Artículos

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ANALYSING THE OPPORTUNITY TO LEARN MAP SKILLS FROM TWO GEOGRAPHY TEXTBOOKS IN SOUTH AFRICAN PRIMARY SCHOOLS

ANALISANDO A OPORTUNIDADE DE APRENDER HABILIDADES DE CARTOGRAFIA A PARTIR DE DOIS LIVROS DIDÁTICOS DE GEOGRAFIA EM ESCOLAS SECUNDÁRIAS SUL-AFRICANAS

ANÁLISIS DE LA OPORTUNIDAD DE APRENDER HABILIDADES DE CARTOGRAFÍA A PARTIR DE DOS LIBROS DE TEXTO DE GEOGRAFÍA EN ESCUELAS SECUNDARIAS DE SUDÁFRICA

Ijeoma Chidinma Ogbonnaya
(University of the Free State, Sudáfrica)
OgbonnayaICE@ufs.ac.za

Katlego Teresa Tau
(University of the Free State, Sudáfrica)
Katlegotau01@gmail.com

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RESUMO

As habilidades cartográficas são essenciais para navegar pelo mundo ao nosso redor. Este estudo tem como objetivo analisar as oportunidades de aprendizagem de habilidades de leitura e interpretação de mapas apresentadas em dois livros didáticos de Geografia. O referencial de "oportunidade de aprender" é utilizado para investigar qual livro oferece melhores oportunidades de aprendizagem. O estudo aborda lacunas de oportunidade e contribui para a reforma educacional. Baseia-se em análises de conteúdo e segue uma abordagem interpretativa. Os dados foram coletados por meio do método de análise documental, e a taxonomia de Bloom é utilizada como técnica de análise qualitativa. Os dados secundários utilizados envolvem documentos ou informações já coletadas — neste caso, livros didáticos foram estudados. O estudo concentra-se em identificar a demanda cognitiva das atividades relacionadas a mapas presentes nos livros. Os resultados revelaram que os dois livros didáticos de Geografia contemplam grande parte do conteúdo de habilidades cartográficas, mas a natureza das atividades exige diferentes níveis de pensamento. Além disso, recomenda-se que as atividades cartográficas sejam aprimoradas. A matemática básica deve fazer parte da Geografia, pois sua fraca integração no currículo contribui para a falta de literacia cartográfica. Ademais, devem existir mais atividades de aplicação que possam melhorar a capacidade dos alunos de resolver problemas. Ao aplicar e incorporar questões com diferentes demandas cognitivas, os alunos podem adquirir habilidades de pensamento de ordem superior, como analisar, sintetizar, avaliar e pensar criticamente. Os resultados podem contribuir significativamente para designers curriculares, autores, professores e alunos que dependem dos livros didáticos para obter informações.

Palavras-chave: habilidades cartográficas. oportunidade de aprender. geografia. níveis cognitivos. natureza das tarefas.

ABSTRACT

Map skills are essential for navigating the world around us. This study aims to analyse the learning opportunities of map skills presented in two geography textbooks. The opportunity to learn framework is employed to investigate the textbook that presents better learning opportunities. It will address opportunity gaps and contribute to the reformation of education. This study is based on content analyses and follows the interpretive approach. Data were collected through document analysis, and Bloom's taxonomy was used as a qualitative data analysis technique. Secondary data used involves existing documents or information that have already been collected. In this case, textbooks were studied. The study focuses on identifying the cognitive demand of map-related activities used in the textbooks. The study revealed that the two geography textbooks cover most of the map skills content, but the nature of the activities used demands different thinking skills. Furthermore, it recommends that map activities should be improved. Basic mathematics should be part of geography, as its poor integration in the curriculum contributes to a lack of map literacy. Additionally, there should be more application activities that can enhance learners' ability to solve problems. By applying and incorporating questions with varying cognitive demands, learners can develop high-order thinking skills, including analysis, synthesis, evaluation, and critical thinking. The findings can significantly contribute to curriculum designers, authors, teachers, and learners who rely on the textbooks for information.

Keywords: map skills. opportunity to learn. geography. cognitive levels. nature of tasks.

RESUMEN

Las habilidades cartográficas son esenciales para navegar por el mundo que nos rodea. Este estudio tiene como objetivo analizar las oportunidades de aprendizaje de habilidades cartográficas presentadas en dos libros de texto de Geografía. Se emplea el marco de "oportunidad de aprender" para investigar cuál de los libros ofrece mejores oportunidades de aprendizaje. El estudio aborda brechas de oportunidad y contribuye a la reforma educativa. Está basado en análisis de contenido y sigue un enfoque interpretativo. Los datos se recopilaron mediante el método de análisis documental y la taxonomía de Bloom se utiliza como técnica de análisis cualitativo. Los datos secundarios empleados consisten en documentos o información ya existente previamente recopilada; en este caso, se estudiaron libros de texto. El estudio se centra en identificar la demanda cognitiva de las actividades relacionadas con mapas presentes en los libros. Los resultados revelaron que ambos libros de Geografía cubren la mayor parte del contenido de habilidades cartográficas, pero la naturaleza de las actividades exige distintos niveles de pensamiento. Además, se recomienda mejorar las actividades cartográficas. Las matemáticas básicas deben formar parte de la Geografía, ya que su escasa integración en el currículo contribuye a la falta de alfabetización cartográfica. Asimismo, deberían incluirse más actividades de aplicación que mejoren la capacidad de los estudiantes para resolver problemas. Al aplicar e incorporar preguntas con diferentes demandas cognitivas, los estudiantes pueden adquirir habilidades de pensamiento de orden superior, como analizar, sintetizar, evaluar y pensar críticamente. Los resultados pueden contribuir significativamente a los diseñadores curriculares, autores, docentes y estudiantes que dependen de los libros de texto como fuente de información.

