showing the average levels of students' motivation to learn and critical thinking skills after using a digital-based geography textbook.

Based on Figure 2. the average critical thinking ability of students (70.1) is higher than the average learning motivation (68.9). In addition, the error bar for the learning motivation variable appears longer than that for the critical thinking ability variable. It indicates that variation in students' learning motivation scores is greater, whereas critical thinking ability exhibits lower data dispersion—i.e., is more homogeneous. This visualization suggests that the use of digital geography textbooks has a relatively consistent impact on students' critical-thinking ability. Meanwhile, regarding motivation to learn, the use of digital textbooks yields more varied responses among students. These differences may be influenced by internal factors such as interest in learning, readiness to use digital media, and each student's learning characteristics.

Discussion

The Effect of Using Geography Textbooks on Students' Motivation to Learn

The results of the study indicate that the use of digital geography textbooks positively affects motivation among 10th-grade students in the Geography course at Tangse State High School 1. This finding is based on the results of a t-test with a significance level of less than 0.05. Statistically, these results indicate that increased intensity and quality of digital geography textbook use are associated with increased students' motivation to learn. It means that textbooks not only serve as a source of learning material but also play a strategic role in shaping students' attitudes, interests, and enthusiasm for learning. Empirically, digital geography textbooks are among the key factors influencing students' motivation to learn in formal school settings.

The results presented in this study are consistent with Hanaris (2023), which states that motivation to learn can be enhanced through engaging, systematic, and relevant learning resources aligned with students' needs. A well-structured textbook can serve as an external stimulus that triggers students' intrinsic motivation. In geography instruction, a textbook that presents material in a logical sequence, supplemented with illustrations, maps, and contextual examples, can help students understand abstract concepts in a more concrete and accessible way.

In addition, Safitri et al. (2024) emphasize that a good understanding of the learning material will foster students' self-confidence. This self-confidence is one of the internal factors that strengthen motivation to learn. In this study, the digital geography textbook was found to help students better understand the material through systematic presentation and examples relevant to students' daily lives. This improved understanding directly increases students' motivation to learn.

The results presented in this study are consistent with the view of Amelia et al. (2024), which states that instructional materials designed in accordance with students' characteristics and presented engagingly can increase students' interest and involvement in learning. Students' active involvement is an important indicator of learning motivation, because motivated students are more likely to ask questions, participate in discussions, and complete learning tasks with dedication.

Research conducted by Nurfadhillah et al. (2021) further supports the findings of this study. They explain that the use of digital and audiovisual learning media can help students stay more focused and engaged during learning activities. It indicates that interactive digital teaching materials can create a more engaging learning experience than conventional ones. In geography instruction, the use of maps, images, illustrations of

geosphere phenomena, and spatial data helps students understand the material more concretely and accessibly, thereby increasing their motivation to learn.

The findings of Azhar et al. (2024) also show that systematically designed,d tailored textbooks can enhance learning effectiveness while encouraging students to be more active in the learning process. Digital textbooks make it easier for students to study the material independently according to their individual needs and abilities. This flexibility provides students with broader learning opportunities, thereby increasing their interest and motivation in learning geography.

In addition, Hana, Nahak, and Naitili (2025) explain that digital teaching materials are positively associated with students' motivation to learn and interest in reading. Attractive and easily accessible teaching materials can increase students' attention to the learning material. In this study, digitally based geography textbooks also created a more varied and engaging learning environment, resulting in students appearing more enthusiastic and active during lessons.

The findings of this study are also consistent with multimedia learning theory, which posits that combining text, images, visuals, and interactive elements in instructional materials can increase students' attention and engagement in learning. Digital geography textbooks provide a more contextual learning experience through maps, graphs, images, and illustrations of geographic phenomena. Therefore, digital instructional materials not only make it easier for students to understand the material but also help create a more active, engaging, and enjoyable learning environment.

From a pedagogical perspective, the results of this study indicate that the use of digital-based geography textbooks can create a more interactive and student-centered learning process. Material presented in a structured, visual, and context-appropriate manner helps students become more active in exploring information, engaging in discussions, and analyzing various geographic phenomena. From a curricular perspective, the findings of this study show that the use of digital geography textbooks aligns with the implementation of the Merdeka Curriculum, which emphasizes literacy-based learning, the development of critical thinking skills, and the use of technology in learning activities. Digital textbooks can support the achievement of geography learning outcomes, particularly in enhancing spatial literacy, the ability to analyze geosphere phenomena, and contextual problem-solving skills. Therefore, the development of digital instructional materials should be considered a key aspect of curriculum implementation to improve the quality of geography education in schools.

Specifically in geography education, the results of this study indicate that the use of digital geography textbooks can support a more contextual, visual, and analytical learning process. Presenting material through maps, images, spatial data, and geosphere phenomena helps students understand spatial concepts more tangibly. It makes it easier for them to analyze the relationship between humans and the environment. Therefore, digital geography textbooks can be an effective medium for strengthening spatial literacy, increasing motivation to learn, and developing students' critical thinking skills in geography education.

Based on the description of the results and the theoretical review, the researcher concludes that digital-based geography textbooks play a strategic role as pedagogical tools in enhancing students' motivation to learn. Textbooks not only serve as a medium for conveying information but also as a means of fostering interest, stimulating curiosity, and encouraging students' active engagement in learning. The positive impact of textbook use on students' motivation to learn indicates that the quality of instructional materials is

a key factor in learning success. Textbooks that are systematically organized and tailored to students' characteristics can create enjoyable and meaningful learning experiences. In this context, learning motivation does not arise by chance but rather results from the interaction between students and pedagogically designed learning resources.

