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## **Geography Textbooks in the Opinion of Secondary School Students**

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## Geography Textbooks in the Opinion of Secondary School Students—A Polish Case Study

*Geographieschulbücher bewertet von Sekundarschülern—  
eine Fallstudie aus Polen*

**Mariola Tracz**

### Abstract

Geography textbooks experience an ongoing change of their content and layout. Structure, content, and layout carry a specific educational concept and become the source of information available to students. This paper aims at mapping student opinion on geography textbooks currently used in Polish lower and upper secondary education. A total of twelve randomly selected lower secondary and fourteen upper secondary schools facilitated the questionnaire-based data collection. The sample consisted of 2,681 student responses. Data collection focused, among others, on student opinion on geography textbooks selected by their teachers, their usage during the process of teaching and learning, as well as their role in motivating students to develop an interest in geography. The results show an overall positive evaluation regarding textbook layout. In contrast, most students criticized content, tasks, and language.

**Keywords:** geography textbooks, student opinion, Poland, secondary education

### Zusammenfassung

*Sowohl die Gestaltung als auch der Inhalt der Geographieschulbücher befindet sich im ständigen Wandel. Dabei bringt das Zusammenwirken der Gestaltung, des Inhaltes und der Struktur ein bestimmtes Bildungskonzept zum Ausdruck, welches sich als den Lernenden zur Verfügung stehende Informationsquelle versteht. Dieser Beitrag geht der Frage nach, wie polnische Lernende der Sekundarstufe I und II ihre Geographieschulbücher bewerten. Die Erhebung erfolgte mittels Fragebogen in der Mittelstufe von zwölf und der Oberstufe von vierzehn zufällig ausgewählten polnischen Schulen. Insgesamt 2.681 Schülerinnen und Schüler nahmen an der Erhebung teil. Den Fragebogen beinhaltete Items zur Bewertung der im Geographieunterricht benutzen Schulbücher, deren motivierende Wirkung auf das Interesse am Fach Geographie und deren Einsatz im Unterricht. Die Ergebnisse zeigen eine positive Bewertung der allgemeinen Gestaltung der Schulbücher. Änderungen wünschen sich die Schülerinnen und Schüler in den Bereichen Inhalt, Aufgabenstellungen und (Fach-)Sprache.*

**Schlüsselwörter:** Geographieschulbücher, Schülerbewertung, Polen, Sekundarstufe

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## 1 Introduction

The textbook is one of the most important educational tools, which fosters educational processes (GRAVES & MURPHY, 2000; PINGEL, 2000; BEDNARZ, 2004; JO & BEDNARZ, 2009). Some geography educators, however, believe that textbooks are no longer the leading tools in providing geographical knowledge and, in consequence, students tend to use them less frequently in their learning process (LIDSTONE, 1992; KUCHARSKA, 1999; ADAMCZEWSKA, 2009).

Over the last decades, modern technologies contributed to improving the quality of the ways information is presented in a textbook. As a consequence, nowadays a textbook is an illustration-rich material with auxiliary media support (e.g. CDs, DVDs). E-textbooks also enjoy growing popularity. Textbooks, however, play a crucial role in times when contemporary media floods students with information. Structure, content, and tasks of a textbook encourage students to evaluate and reflect on information presented in both educational media and the geographic space surrounding them. Along these lines, students learn to become critical thinkers and reflect on the content and make judgments based on these. As a consequence, both the communication based media type and the information presented seem to be of central importance for the quality of a textbook (SKRZYPCZAK, 2003).

Over time, Geography textbooks evolved substantially both in terms of the choice and structure of the learning content and in terms of the manner of their presentation (MARSDEN, 1988; WALDFORD, 1995; AUGUSTYNIAK, 1996; LAMBERT, 2000; GRAVES, 2001; SITTE, 2002; TRACZ, 2014b). In the case of Poland, this