Palabras clave: habilidades cartográficas. oportunidad de aprender. geografía. niveles cognitivos. naturaleza de las tareas.

Introducción

The necessity of developing map literacy in primary education cannot be neglected (Ramsaroop & Kwayi, 2024). Worldwide, map skills are viewed as a catalyst for developing cartographic skills (Naxweka & Wilmot, 2019). In a global society, being able to interpret and analyse maps is a fundamental competence. According to Havelkova and Hanus (2019), the current period can be characterised as the spatial information age. People should be equipped with the ability to analyse spatial information connected to the world and the community they live in. In South Africa, the development of places is growing daily. It is essential to have the ability to read, interpret, and utilize maps to explore these places.

Petrikovicova et al. (2021) described geography as a subject that develops students' knowledge of the world they live in. Geography encompasses a range of topics that connect to both the natural environment and the human aspect. Geography involves intricate concepts that students find complicated to grasp, especially map work. Among the various components that make up geography, map skills stand out in particular (Prakash, 2023). Map skills foster critical thinking, problem-solving, and a deeper understanding of geographical concepts. Maps are an increasingly used source of information, and it is therefore essential to develop map skills in students (Hanus & Havelková, 2019).

Map skills are fundamental in developing an understanding of geographical concepts (Binimelis & Bagoly-Simo, 2022). Map skills are typically presented in most Geography textbooks in a structured manner that helps students grasp the basic principles of using, interpreting, and analyzing maps. Textbooks offer an organised approach that allows learners to grasp the content in a logical sequence. They include the necessary knowledge and content that needs to be learnt and taught. In textbooks, map skills are often introduced early, highlighting their significance for understanding geographical concepts.

In the intermediate phase in South Africa, textbooks are the primary source to learn map skills. The intermediate phase consists of grades 4 to 7 in the primary schools in South Africa. Their textbook consists of learning tasks that reinforce learning and assess student knowledge. These tasks enable students to identify their learning gaps, allowing teachers to tailor their instruction to meet individual needs. They can encourage students to create, evaluate, analyse, apply, understand, and remember information. Previous studies have revealed that textbooks are structured differently; some textbooks may aim to develop high cognitive skills, while others focus on rote learning (Cohen & Lotter, 2022). For this research, I have used the Oxford Successful and Platinum Social Science textbook, as it is the most widely used in South African classrooms. In other words, they have a huge influence on how students comprehend geographical concepts.

Many studies have shown that both in South Africa and internationally, students lack map-reading and interpretation skills (Ramsaroop & Kwayi, 2024). Their study has found that the poor reading skills of high school students are rapidly increasing, which raises concerns regarding the acquisition of map literacy in primary education. Factors contributing to this are the teachers' inadequate pedagogical content knowledge, poor teaching methods, and insufficient understanding of basic concepts (Ramsaroop & Kwayi, 2024).

The existing literature on Map skills has focused mainly on either the learners or the teachers. It is now clear that researchers are unable to reach a clear conclusion on the fundamental causes of students' poor map skills. It is safe to say that the challenges faced by learners in understanding Map skills are not a uniquely South African problem but a global one. This study, therefore, takes a different perspective to investigate how Map skills are presented in Geography textbooks from the intermediate phase. The study seeks to address the following research questions:

- What opportunities to learn map skills from tasks are presented in the two geography textbooks in the intermediate phase?
- Which of the two geography textbooks presents a better opportunity to learn map skills in the intermediate phase?

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Description of the Problem

Despite several studies (Bednarz & Shin, 2022) aimed at improving students' map skills, learners continue to struggle with understanding map skills. Research findings revealed factors such as lack of teachers' pedagogical content knowledge (Naxweka & Wilmot, 2019), types of teaching resources used (Binimelis & Bagoly-simo, 2022), learners' poor critical thinking and reading skills (Bednarz et al., 2022; Ramsaroop et al., 2024) as factors affecting learners' poor understanding of map skills. However, all these studies have concentrated on either the teachers or the learners, leaving a gap in examining the learning opportunities presented in geography textbooks. This study fills this gap by analysing the opportunity to learn map skills from Geography textbooks in the intermediate phase.