The Effect of Using Digital Geography Textbooks on Students' Critical Thinking Skills

The results of the study indicate that the use of digital geography textbooks positively affects 10th-grade students' critical thinking skills in the Geography course at Tangse State High School 1. This conclusion is based on the results of a t-test at a significance level of 0.05 or less. Statistically, these findings indicate that an increase in the quality and intensity of digital geography textbook use is associated with improved students' critical thinking skills. It means that the more effectively textbooks are used as learning resources in terms of the comprehensiveness of the material, the presentation of data, and the demands of learning activities the higher students' ability to analyze, evaluate, and draw logical conclusions. These findings show that digitally based geography textbooks serve not only as a source of information but also as a medium for developing students' higher-order thinking skills.

The results of this study are consistent with the view of Manurung et al. (2023), which states that critical thinking skills can be developed through learning that requires students to analyze, evaluate, and draw conclusions based on data and facts. Digital geography textbooks, as a key component of learning, provide materials and activities that encourage students to engage in these thinking processes. Theoretically, the results of this study support Piaget's constructivist theory, which states that knowledge is actively constructed by students through interaction with their environment and meaningful learning materials (Dewi & Fauziati, 2021). In geography education, textbooks that include contextual problems, empirical data, and analytical tasks enable students to develop their own understanding through active thinking, rather than simply passively receiving information.

Digital geography textbooks, which include maps, graphs, statistical data, and case studies, provide students with opportunities to analyze and interpret a range of geographical phenomena. Luthfiyani et al. (2025) state that analyzing data, connecting concepts, and interpreting information are at the core of critical thinking skills. Therefore, the inclusion of these elements in textbooks directly contributes to the development of students' critical thinking skills.

In addition, Widyartono & Taufiqurrahman (2025) reinforce the view that the ability to construct evidence-based arguments is a key indicator of critical thinking. Digital geography textbooks designed with analytical questions, reflective assignments, and problem-solving exercises encourage students to express their opinions rationally and in a data-driven manner. Thus, these textbooks serve as tools for systematic and ongoing critical-thinking training.

The findings of this study are also consistent with Rizki's (2024) research, which finds that learning that involves analysis, problem-solving, and the interpretation of information can enhance students' critical thinking skills. In geography education, digital textbooks that include spatial data, environmental case studies, graphs, and visualizations of geosphere phenomena provide students with opportunities to conduct more in-depth analyses of the issues they study.

A study by Buana & Putra (2023), conducted through a meta-analysis of geography education, also showed that the use of media and learning models based on spatial analysis can improve students' thinking skills in understanding spatial relationships and geosphere phenomena. These results indicate that geography instruction that utilizes data visualization and analytical activities can help students develop their critical thinking skills more effectively. It aligns with the findings of this study, which show that digital textbooks can encourage students to be more active in analyzing information and drawing logical conclusions about geographical phenomena.

Furthermore, the use of a digital geography textbook supports a learning process that emphasizes Higher Order Thinking Skills (HOTS). The contextual and problem-based learning materials encourage students not only to memorize concepts but also to evaluate information, connect relevant facts, and draw logical conclusions. These findings indicate that digital textbooks can serve as an effective learning resource for fostering students' higher-order thinking skills, particularly in understanding complex and dynamic geographical phenomena.

From a pedagogical perspective, the use of digital geography textbooks can help students develop analytical skills, data interpretation abilities, and problem-solving competencies. Learning activities that use spatial visualizations and analytical tasks enable students to connect geographical concepts to real-world phenomena in their surroundings actively. Therefore, digital textbooks serve not only as learning resources but also as effective instructional mediators that continuously foster students' critical thinking skills.

Based on the findings of this study, the researchers argue that the use of digital geography textbooks plays a strategic role in enhancing students' critical thinking skills. Textbooks that are systematically designed, contextually relevant, and capable of promoting higher-order cognitive activities create learning experiences that encourage students to think analytically and reflectively. The positive effect of digital textbooks on students' critical thinking skills indicates that the quality of instructional materials is a key determinant of effective learning in geography. Textbooks that merely focus on delivering factual information tend to be less effective in developing critical thinking skills. In contrast, textbooks that incorporate authentic data, case studies, and analytical questions provide strong cognitive stimulation, enabling students to develop higher-order thinking skills more effectively.

CONCLUSION

The findings of this study indicate that the use of a digital geography textbook has a positive and statistically significant effect on the learning motivation and critical thinking skills of tenth-grade students at SMA Negeri 1 Tangse. The novelty of this study lies in its examination of the impact of a digital geography textbook on two learning outcomes simultaneously: learning motivation and critical thinking skills within a single geography learning framework. Theoretically, these findings reinforce the constructivist perspective, which emphasizes that systematically designed and contextually relevant instructional materials play a crucial role in enhancing students' learning engagement and higher-order thinking skills. In practice, this study demonstrates that a digital geography textbook serves not only as a source of information but also as an effective pedagogical tool for promoting more active, reflective, and meaningful learning experiences. Future research is recommended to extend this work by integrating digital textbooks with innovative instructional models and examining their effectiveness across broader samples

and diverse educational contexts.

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