process followed a quite atypical path. During the decades between World War II and 1990 the state controlled strictly the textbook content. Additionally, the state-owned publishing house held the monopoly of the textbook market. Apart from few exceptions, the textbook offer was limited to one book per subject for each grade. After 1989, with the emergence of private publishing houses, the market saw an influx of textbooks written both based on proprietary curricula and on approved geography textbooks already on the market. Two educational reforms (1999 and 2009) shaped the world of textbooks considerably as they transformed school structure, the traditional core subject prescribed for the individual grades, and their respective curricula. As a result, up to over a dozen geography textbooks for different types of schools and grades entered the market as competitors. The large-scale textbook 'production', however, did not go hand in hand with the assessment of their quality and the effectiveness of the methodological solutions they proposed. For this reason, geography teachers are faced with a real challenge when choosing the right textbook for their pupils. Faced with this challenge of textbook pluralism, the Ministry of National Education (MEN) imposed some regulations to be followed by textbook authors and publishers (Dziennik Ustaw z dnia 08.06.2009). Reviewers appointed by MEN made sure that the regulations were followed by checking subject-related, pedagogic, and linguistic accuracy. Textbook that received positive evaluates were cleared for classroom usage (ANGIEL, 2011).

A textbook is one of the most important instruments stimulating student attitudes

toward learning in general terms, and more particularly, toward geography as a school subject. Textbooks can become an inspiring tool for differentiation during education, provided they displayed a number of characteristics, such as age-appropriate language, appealing design, quality content. Along these lines, textbooks are required to stimulate individual knowledge and skill development in creative ways instead of offering merely marked-out paths. Thereby, the content includes three main layers:

- the geography layer, which includes geographical content originating from geographical research;
- the practical layer, which includes the application of geographical knowledge to daily life;

- the motivation layer, which consists of elements that stimulate student interest in the above described two other layers (PISKORZ, 1979; 1997; LAMBERT, 2000).

A number of studies analysed the way students evaluate geography textbooks (cf. KNECHT & NAJVAROVÁ, 2010; ADAMCZEWSKA, 2009; SZMIELIŃSKA-PIETRASZEK, 2009).

Thereby, one of the central findings is that students perceive textbooks with a greater variety of illustrations and graphs as friendlier. Therefore, this study focusses on the ways Polish students attending lower and upper secondary education view their geography textbooks, their usage during teaching and learning, and their role in motivating students to develop an interest in geography.

## 2 Research on Geography Textbooks in Poland

Geography was taught in Polish schools as an elective subject as early as in 15<sup>th</sup> century. It was only in the 18<sup>th</sup> century that the National Education Council (the first Polish ministry of education) added geography as a compulsory subject to the curriculum. However, a model geography textbook based on the educational concept promoted by the Council was not developed. The geography textbooks developed over the course of the decades gradually introduced a new approach to teaching geography (AUGUSTIAŃSKA, 1964; LIPKO, 1973; PISKORZ, 1997; TRACZ, 2014a).

The bibliometric overview (TAB 1) of *Bibliografia dydaktyki geografii* (vol. I–IV) and *Bibliografia dydaktyki geografii* (vol. XVIII–XIX) shows that textbooks are one of the important groups of publication in geography education. As a result of reforms of the

educational system and the schools' growing demand for useful educational media (e.g. textbooks, exercise books, teacher guidebooks), most textbooks were published between 1918–1974 and 1999–2004.

NAŁKOWSKI'S (1887; 1895) textbooks introduced new concepts of teaching geography, which mainly consisted of observation-based cause-and-effect studies, work with maps, exercises, and field-trips. Moreover, he introduced the concept of 'the geographic sense' into Polish geography education. The Polish geographer and cartographer Romer (1904) had an equally large impact on geography textbooks at the beginning of the 20<sup>th</sup> century. A total of 1,073 questions, tasks, and instructions featured in his textbook promoted active learning and geographic thinking through observation, map interpretation, and answering questions.

**Tab 1** *Geography and geology textbooks published between 1730–2004*

(source: author's calculation based on PISKORZ, 2001; 2009; PISKORZ &amp; ZAJĄC, 1976; 1985; 1996; TRACZ, 2014a)

Time period (years)	Total publica- tions ( <i>n</i> ; without reissues)	The number of publications ( <i>n</i> )			
		Total	Textbooks	Reviews about textbooks	Research manuscripts
1730–1917	497	202	188	10	4
1918–1974	2.323	314	269	36	9
1975–1984	643	49	35	3	11
1985–1994	939	54	34	9	11
1995–2004	2.092	259	237	14	8
<b>Total</b>	<b>6.494</b>	<b>878</b>	<b>763</b>	<b>72</b>	<b>43</b>

Soviet textbooks and methodological guidebooks shaped Polish geography education between 1945–1956. Subsequently, in the period between 1956–1979, geography textbooks written by Polish authors (M. Czekarńska, J. Winklewski, G. Wuttke, A. Chalubińska, and M. Janiszewski) based on their teaching experience entered the market. The geography teachers' journal *Geografia w Szkole* reported briefly on new textbooks entering the market and also published their comparative reviews. Most of the papers, however, aimed at explaining to teachers how to use specific textbooks in their teaching (TAB 1).