Literature Review: *Geography as a subject*

Geography is the study of the Earth and the relationship between humans and the environment. It seeks to understand how human and natural systems are formed (Murphy, 2020). It encompasses a range of disciplines, including environmental science, sociology, economics, anthropology, and geology. This subject is divided into physical and human geography (Binimelis, & Bagoly-Simo, 2022). Physical geography involves natural elements and geographic features. It encompasses topics such as climate, atmosphere, ecosystems, and hydrology. Then, human geography focuses on how human activities, such as culture, politics, economics, and population, shape the environment.

Murphy (2020) states that geography helps us in understanding global issues. It enables learners to analyse spatial information and think critically. Geography as a subject equips learners with the necessary skills and knowledge to navigate the world around them. It enhances problem-solving skills as learners get the opportunity to deal with real-world problems and address them. Additionally, it fosters global awareness by informing learners about diverse cultures and environments. It is relevant beyond the classroom as it aims to encourage learners to be responsible citizens.

Compared to other countries, geography in South Africa is not taught solely as a subject, but it is an element of social sciences in primary education (Wilmot, 2018). As learners transition to secondary education, they have the opportunity to focus on it exclusively. The aim of this initiative is to enable learners to focus on their passions, as geography and history may lead them down different career paths. Furthermore, it is considered an elective subject in secondary education as part of the curriculum requirements, and learners get to personalize their education. Omwoki (2025) emphasizes that geography should remain a primary focus of global research, and more attention must be given to assessment methods and the provision of resources.

Map skills

Map skills have been identified as one of the areas where students struggle in geography. Rane et al. (2020) discovered that learners lack the ability to describe and analyse maps. Furthermore, the researchers explain that this is caused by a lack of paper-based maps in educational sources. Gokce (2015) conducted a study on improving students' map skills. However, the focus was on teachers' opinions. Teachers stated that they find it hard to offer practical activities to students. The maps provided by their resources are insufficient, and the activities are not detailed enough. The participants suggested that different exercises of map skills should be designed, and course books should provide a variety of map activities. Furthermore, research emphasizes that learners' map literacy is influenced by teachers' proficiency in geographical knowledge, map analysis, and interpretation (Havelkova & Hanus, 2019).

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Presentation of map skills in the school curriculum and textbooks

Map skills are fundamental tools for presenting spatial information. They have a great influence on the problem-solving and reasoning skills of learners (Artvinli, & Dönmez, 2020). Globally, the integration of map skills into the curriculum varies. In certain countries, map skills are approached as an independent subject, whereas in other places, they are part of the social studies curriculum (Manik, 2022). The curriculum provides a structure of learning objectives that aligns with learning and teaching materials. Map skills enable learners to understand the world they live in and the aspects of global change. The curriculum provides a layout of the concepts that must be taught and learnt.

Naxweka and Wilmot (2019) highlight the manner in which the curriculum provides guidance on teaching map concepts. The geography curriculum promotes critical thinking and visual literacy. They emphasise that teachers should be able to read and interpret maps, so that it is easy to teach learners to think geographically and be fluent in the language of maps. The review of the geography curriculum reveals the need for learners to possess skills such as calculating, measuring, and reading maps. Learners should be able to apply map skills in real-world situations. In literature, the necessity of developing literacy is recognized.

The geography curriculum emphasizes the necessity of comprehending both physical and human elements on maps. The poor integration of basic mathematics in the social science curriculum contributes to the poor acquisition of map literacy. Naxweka and Wilmot (2019) argue that the map work curriculum places little emphasis on applying map skills to solve problems and explore spatial concepts in higher grades. They suggest that the curriculum should encourage the use of maps that portray both human and physical aspects, and that can also serve as resources to address environmental issues.

Textbooks are the primary teaching and learning resources that significantly impact the acquisition of map skills. According to Artvinli & Dönmez (2020), the map information found in the current national education textbooks is not suitable for use in geography, and most of these textbooks have not been developed or reviewed by experts. Resources used to teach geography are crucial, as they significantly impact how students acquire knowledge of geography. Therefore, resources such as textbooks must be developed. Textbooks must be easy to read, consisting of well-constructed maps and activities that support the development of map literacy.

In geographical education, it is feasible to acquire high cognitive skills, such as analysis, synthesis, evaluation, critical thinking, and problem-solving, by applying and incorporating an array of skills that are prerequisites for one another in the curriculum (Artvinli & Dönmez, 2020). These skills can be determined and developed based on how the content of activities is organised in the resources. Artvinli & Dönmez (2020) conducted research comparing geography textbooks used in Turkey and the United Kingdom. These researchers found that each map skill-related lesson in most of these textbooks begins with a map, followed by content, and then the map is integrated with the text and task. Additionally, the activities in the textbook require learners to create maps, interpret them, and identify the types of maps. It was a few activities that fostered learners to think critically and apply knowledge.

