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Learning about the Diversity of Natural Appearances for Geographical Literacy of Elementary School Students

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Abstract

Geographic literacy is an important competency that needs to be developed from elementary school level through contextual and meaningful science and natural science learning. One material with strong potential in building students' geographic literacy is learning about the diversity of natural features. This study aims to examine the role of learning about the diversity of natural features in strengthening elementary school students' geographic literacy. This study uses a qualitative approach with thematic conceptual analysis of relevant literature on geographic literacy, spatial thinking, and geography learning in elementary schools. Data sources were obtained from national and international journal research, reference books, and relevant curriculum documents. The results of the study indicate that learning about the diversity of natural features contributes significantly to the development of students' spatial understanding, spatial thinking skills, and environmental awareness. By learning that emphasizes the variety of landscapes and their relationship to human life, students can more comprehensively understand how the region's physical conditions relate to social activities. In addition, this learning also encourages the formation of environmental awareness and social responsibility from an early age. Thus, integrating learning about the diversity of natural features into science and natural science learning in elementary schools is an effective strategy to strengthen students' geographic literacy in a sustainable manner.

INTRODUCTION

Geography learning at the elementary school level plays a crucial role in developing students' geographic literacy as a fundamental competency for understanding the relationship between humans and the environment contextually. Geographic literacy encompasses the ability to recognize, explain, and interpret geographic phenomena such as natural and social features at various spatial scales, which helps students develop spatial thinking in real-life settings (Thomas-Brown & Richards, 2015). Teacher or student incompetence in this area can lead to a lack of understanding of geographic processes such as hydrological patterns, continental relief, and social settlement dynamics (Urbańska et al., 2021). Within the framework of elementary education, a learning approach that integrates geographic literacy issues can enhance students' ability to understand complex material through more meaningful and applicable learning experiences in the school environment (Five Themes of Geography, 1984).

The diversity of natural features such as mountains, rivers, tropical climates, and differing vegetation patterns across regions provides rich learning content that can be

linked to social, cultural, and economic aspects for elementary school students. This material is not simply geographical facts but can be developed into learning activities that encourage students to think critically about the relationship between natural features and community life (Sumirat et al., 2025). For example, the phenomenon of mountains or lowlands can be used to help students understand the relationship between topography, climate, settlement patterns, and local livelihoods. This geographic literacy approach in learning allows teachers and students to broaden their insights about the impact of the Earth's physical variations on social and cultural life, rather than simply memorizing place names or physical characteristics (Ekici & Gülersoy, 2025). This context underpins the importance of designing learning strategies that position natural features as anchor concepts in elementary school students' geographic literacy.

Although there have been several attempts to develop literacy-based geography learning models, such as the geography literacy-based learning model, which has been shown to increase student engagement and spatial skills at the secondary level (Sari et al., 2025), literature related to the implementation of this approach at the elementary school level is still limited. Sari et al. (2025) showed that the use of a geographic literacy-based learning model significantly improved the spatial intelligence competency of middle school students; however, similar research on elementary school students is still minimal. Furthermore, several studies indicate that spatial literacy and map use are key components that need to be strengthened early on to support broader geographical understanding (Nurjanah et al., 2025; Horvat & Kusma, 2025). This gap opens up space for a more in-depth study of how the diversity of natural features can function as learning materials to strengthen elementary school students' geographic literacy through strategies that are contextual, systematic, and integrated into the science and science curriculum.

Based on this background, this study aims to describe how learning about the diversity of natural features can be developed as a geographical literacy approach in elementary schools. This study will analyze the role of natural features content as learning material that is not only informative, but also able to facilitate interpretation skills, spatial analysis, and appreciation of real geographical phenomena. In addition, this study will discuss the implicational relationship between the learning model and the needs of students in facing the challenges of 21st-century education and the development of geographical thinking in elementary education. Thus, this study is expected to be able to provide conceptual and pedagogical contributions to the development of geographical literacy in elementary schools.