The next generation of textbooks for general schools and vocational high schools (1980–1990) were introduced after the curricular reform of secondary education. The textbooks of that generation were published mainly by the publishing house *Wydawnictwa Szkolne and Pedagogiczne* (WSiP). These textbooks were mainly authored by university and college faculty. Geography educators represented a rather larger group. During this period, the number of quantitative and

descriptive textbook analyses increased. Additionally, the beginnings of the model textbook concept (DOMACHOWSKI, 1977; PISKORZ, 1979; MORDAWSKI, 1991) link back to the time period between 1980–1990.

The new millennium brought in a number of changes. Firstly, the market of textbooks and educational media (e.g. exercise books, teacher guidebooks, textbook accompanying media) experienced a fivefold increase as compared to the time period between 1985–1994 (TAB 1). Secondly, private publishing houses not only entered the market, but also took it over. Thirdly, the quality of teaching materials significantly increased. Fourthly, an increasing number of teachers authored textbooks and exercise books, which stands in stark contrast to the earlier periods (in particular between 1970–1990).

Polish research on geography textbooks encompasses a number of directions, such as quantitative and descriptive analyses of the textbooks published on the market, publishing reviews, the analyses of the concept of the model textbook and its function, the theoretical assumptions underlying the

criteria for choosing and structuring textbook content, and analyses of geography textbook structure and didactic functions.

One of the important approaches in the research on geography textbooks in Poland was the empirical analysis and evaluation of the educational design. One of the first publications devoted to evaluating geography textbooks was PLEBAŃSKI'S (1890) study, which briefly describes and evaluates both content and coverage of textbooks and other geographic publications.

NOWAK (1973) evaluated the didactic value of Romer's textbooks and atlases in light of their educational contribution to the study of physical geography and cartography in schools. The results showed that the structure of tasks—as encoded expected student interaction with the textbook—displays strong similarities with the lived pedagogy in geography classrooms. RODZOŚ (2002) carried out an in-depth analysis and assessment of the didactic concepts of Janiszewski's geography textbooks and atlases. The findings showed that the basic principle of content selection and structure reflects the very relations between the different components of the geographical environment. Both the continuous text and the tasks combining information from various fields, supported his hypotheses.

AUGUSTYNIAK'S (1997) work focused on the visualization of geographic content and on the interconnectedness (specifically

cause-effect-relations) of phenomena and processes in Polish geography textbooks, starting from as early as the mid-18<sup>th</sup> century and ranging until the late 1990s. One of his key findings was that the textbooks addressed the content environmental dynamics mainly in continuous text, often by means of graphs, sometimes through questions, instructions, and tables, but very rarely by means of tasks and observation. Along these lines, the textbook content in school geography falls behind the dynamics exhibited by academic geography, seems to be a valid observation also in the Polish context.

PISKORZ (1979) delivered research based on the theory of a model geography textbook. His monograph featured not only theoretical aspects underlying the criteria for selecting and structuring content in geography textbooks, but also empirical evidence regarding their practical application in textbooks.

Other studies focused on textbook selection criteria (PULINOWA, 1996), textbook structure with special emphasis on continuous text and its function (RODZOŚ, 2009), assessment of student perception of image usage in textbooks (WOJTANOWICZ, 2009; 2014), concepts and functions of contemporary geography textbooks (KUCHARSKA, 1999; 2009; NOWAK, 2009), and competence development through geography textbooks (TRACZ & RODZOŚ, 2015).

### 3 Methods and Sample

Over the last two decades, curricular development led to a decreasing importance of geography. Lower secondary schools (students aged 13–16) teach geography as a compulsory subject in one weekly hour in grades 1 and 2, while third grade curricula prescribe two weekly geography classes. In contrast, geography is compulsory only for first grade upper secondary students (both general and vocational schools) and works with a time budget of one weekly hour. Second and third grade upper secondary geography is an elective, however, it counts with a total of eight weekly hours spread across the two grades.