Manik and Malahlela (2018) found that most textbooks used in the poor provinces of South Africa align well with the curriculum. The Department of Basic Education provides all public schools with quality textbooks to ensure that national education standards are met. The topics outlined by the CAPS are all covered in geography textbooks, although some textbooks do not follow the exact sequence (Manik, 2022). Moreover, teachers often rely heavily on those textbooks as their primary resource for teaching and learning. Research shows that Textbooks in local classrooms are used from the beginning of the lesson till the conclusion. Map skills are structured according to the curriculum requirements and learning objectives (Manik, 2022; Mkhabela & Manik, 2024).

Geography textbooks present the concept of map literacy in a logical manner that ensures that the tasks and content support and improve learners' understanding of map literacy (Binimelis & Bagoly-Simó, 2022). Each theme of map skills presented in the textbooks begins with keywords, an explanation of the

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main concepts, and then activities related to maps. Some themes incorporate visual elements, such as maps and case studies (Artini & Donmez, 2020). At the end of each map-related theme, there are tasks designed to assess students' understanding and competency in map analysis.

Textbooks and Their Usage in Teaching and Learning

Worldwide, 87% of developing countries still rely on textbooks as their only source of information (Pavesic & Cankar, 2022). Textbooks are easily accessible learning materials, and they are less affordable than digital tools. This demonstrates its crucial role in the teaching and learning process. The implementation of high-quality textbooks and teaching methods that align with the curriculum standards has become one of the interesting focuses for researchers.

Textbooks are guided by the curriculum, and the modification of the curriculum means the development of new textbooks. Textbooks outline the content in a more effective sequence and guide learners on how much time to allocate to each activity. In 2012, new curriculum standards were introduced in South Africa, and the Department of Basic Education (DBE) produced revised textbooks for all learning areas (Maphangwa, 2016). The revised textbooks were aligned with the objectives of the new curriculum and aimed to enhance learners' educational outcomes.

Textbooks give support to teachers, influencing their teaching methods. Therefore, they should be considered as a powerful pedagogical tool. Pavesic and Cankar (2022) found that the average of the global scale indicates that learners perform better when their instructors use textbooks. Countries that perform well rely on the use of textbooks for teaching and learning. Most learners believe that the lack of textbooks in schools is a barrier to learning, as it hinders learners from accessing content.

A further point was drawn to the attention of Li and Wang (2024) that textbooks have an authority in learners' minds, and they should acknowledge that they are not as perfect as expected. Ninety-six percent (96%) of learners believe that textbooks contain errors that need to be addressed. This is caused by the inability to cover all disciplines and the rapid evolution of these aspects. Research has revealed that most textbooks do not contain hands-on and experimental activities, which demotivates teachers from using them as sources.

Pavesic and Cankar (2022) argue that the knowledge delivered in the classroom is limited to how the information is presented in the textbooks. Additionally, textbooks should not be the sole source of information; they should be supplemented by other educational tools. Liu & Jiang (2021) revealed a strong relationship between the quality of teaching and the use of textbooks. The subject knowledge of teachers can be boosted by the appropriate utilisation of textbooks. Learners who rely solely on textbooks often become passive listeners rather than actively engaging with their teachers and peers (Li & Wang, 2024). Some of these textbooks have limited tasks that encourage active learning. Therefore, it is crucial for educators to examine the quality of textbooks they use in their lessons to ensure that learners do not lose interest while learning.

Tasks in textbooks

Research was conducted by Wijaya et al. (2015) from four perspectives, focusing on the components of textbooks. The research examined the type of context used in tasks, the purpose of these tasks, the cognitive demands they posed, and their relevance to the curriculum. Butler et al. (2018) define tasks as activities and exercises designed to assess students' knowledge and understanding. Map skills tasks involve analysing spatial relationships, measuring distances through map scales, locating places, and interpreting map symbols.

Wiyaja et al. (2015) state that the opportunity to learn can be enhanced by examining the quality of context-based tasks in textbooks. Context-based tasks refer to exercises that are relevant to students' real-life experiences. On the other hand, Simon and Budke (2020) suggest that geography textbooks

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should combine simple and more challenging tasks. They should develop learners' critical thinking and problem-solving skills.

A study conducted by Li & Wang (2024) found that the use of activities and tasks from textbooks showed a different dynamic and atmosphere in the classroom, as students were able to participate more deeply and actively in them. Other studies (Hu & Wang, 2021; Wan et al., 2022; Liu & Jiang, 2021) investigated the interpretation of textbooks and strategies for their effective use, finding that well-structured textbooks can enhance students' performance. In his study, Polikoff (2015) found that most textbooks in the US systematically overemphasize procedures and memorization and underemphasize goals in the cognitive domain. Ngwenya & Arek-Bawa (2019) compared two different textbooks and found that Book A had a greater propensity to engage and stimulate learning, as it offered better guidance and support to teachers and learners than Book B, although Book B was found to be in line with the curriculum in terms of content.