METHOD

This study uses a qualitative approach with thematic conceptual analysis to examine the learning of natural features diversity as a means of strengthening elementary school students' geographic literacy. This approach was chosen because the research objective does not focus on measuring learning outcomes, but rather on the meaning of concepts, the structure of geographic knowledge, and their relevance in science learning in elementary education. Conceptual analysis allows researchers to examine in depth the relationship between natural features content and the development of geographic literacy as a basic competency for students (Creswell & Poth, 2018).

The research data sources consist of theoretical and empirical literature that discusses geographic literacy, spatial thinking, geography learning, and natural phenomena material in elementary schools. The literature includes national and international journal research, educational geography reference books, and relevant curriculum documents. The selection of sources was carried out selectively with the following criteria: (1) discussing the concept of geographic literacy or educational geography, (2) relevant to science or social studies learning in elementary schools, and (3) containing a conceptual framework or learning model that can be analyzed pedagogically (Snyder, 2019).

The data analysis technique was carried out through conceptual thematic analysis, namely identifying the main themes related to natural features, geographic literacy, and elementary school learning. Each concept was analyzed to see its relationship to the ability to interpret space, understanding the area, and human-environment relationships in the context of learning. The analysis process was carried out through the stages of concept grouping, interpretation of pedagogical meaning, and conceptual synthesis to formulate the implications of learning natural features for strengthening elementary school students' geographic literacy (Miles et al., 2014).

RESULTS AND DISCUSSION

The Nature of Natural Appearances in Elementary School Students' Geographical Literacy

Natural features are a fundamental component of geographic studies, reflecting the results of natural processes such as tectonic, hydrological, and atmospheric activity that shape the Earth's surface. In the context of elementary school education, natural features are understood not only as physical objects but also as contextual learning resources that help students recognize space, place, and the relationships between natural phenomena (Muakhiroh, 2022). Understanding mountains, rivers, coasts, and lowlands provides a gateway for students to build geographical knowledge in a gradual and meaningful way. Through an introduction to natural features, students begin to understand their surroundings as part of an interconnected earth system.

Geographic literacy at the elementary school level emphasizes students' ability to understand location, regional characteristics, and the relationship between humans and the environment. Natural features play a crucial role in developing these skills because they provide concrete representations of abstract spatial concepts (Fernando et al., 2025). When students learn the difference between mountains and lowlands, for example, they not only recognize the shape of the Earth's surface but also understand its implications for climate, livelihoods, and settlement patterns. Thus, learning about natural features directly contributes to the development of spatial thinking skills, which are at the heart of geographic literacy (Thomas-Brown & Richards, 2015).

In elementary school science lessons, natural features should not be presented as a list of memorized geographical facts, but rather as phenomena analyzed through student learning experiences. This approach allows students to connect geographical knowledge to the realities of their local environment. For example, the introduction of rivers extends beyond definitions to the river's function in the lives of the surrounding community. This process helps students develop a holistic understanding and fosters spatial interpretation skills from an early age, as emphasized in the development of local context-based geographical literacy (Sari et al., 2025).

Furthermore, learning about natural features also serves as a vehicle for developing environmental awareness in elementary school students. By understanding the process by which natural features form and their role in human life, students begin to realize the importance of maintaining environmental balance. This awareness does not emerge instantly, but is built through ongoing conceptual understanding relevant to everyday life. Therefore, integrating natural features into science learning not only strengthens students' cognitive aspects but also fosters an attitude of environmental awareness as part of geographic literacy competency (Nurjanah et al., 2025).

Learning about the Diversity of Natural Appearances as a Strategy to Strengthen Geographical Literacy in Elementary School Students

Learning about the diversity of natural features has a strategic role in developing the geographic literacy of elementary school students because it introduces variations in space and place comprehensively (Hendara & Pambudi, 2025). Through this diversity, students not only know one type of landscape, but understand that each region has different physical characteristics. This understanding helps students build a geographical perspective that is not narrow and avoids excessive generalization of a region. In the context of geographic literacy, the diversity of natural features expands students' abilities in recognizing regional differences, interrelationships between regions, and distribution patterns of natural phenomena (National Council for Geographic Education, 1984).