Data collection relied on a questionnaire containing 27 questions. Ten of the 27 items focused on textbooks and encompassed, among others, advantages and disadvantages of textbooks use, clarity and comprehensibility of content and tasks, desired textbook features, suggested textbook content, interesting elements of the textbooks, and methods to use textbook during the process of teaching and learning. Semantic analysis served not only to quantify the qualitative data provided by open items, but also to conclude and formulate rules devoted to student opinion on geography textbooks.

The data collected during this research is based on the subjective criteria the students followed during assessment. Thus, data gathered by means of questionnaires is indirect in nature and the opinions and scores given by students express primarily their

individual experience and value criteria. As a consequence, the confrontation of student opinion with textbook author intention was not part of this research. Nevertheless, teachers, textbook publishers, and textbook authors equally stress the importance of surveying student opinion on textbooks used during the teaching-learning process. Knowledge of students' textbook perception (content, language, structure etc.) is not only a valuable resource to understand underlying educational concepts, but also to determine the degree to which textbooks are adjusted to the age and intellectual capacities of students.

Data collection was carried out in randomly selected Polish lower and upper secondary schools. A total of 1,436 lower secondary students attending twelve different schools and 1,245 students enrolled in eight general and six vocational upper secondary schools filled in the questionnaire. The lower secondary schools used textbooks published by a variety of publishers, such as Nowa Era (60%), WSiP (10.6%), Wydawnictwa Szkolne PWN (10.5%), OPERON (9.2%), Wiking (6.5%), and SOP in Toruń (3.2%). At the time of data collection, upper secondary schools experienced curricular transition. As a consequence, first graders already used textbooks developed based on the 2009 curriculum, while second and third grade students worked with textbooks prepared with reference to the 2002 curriculum.

## 4 Results and Discussion

The results show that the content of geography textbooks is one of many, but not the most important factors affecting the development of interest in geography. School type and grade, however, significantly alter this finding. Typically, lower secondary school students, and first-graders in particular, believe that the textbook content is a very important motivating factor in geography studies (34.3 per cent of first grade respondents). The results also show that the importance of textbook content in stimulating an interest in geography decreases with age (TAB 2).

More than half of the lower (61%) and almost half of the general upper secondary school students (49.1%) saw no influence of the textbooks they used on their interest in geography. Half of the vocational school students, however, connected their interest in geography with the textbooks they worked with. This finding is surprising when taken into account that general and vocational upper secondary schools stopped using school-specific textbooks in 1999. The new textbooks aim at preparing students for their A-levels, hence, follow the needs of general upper secondary schools.

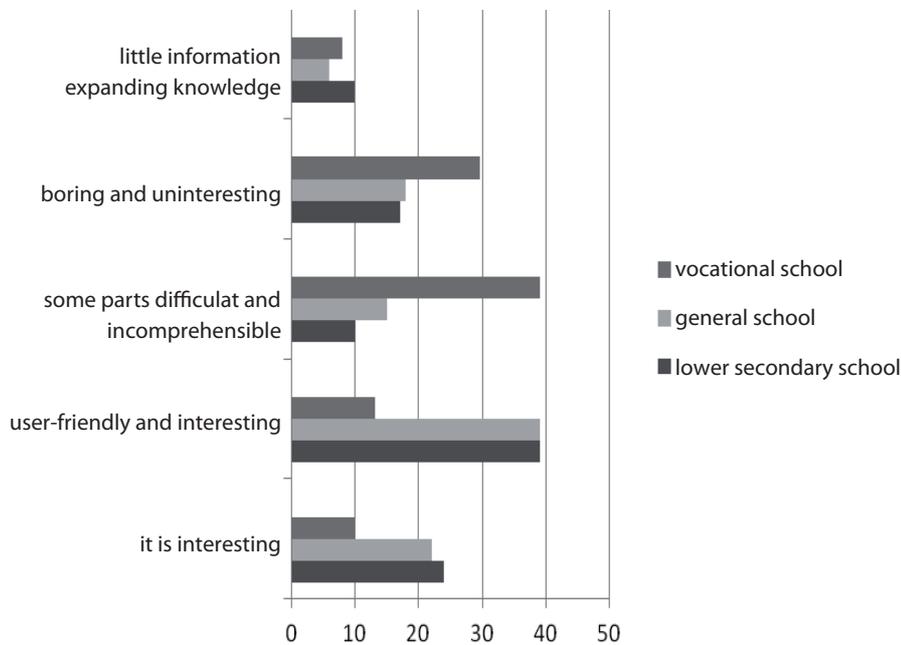
Most students attending lower secondary and general upper secondary schools