Theoretical framework- Opportunity to learn (OTL)

The Opportunity-to-Learn (OTL) framework developed by Herman (2015) will guide this research. This framework examines the extent to which students have access to content, skills, and cognitive engagement in their learning materials. It suggests that the educational outcomes of learners are determined by the learning opportunities to which they are exposed. The concept of learning opportunity is a broad term that researchers use to describe various types of educational tools, methods, and structures. It is viewed as a factor that influences learners' academic performance. This framework takes into account the differences in student outcomes. It addresses opportunity gaps that can contribute to the reformation of education.

Opportunity-to-Learn (OTL) Framework consists of several key components, such as:

- Content Coverage.
- Content Exposure and Emphasis.
- Cognitive Demand and Complexity.
- Instructional Strategies and Representations.
- Assessment Opportunities and Instructional Materials.

In this case, the research will focus on Assessment Opportunities and Instructional Materials, specifically Textbooks. Analysing the cognitive demand and complexity of tasks from the textbooks, thus prioritising the level of thinking skills required to engage with map-related activities.

OTL examines whether learners can apply what they have learned in practice. It includes the provision of academic experiences that cultivate skills development. Besides the time allocated to tasks, the Opportunity to Learn emphasizes the effectiveness of education and the quality of curriculum standards. Herman (2015) attempted to understand the concept of 'opportunity to learn' by posing questions such as 'what kind of teaching and learning resource is needed to improve students' outcomes and comprehension?' 'How is this information acquired by learners?' 'Is the presentation of the content organised adequately?'

Several researchers have employed the Opportunity-to-learn framework in their studies to address educational issues (Perry et al., 2024). Research suggests that this framework reveals how learners access knowledge. Many teachers refer to opportunity to learn as what they want learners to know and accomplish (Laura et al., 2023). Therefore, they focus on the time spent on teaching and the content that needs to be covered. It includes finding ways to improve their teaching methods and resources that promote high-order cognitive skills.

The national content standards are determined by the quality of resources used, teaching strategies, and variables required for all stages of educational processes (Perry et al., 2024). According to Laura et al.

(2023), resources linked to the opportunity to learn incorporate curriculum structure, teacher competency, and the quality of educational resources.

Studies on Opportunities to Learn from Textbooks

Many researchers identify opportunities to learn as cognitive skills and subject knowledge offered by textbooks and other teaching materials. Hadar (2017) analysed the opportunity to learn mathematics in textbooks and learner achievement. The researcher investigated how well learners performed in tasks offered in maths textbooks. He found that these textbooks provide learners with an opportunity to access knowledge and address the level of understanding needed to comprehend mathematics concepts.

Choi (2019) explored the opportunity to learn context-based tasks provided by probability and statistics textbooks. He examined nine books on probability and statistics. The study's findings indicated that context-based tasks in each textbook were blended with real-world scenarios. However, the researcher recommended that textbooks incorporate diverse opportunities, such as problem-solving, creativity tasks, and critical thinking skills.

Moreover, Kaur et al. (2021) studied Opportunity to learn (OTL) graphing linear equations offered by two textbooks from Singapore and the Netherlands. The study indicated that textbooks provide students with the opportunity to connect their prior knowledge with mathematical concepts. Furthermore, the study indicated that textbooks need to be revised to provide adequate support in understanding graphical linear equations. Perry (2024) acknowledges that the opportunity to learn framework is an important variable in identifying and addressing educational gaps.

Research Approach

This study adopts the qualitative approach. Ataro (2020) defines a qualitative approach as an approach that examines and develops a deeper understanding of real-world issues. Gerring (2017) points out that the qualitative method involves analysing non-numeric data to understand certain concepts. This means that data is collected in the form of words, not numbers. As this research focuses on reviewing secondary data, which are textbooks, the qualitative method can be relevant as it will enable the researcher to examine which textbooks provide OTL map skills.

A qualitative approach is typically used when a researcher lacks sufficient knowledge about a particular phenomenon. It also allows researchers to study certain topics from a different perspective. This approach collects data from secondary sources. In the context of methodology, the qualitative research approach empowers the researchers to consider other assumptions based on the textbook’s content.

Research Design

The research design of the study is an analytical content design. It is a research design that involves measuring and examining the importance and connections of certain themes and topics of educational content (Stemler, 2015). Content analysis is suitable for this study as it also follows a qualitative approach, and it will have a significant impact in examining the learning opportunities of map skills in geography textbooks. This design will allow the researcher to identify the learning resources, determine the content coverage, and compare the tasks provided by the textbooks.

Textbooks are the main teaching and learning resources in the classroom (Kleinheksel et al., 2020). This means they can impact the way the learners connect with the content and knowledge. In this context, content analysis would allow the researcher to explore and analyse these opportunities in different ways. For example, the research can focus on the kind of maps used, the nature of tasks, and explanations of the concepts to understand which textbook provides better learning opportunities for map skills.

However, in this study, the researcher will use content analysis to specifically focus on tasks. Using content analyses, the researcher can evaluate the quality, depth, and significance of the tasks.