Learning strategies that emphasize the diversity of natural features need to be adapted to the cognitive developmental characteristics of elementary school students. At this stage, students more easily grasp concepts through concrete and visual examples that are relevant to their lives. Therefore, the use of simple maps, landscape images, region-

based stories, and observations of the surrounding environment are effective tools for instilling geographic concepts (Prihadi et al., 2025). This approach allows students to gradually develop the ability to read maps, recognize geographic symbols, and understand spatial relationships, which are the core of geographic literacy (Thomas-Brown & Richards, 2015).

Learning about the diversity of natural features also encourages students to relate the physical conditions of a region to the human activities that occur within it. As students learn about the differences between mountainous, lowland, and coastal areas, they begin to understand why livelihoods, settlement patterns, and cultural practices differ across regions. This process strengthens students' spatial analysis skills and helps them see geography as a science relevant to social life (Sari et al., 2025). Thus, learning about natural features does not stand alone but is integrated with a comprehensive understanding of society and the environment.

Beyond cognitive aspects, learning about the diversity of natural features contributes to the development of environmental awareness and social responsibility in students. By understanding that every natural feature has its own functions and limitations, students are encouraged to appreciate nature as an essential part of human life. This awareness forms the basis for developing environmentally friendly behaviors from an early age. From a basic education perspective, strengthening geographic literacy through learning about natural features not only aims to increase knowledge but also instills sustainability values relevant to today's environmental challenges (Nurjanah et al., 2025).

Implications of Learning about the Diversity of Natural Appearances on the Geographical Literacy of Elementary School Students

Learning about the diversity of natural features has direct implications for the development of elementary school students' geographic literacy by strengthening their understanding of space and the interconnectedness of regions. When students are introduced to a variety of different landscapes, they learn that each region has physical characteristics that influence human life within it. This understanding encourages students to view geography as an interconnected system, not simply a collection of isolated facts. Geographic literacy, in this context, functions as the ability to interpret spatial information and understand the relationships between location, natural conditions, and human activities (Bednarz et al., 2013).

Another important implication is seen in the development of students' spatial thinking skills. The diversity of natural features provides space for students to compare, classify, and connect geographic phenomena based on their location and characteristics. Learning activities such as reading maps, observing regional differences, and discussing the relationship between nature and social life train students to think spatially from an early age. This ability is an important foundation in science learning because it helps students understand the world visually, systematically, and based on patterns, as

emphasized in the study Learning to Think Spatially, which places spatial thinking as a core competency of elementary education (National Research Council, 2006).

Beyond cognitive aspects, learning about the diversity of natural features also has implications for developing students' environmental awareness and social responsibility. Understanding the limitations and functions of natural features encourages students to recognize the importance of wise use of the environment. The learning process, which links natural phenomena to current environmental issues, helps students develop a reflective attitude toward the impacts of human activities. In the context of basic education, this awareness forms the basis for developing sustainable character traits relevant to future global environmental challenges (UNESCO, 2017).

Another pedagogical implication is the increasing demand for teachers to act as facilitators of geographic literacy. Teachers not only convey material about natural features but also design learning experiences that encourage students' exploration, analysis, and reflection on their environment. Learning based on local context and regional diversity helps teachers connect geographic concepts to students' real-life experiences (OECD, 2018). With this approach, science learning in elementary schools transforms from a rote learning activity to a process of developing meaningful and applicable geographic literacy in everyday life.

CONCLUSION

Learning about the diversity of natural features plays a strategic role in developing elementary school students' geographic literacy because it helps them understand space, place, and the relationship between natural conditions and human life. By introducing various forms of natural features, students not only acquire factual knowledge but also develop systematic and contextual geographic thinking. This understanding encourages students to view the environment as an interconnected whole, thus making science learning more meaningful and relevant to the realities of everyday life.

The implications of learning about the diversity of natural features are not only evident in the cognitive aspect, but also in strengthening students' spatial thinking skills, environmental awareness, and social responsibility. Contextually designed and geographical literacy-oriented learning provides students with the opportunity to connect concepts to real-life experiences and fosters a concern for environmental sustainability. Therefore, integrating the diversity of natural features into elementary school science learning is an important foundation for developing a generation with geographic understanding, ecological awareness, and readiness to face future environmental challenges.

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