labelled their textbooks as user-friendly and interesting. However, it is only one quarter of the lower secondary school students and every tenth vocational secondary school student that who found his/her geography textbook interesting (FIG 1). However, it is only 25% of the lower secondary school students and every tenth general secondary school student who believe that the geography textbook is interest (FIG. 1).

What students particularly like about the textbooks, are their coloured pictures of interesting places and geographic phenomena as well as clear and legible graphs, drawings, and maps (73%). Regarding layout, almost half (47%) of the students welcomed the practice of highlighting important pieces of information (e.g. bold text, chromatic distinction, etc.). In addition, lower secondary school students appreciated a summary of the most important facts at the end of each chapter or section, a glossary of the key concepts, and a list of tasks, which—in their opinion—made it easier to prepare for exams (63%). Along with the features they valued, students also identified a number of shortcomings displayed by their textbooks. Some of these were surplus information (i.e. 'dry' facts, outdated content), generic and superficial presentation of issues of interest

**TAB 2** *The impact of textbook content on student interest in geography (source: author)*

Specification	TYPE OF SECONDARY SCHOOL		
	Lower secondary school (13–16 years)	Upper secondary school (16–19 years)	
		General school	Vocational school
Yes, it does	15.6%	40.0%	51.5%
No, it does not	61.0%	49.1%	40.0%
I don't know	23.4%	10.9%	8.5%



**Fig 1** Student opinion on geography textbook they used (source: author)

to students, scientific jargon (high concept density, number of unexplained concepts), and the length of some textbooks (cf. TAB 3). Compared to their peers, vocational school students felt more often challenged by the text, some graphs, drawings, and the overall amount of information featured in the textbook. First grade lower secondary (27.3%) and vocational school students (39.2%) further criticized the missing connection between continuous and non-continuous text and the number of geographic terms left unexplained. In addition, one third of the respondents from lower secondary schools and one quarter of upper secondary school respondents (from both general and vocational schools) do not have a very good opinion about the relationship between tasks and instructions featured in the textbooks.

The students who declared a high interest in geography believed that the textbook chosen by their teacher did little to expand their geographic knowledge, hence they had to look for the content that would interest them from other sources (TAB 2). In particular, this applied to the series of the lower secondary school textbooks published by Nowa Era. In contrast, lower secondary students using textbooks by Wydawnictwo Szkolne PWN felt challenged by very difficult tasks and instructions (23%) along with very small photographs (34%).

The results also show that as few as one percent of all students read their geography textbooks during their free time (TAB 4). Textbook usage seems to be connected solely to mandatory learning settings set up by teachers.

**Tab 3** *The characteristics of modern geography textbooks according to students (source: author)*

Specification	Associations	Characteristics		
		components	positive	negative
textbook	source of information	contents	<ul style="list-style-type: none"> <li>– large colour pictures</li> <li>– graphs, drawings, and maps in colour</li> <li>– interesting facts</li> <li>– summary of the most important facts</li> </ul>	<ul style="list-style-type: none"> <li>– too much information</li> <li>– long texts</li> <li>– too many details</li> </ul>
		language		<ul style="list-style-type: none"> <li>– ‘dry’ language</li> <li>– scientific jargon</li> <li>– not always well explained concepts</li> </ul>
	book	structure	<ul style="list-style-type: none"> <li>– use of distinctions in the text</li> <li>– glossary</li> <li>– atlas accompanying the textbook</li> <li>– interesting and nice cover</li> </ul>	<ul style="list-style-type: none"> <li>– lengthy textbooks</li> <li>– price</li> </ul>

**Tab 4** *Frequency of geography textbook usage by students in per cent (source: author)*

Specification	Lower secondary school	Upper secondary school	
		General secondary school	Vocational school
Solving tasks featured in exercise books	43.5	13.0	15.0
Preparing for tests	10.5	26.3	15.2
Doing homework	2.5	10.0	5.4
Preparing for lessons	4.4	8.2	6.4
Only during geography lessons	25.3	28.0	45.0
To prepare a paper	1.2	18.0	9.0
I read the textbook in my free time	0.8	1.0	0.2
I do not use a textbook	7.3	9.8	15.2
Other books (encyclopaedia, dictionaries, etc.)	2.5	6.5	1.6

Typical situations requiring the usage of geography textbooks are, among others, connected to solving tasks featured in their exercise books (although online sources progressively replace textbooks), learning situations during geography class based on teacher instruction, and during exam preparation.