The benefit of this design is that it can reveal hidden and unhidden learning opportunities provided by the resources (Kleinheksel et al., 2020). Learning opportunities can be determined by the types of tasks included in the textbooks. Therefore, content analysis will help determine the extent to which these tasks can enhance problem-solving, critical thinking, and map interpretation abilities. Additionally, learners can gain other skills from map skills. By employing this design, it will be easy to classify tasks according to cognitive levels and determine whether they are relevant or not.

Data Collection

Data were collected from the two textbooks used in the intermediate phase: Oxford Successful and Platinum Grade 5 Social Science textbooks. These textbooks are in the public domain and therefore do not require ethical clearance for verification. They offer an effective methodology for analyzing educational content and examining the learning opportunities associated with map skills. Not all chapters of the textbook will be examined; only the content and activities related to map skills will be assessed.

Sampling

The two textbooks selected for this study are the Oxford Successful Social Science Grade 5 textbook by Delley, Monteith, Proctor, and Weldon (2012) and the Platinum Social Science Grade 5 textbook by Ranby, Johannesson, Versfeld, Slamang, and Roberts (2012). I have chosen these textbooks for my research as they are the most used in South African classrooms. Additionally, they have a strong reputation for producing high-quality content and are endorsed by the South African Department of Basic Education. These textbooks are in the public domain.

Table 1.1 Summary of selected textbooks

Textbook Features	Textbook A	Textbook B
Title	Platinum Social Sciences Grade 5	Oxford Successful Social Sciences Grade 5
Edition	2nd Edition	2nd Edition
No of pages Map skills	19	16
ISBN No.	9780636091580	9780199052387
Curriculum Type	CAPS	CAPS
Authors	P. Ranby, B. Johannesson, R. Versfeld, M. Slamang, B. Roberts	L.Dilley, M. Monteih, A. Protor, G. Weldon

Data analysis

This study employs qualitative data analysis, with a specific focus on document analysis, to examine the opportunities for learning map skills presented in geography textbooks. To analyze the data, I will use Bloom's Taxonomy, as revised by Anderson in 2001 (Wilson, 2016). This theory is relevant to this study as it can contribute to categorizing and analyzing the tasks of the two textbooks in terms of low-order to high-order thinking skills. Bloom's Taxonomy is divided into six cognitive levels: knowledge, comprehension, application, analysis, synthesis, and evaluation (Adams, 2015).

These levels guide the design of learning activities, using specific verbs that depend on the skills to be assessed. These cognitive levels are categorised into two groups, low-order and high-order levels. Among the low-order cognitive levels, the knowledge level involves verbs such as "name," "list," and "define." Comprehension level consists of verbs like explain, describe, and summarise. For their application, they use action words like "demonstrate" and "illustrate." These levels are for basic recalling and understanding. The higher-order thinking skills include the level of analysis, which is associated with verbs like examine and contrast. The synthesis level consists of verbs like designing and

constructing. To add, there is an evaluation level that includes verbs such as justify and assess. These verbs will enable the researcher to classify and contrast the tasks of the two textbooks. The cognitive levels foster learners to think critically and engage with what they are learning.

Table 1.2 Bloom's Taxonomy Cognitive Levels

Cognitive level	Description	Example
Remember	Recall	List, Label, Name
Understand	Understanding	Describe, Explain, Interpret
Apply	Using knowledge in new situations	Use, Solve, Demonstrate
Analyse	Breaking down information	Compare, Contrast, differentiate
Evaluate	Making judgements	Justify, Critique, defend
Create	Combining information to make new ideas	Design, construct, develop

Bloom's Taxonomy can help determine whether textbooks adequately cover each phase of cognitive skills (Momen et al., 2022). Each textbook will be reviewed systematically to identify tasks related to map skills. For example, to identify whether the task encourages lower-order thinking skills, I will analyse activities such as recalling map symbols or locations. Then, to examine higher-order thinking skills, I will look at tasks that involve analyzing spatial relationships and evaluating different types of maps.

Ethical consideration

Although this study is based on public domain textbooks, ethical clearance was obtained from the University of the Free State's ethics committee, which permitted the researcher to proceed with the study. The textbooks used will be cited properly to fully acknowledge the publishers and authors. The researcher will attach the ethical clearance as part of the requirements.

Findings and Discussion

Nature of tasks

The nature and number of tasks under map skills were analysed. This was conducted based on how the assessment tasks demonstrated a variety of cognitive skills.

Figure 4.3 Table for comparison between questions and Bloom's Taxonomy Cognitive Levels

Cognitive LevelsLevels	**Textbook A** ***(Platinum)(Platinum)***	**Textbook B** ***(Oxford Successful)***
Low-order questions		
1. Knowledge	46	24
2. Comprehension	17	6
3. Application	4	3
High-Order Questions		
4. Analysis	0	4
5. Synthesis	0	3
6. Evaluation	3	8
Total number of tasks	**67**	**48**

The opportunities to learn Map skills from the two textbooks in the Lower-order Cognitive levels

1. *Knowledge Level:* Textbook A has 45 out of 67 activities that were associated with recalling information, matching, and identifying directions. In contrast, Textbook B has 24 out of 48 activities that are under the knowledge level. This suggests that most activities in the two textbooks do not encourage learners to think critically.

2. *Comprehension Level:* The tasks that were presented under map skills in this level for textbook A are 17 out of 67, while textbook B has 6 out of 48. Most of these tasks were based on explaining map skills concepts. For example, why do they think the temperature is high at the equator? These questions required learners to provide examples and show understanding in their own words.
3. *Application Level:* A few tasks fall under the application level. Textbook A has 4 out of 67 tasks that require learners to apply knowledge. On the other hand, textbook B has 3 out of 48 application tasks. These tasks mainly focused on calculating distances, demonstrating understanding, classifying map concepts, and drawing maps.

The opportunities to learn Map skills from the two textbooks in the Higher-order Cognitive levels

4. *Analysis Level:* Textbook B has 4 out of 48 tasks that have been identified under this cognitive level. Textbook A does not have any tasks under map skills that require learners to analyse information. The tasks were mainly based on investigating, categorising, and differentiating map concepts. This suggests that it does not encourage learners to explore patterns in map skills.
5. *Synthesis Level:* Textbook B has 3 out of 48 tasks that involve synthesising information. Textbook A has no activity under this level. One of the tasks that was identified in textbook B under this level was about 'constructing a diagram on a grid'.
6. *Evaluation Level:* Textbook B has more evaluation tasks than Textbook A. The findings show that textbook B has 8 tasks, and textbook A has 3 evaluation tasks. Most of these tasks needed learners to summarise, judge, and defend.

Findings reveal that both textbooks have more low-order cognitive skills (LOCS) than high-order cognitive skills (HOCS). However, textbook A has prioritised knowledge and comprehension. This indicates that opportunities for acquiring high-order thinking skills are limited in Textbook A. Textbook B has balanced the cognitive levels, as it has distributed the activities well and ensured that learners can develop all the cognitive levels of map skills.

The textbook that presents a better opportunity to learn map skills

Map skills are a practical topic that requires learners to apply their knowledge rather than memorize information. This is evident as it is based on interpreting symbols, maps, drawing, and calculating distances. In other words, it focuses on high-order cognitive skills. Therefore, if a textbook does not have these activities, it means it has limited opportunities to learn map skills. The findings reveal that textbook A exposes learners solely to theory, whereas textbook B presents both theoretical and practical aspects. There are no opportunities for drawing and interpreting maps in textbook A. This means that it does not empower learners to apply what they have learnt. Consequently, learners will not acquire the skills outlined by the CAPS document when using textbook A. This finding is contrary to the findings of Li & Wang (2024), who found that the use of activities and tasks from textbooks is beneficial and helps learners participate in the classroom. Textbook B encourages active learning while textbook A promotes passive learning. This finding aligns with that of Wan et al. (2022), who found that some textbooks are passive in their interpretations of certain concepts, while others are active in their interpretations. Based on the analysis, textbook A has a significant assessment gap, as it lacks activities designed to test map skills. When using textbook A, the teacher would have to design their own activities and resources to ensure that learners acquire practical skills. This makes textbook A ineffective for teaching and learning map skills. Textbook A fails to develop learners' spatial skills, which are essential in the social sciences curriculum.

Textbook B addresses all the cognitive levels of Bloom's taxonomy. It is clear that textbook B offers better learning opportunities for map skills than textbook A. This finding is contrary to those of Polikoff (2015), who found that most textbooks in the US underemphasize goals for the cognitive domain and

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overemphasize procedures and memorization. Textbook B goes beyond theory, as it starts with simple concepts and builds upon them to develop complex ones. It offers progressive activities that allow learners to identify symbols, then progress to more complex activities, including practical tasks that involve calculating distances and drawing maps. Textbook B includes working examples for some activities, whereas Textbook A does not. They outline the steps that learners need to follow to complete the tasks. This is part of the support skills that textbook B provides, boosting the learner's confidence in learning map skills. This finding aligns with that of Ngwenya & Arek-Bawa (2019), who compared two different textbooks and found that one of the textbooks offered better guidance, outlining steps to be followed by learners, compared to the other textbook.

Conclusion

As indicated by the study's findings, we can conclude that textbook B (Oxford Successful Social Science) offers better opportunities for learning map skills. The tasks integrated align with the CAPS requirements. Textbook B addresses all the cognitive levels and supports the main aims of map skills, which are to develop learners' spatial skills. It entails both theory and practical tasks. The recommendations would be for teachers and learners to use textbook B rather than textbook A. This was decided based on the high quality of tasks, organisation, and structure of the content in the Map Skills textbook B. To add, textbook B can be useful as it accommodates learners with diverse learning abilities. It is recommended that the editors and publishers of textbook A incorporate practical activities related to map skills, such as measuring distances and drawing maps, in their future editions. The activities should progress from simple to complex tasks, allowing learners to develop the necessary skills in geography. Beginning with basic map symbols and directions. Then, proceed to practical assessments. Teachers are advised to recognise the assessment gap of textbook A and address it by being creative and supporting it with additional tasks. It includes extra worksheets, exercises, and group activities. As a result, learners can receive sufficient opportunities to acquire essential skills that support the development of spatial skills, regardless of the textbook used.