With the exception of second and third grade general upper secondary school students (6.5%), as few as 2.5 per cent of the respondents use other books including dictionaries, encyclopaedia, academic textbooks, and general scientific literature. During the learning process, students use different textbook elements. While the majority—with a special emphasis on second and third grade general upper secondary students—primarily uses continuous text (29.8%), lower secondary and first grade general upper secondary school student prefer photographs, graphs, maps, and drawings (26.9%) over continuous text (19.8%). This behaviour links back to classroom textbook usage by teachers and

the overall skill level of working with a text. In addition, general upper secondary school students also use a variety of additional continuous and non-continuous text (e.g. photographs, maps, drawings) when doing their homework.

Based on student opinion, this study came closer to understanding concepts, such as 'an interesting textbook', 'a comprehensible textbook', and 'a textbook useful for learning'. Consequently, the ideal geography textbook in the eyes of students should be interesting (containing large pictures of landscapes, explanatory drawings, graphs in colour, featuring a nice cover and an interesting CD), well-structured (i.e. several fonts, important information in bold, glossary of key concepts), featuring an appropriate amount of scientific jargon (clear and simple language, simple explanation of new concepts etc.), and good content (i.e. interesting facts, diverse thematic information useful for daily life, exam task examples for better preparation, less detailed information) (cf. TAB 3).

## 5 Conclusions

One of the major challenges of contemporary geographical education is the evaluation of textbooks. In the era of myriad educational resources, it seems right to ask for the educational role of textbooks. From their production until their withdrawal from the market, textbooks experience continuous evaluation by different stakeholders, such as authors, publishers, experts appointed by ministries, teachers, and students. Both from technical and practical point of view, it seems very important to survey the way

teachers and students assess the geography textbooks they use during the educational process. Based on what role they play during teaching-learning, each group of users has a different approach to the textbook. However, the teacher's choice of educational media influences most the process of textbook development. Still, the opinion of the stakeholders who use textbooks during the learning process inside and outside classrooms, namely the students, requires special consideration.

The results of this paper show that Polish geography textbooks currently in use feature an attractive layout. A large number of photographs and coloured graphs seem to be the most positively evaluated features of an attractive layout. In contrast, textbook content was met with criticism. Along these lines, the elements in urgent need of update according to students are the type of content presented, the amount of details, the style, and the language (cf. FIG 1 and TAB 3).

The results of this study show that Polish geography textbooks currently in use meet the requirements regarding their informational and self-learning function, however, they fail to transfer their content in an attractive manner. Particularly challenging features seems to be the enumeration of facts and the description of processes or structures along with their features without any reference to the accompanying non-continuous text. The excessive usage of jargon and rarely explained concepts amplify these challenges. According to students, the information value of such texts is very low. Students believe that a clearly structured textbook with distinctively marked core and supplementary content enables the learning process. In turn, students with a special interest in geography perceive such textbooks as a substantial limitation in expanding their knowledge (cf. FIG 1, TAB 4).

Another central expectation formulated by students is the preparation for exams. Along these lines, textbooks authors should pay more attention when structuring content, adapting the language, and formulating the tasks. In addition, students welcomed interesting facts as well as up-to-date issues related to the human-environment relation at various scales (TAB 3).

The majority of geography textbook authors seem to use conventional means to motivate their readers, such as illustrating material (photographs, drawings, graphs, tables, and maps). The results of several empirical studies showed that such an approach meets great acceptance among students. Still, too many photographs along with dissatisfying interconnectedness between continuous and non-continuous text seem to impede geographical skills acquisition in general, and the learning of geographical concepts in particular (cf. JANKO & PEŠKOVÁ, 2013; TRACZ, 2014b; TRACZ & RODZOŚ, 2015).

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