References

Adams, N. E. (2015). Bloom's taxonomy of cognitive learning objectives. Journal of the Medical Library Association, 103(3), 152.

Artvinli, E., & Dönmez, L. (2020). How do geography textbooks deal with map skills? Romanian Review of Geographical Education, 9(2), 23–45.

Ataro, G. (2020). Methods, methodological challenges and lessons learned... Annals of Medicine and Surgery, 49, 19–23.

Bednarz, S. W., Jo, I., & Shin, E. (2022). Spatial thinking in primary geography. In G. Kidman & D. Schmeinck (Eds.), Teaching primary geography (pp. 133–144). Springer.

Binimelis, J., & Bagoly-Simó, P. (2022). Maps and map skill progression in primary geography in international comparison.

Butler, Y. G., Kang, K. I., Kim, H., & Liu, Y. (2018). "Tasks" appearing in primary school textbooks. ELT Journal, 72(3), 285–295.

Choi, H. (2019). Analysis on opportunity-to-learn context-based tasks… Journal of the Korean School Mathematics Society, 22(3), 241–256.

Cohen, L., & Lotter, C. (2022). Textbook analysis and cognitive engagement… South African Journal of Education, 42(1), 45–63.

Gerring, J. (2017). Qualitative methods. Annual Review of Political Science, 20(1), 15–36.

Gökçe, N. (2015). Social studies in improving students' map skills… Educational Sciences: Theory and Practice, 15(5), 1345–1362.

Hadar, L. L. (2017). Opportunities to learn… Studies in Educational Evaluation, 55, 153–166.

Havelková, L., & Hanus, M. (2019). Map skills in education… Review of International Geographical Education Online, 9(2), 361–401.

Herman, J. (2015). Opportunity to learn. In Encyclopedia of science education (pp. 725–727). Springer.

Kaur, H., Singh, A., Mahajan, S., Lal, M., Singh, G., & Kaur, P. (2021). Assessment of barriers… Journal of Education and Health Promotion, 10, 123.

Kleinheksel, A. J., Rockich-Winston, N., Tawfik, H., & Wyatt, T. R. (2020). Demystifying content analysis… American Journal of Pharmaceutical Education, 84(1), 7113.

Laura-De La Cruz, K. M., Chiri-Saravia, P. C., Flores-Piñas, H., Moscoso-Zegarra, G. W., Bahamondes-Rosado, M. E., & Espinoza-Villalobos, L. E. (2023). Implementation of digital resources… International Conference on Information Technology & Systems (pp. 529–538). Springer.

Li, F., & Wang, L. (2024). A study on textbook use… Disciplinary and Interdisciplinary Science Education Research, 6(1), 4.

Manik, S. (2022). Focusing on quality… Assessment in geographical education (pp. 153–166). Springer.

Manik, S., & Malahlela, T. (2018). Through the lens of teachers… Alternation Journal, 21, 37–67.

Maphangwa, N. R. (2016). The impact of curriculum change… (Doctoral dissertation).

Mkhabela, Z., & Manik, S. (2024). Land dispossession and reform… Journal of Geography Education in Africa, 7, 62–77.

Momen, A., Ebrahimi, M., & Hassan, A. M. (2022). Importance and implications… International Conference on Emerging Technologies and Intelligent Systems (pp. 515–525). Springer.

Murphy, A. B. (2020). Geography: Why it matters. The AAG Review, 34.

Naxweja, J., & Wilmot, D. (2019). Namibian teachers' perceptions… Journal of Geography Education in Africa, 2(1), 1–3.

Omwoki, K. M. (2025). Selected factors influencing the usage of ICT… (Doctoral dissertation, Kisii University).

Pavešić, B., & Cankar, G. (2022). Textbooks and students' knowledge. CEPS Journal, 12(2).

Perry, L. B., Thier, M., Beach, P., Anderson, R. C., Thoennessen, N. M., & Roberts, P. (2024). Opportunities and conditions to learn… Prospects, 54(1), 55–72.

Ramsaroop, S., & Kwayi, A. M. (2024). Navigating learning… Journal of Geography Education in Africa, 7, 98–116.

Rane, A., John, V. N., & Murthy, S. (2020). GeoMaps… 2020 IEEE ICALT (pp. 254–258). IEEE.

Simon, M., Budke, A., & Schäbitz, F. (2020). Objectives and uses of comparisons… Heliyon, 6(8).

Stemler, S. E. (2015). Content analysis. Emerging trends in the social and behavioral sciences (Vol. 1, pp. 1–14).

Wijaya, A., van den Heuvel-Panhuizen, M., & Doorman, M. (2015). Opportunity-to-learn… Educational Studies in Mathematics, 89(1), 41–65.

Wilson, L. O. (2016). Anderson and Krathwohl Bloom's taxonomy revised… The Second Principle, 1(1), 1–8.

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