

Acta Pedagogica Naturalis

Former Annual of Konstantin Preslavsky University

Journal homepage: <http://acta-pedagogica.shu.bg>

Received: 10.02.2021

Accepted: 31.05.2021

The teaching content in geography and economics in 5 class as a factor for the formation of cartographic knowledge and skills

Dimitar Dimitrov

SU „Sava Dobroplodni“, Shumen

e-mail: mail@suizku.com

Abstract: *This article considers the curriculum in Geography and Economics in 5th grade as a factor in the formation of cartographic knowledge and skills. The modernization of the Bulgarian educational system inevitably raises the question of models, borrowing experience and reforming educational practice in view of the realities of the modern world. In this educational context, the study of the subject of geography and economics in Bulgarian schools has an important educational and pedagogical significance for the development of the younger generation, for its professional orientation and effective implementation.*

Geography has the potential to reveal to young people the peculiarities of natural and socio-economic territorial systems in the world, in different continents and regions. This determines its great importance for the formation of knowledge, skills, views and beliefs in adolescents, both for nature and for society.

Keywords: *pre-school and primary school education, assessment and competent application of the tests in Bulgarian language and literature, the achievements and weaknesses in the language preparation of the students*

Introduction

The modernization of the Bulgarian educational system inevitably raises the question of models, borrowing experience and reforming educational practice in view of the realities of the modern world.

The normative documents adopted within the European Union, as well as the UN documents in the field of education define two main goals of the educational policy - equal access to education and quality education. They can be identified as the main goals for the development of Bulgarian school education [5].

The two main goals of educational policy should not be considered in isolation from each other, much less opposed to each other - each of them can be fully understood only in relation to the other goal. Equal access means access to quality education, and it reveals its full potential only if every Bulgarian child can participate in it.

Quality education presupposes the creation of an environment for the development of all participants in the learning process. For students, this learning environment guarantees encouragement for

manifestation and maximum development of abilities and formation of functional literacy as well as overall development of the learner as a person.

Traditionally, the goals of school education have been defined as a set of knowledge, skills and habits that students must master. Today it turns out that this approach is insufficient – we need not only knowledgeable young people, but also ready to participate in building their future lives, able to solve problems of different nature. And this depends a lot on the acquired knowledge, skills and competencies, as well as on the personal qualities of each student.

In this educational context, the study of the subject of Geography and Economics in Bulgarian schools has an important educational and pedagogical significance for the development of the younger generation, for its professional orientation and effective implementation.

Geography has the potential to reveal to young people the peculiarities of the natural and socio-economic territorial systems in the world, in different continents and regions. This determines its great importance for the formation of knowledge, skills, views and beliefs in adolescents, both for nature and for society.

The sources of geographical information are diverse, but one of the most important is the geographical map. Knowing and using it fully contributes to the formation of a cartographic culture in students, which is associated with the practical significance of geographical knowledge and the possibility of its application in life. For this reason, it is necessary in the learning process to form a system of cartographic knowledge that includes concepts of the geographical map and skills to work with it to improve the quality of acquired knowledge and to promote the development of students' cognitive abilities

Materials and methods

In connection with the above mentioned, the purpose of this study is to make an attempt to analyze the curriculum in Geography and Economics in 5th grade to reveal its potential opportunities for the formation of cartographic knowledge and skills.

To achieve this goal, methods related to the analysis of literature sources, content analysis and comparative analysis have been used.

Results and discussion

In the system of geographical education, knowledge is the first main element of the curriculum, which ensures the formation of a scientifically correct picture of the world in the minds of students and a correct methodological approach to cognitive practice. Geographical knowledge serves as a basis for mastering the geographical educational content, it reflects the accumulated information about the interaction of nature, man and society and the regularities that their development obeys to [1]. Cartographic knowledge is an important element of geographical knowledge.

The second element of the curriculum in geography includes the system of intellectual and practical skills, which are a condition for the application of knowledge in solving specific practical tasks. They are necessary because, in psychological terms, knowledge of processes and phenomena is associated with mastering a system of actions that, depending on the degree of formation, become skills [1]. Cartographic skills can also be classified as such.

The cartographic skills in the process of teaching Geography and Economics can be related not only to the peculiarities of perception and interpretation of cartographic data, but can also be aimed at the realization of cognitive activity through practical and applied skills. The importance of their implementation can be expressed in the following main aspects:

- learners are taught how to apply knowledge and skills in practice;
- the learning process becomes more meaningful and interesting;
- knowledge and skills from various fields of human knowledge are acquired in a connected way;
- stimulates thinking [3].

The degree of acquisition of cartographic knowledge and skills is carried out through control. It is a key component of the learning-cognitive process. Its purpose, content, types, forms, means and time through which it is carried out should be perceived as a systematic mechanism for reporting, coordinating and controlling the joint activity of teacher and students in the learning process in the subject [2].

Control brings together a set of activities to identify the quantitative and qualitative characteristics of learning outcomes, helps to identify achievements and correct inconsistencies and serves to manage the learning process by creating feedback between teacher and students [4].

The teaching of Geography and Economics in the fifth grade and the cartographic knowledge and skills, are an important part of the geographical culture of the students. Part of the propaedeutic (introductory) knowledge and skills for working with the map are acquired during the primary stage of education, and are expanded and deepened in 5th grade with a more detailed study of its mathematical basis. Their formation in the process of teaching geography and economics is subject to conceptual approaches to school education:

- assimilation by the students of activities necessary for the formation of their geographically oriented perception of the world;
- mastering social experience and acquiring skills and competencies that favour practical activity in modern society.

Closely related to the main goal and the tasks arising from it are the specific *criteria*, which are related to the completeness of the mastered cartographic knowledge and their application, as well as the efficiency of the acquired skills. The main *indicators* are reduced to the volume and durability of cartographic knowledge and their practical applicability through the acquired cartographic skills.

The geographical map is the second language of geography. Like other specific codes for delivering and storing information - writing, numbers, musical notation, etc., the geographical map appeared in ancient times, has been developing and improving to this day and to one extent or another it is used in all areas of human activity. Therefore, the ability to navigate the map and the ability to apply information from the map are considered as elements of the general culture of the student, which is formed in the learning process and is closely related to the studied learning content.

The main goal of the course in Geography and Economics in 5th grade according to the curriculum is aimed at mastering basic knowledge, skills and acquiring key competencies related to the formation of the foundations of geographical culture for the surrounding area at global and regional level, as part of their general culture [10]. The nature of the general course brings to the fore the formation of systems of general concepts, global patterns and different ways of working.

The analysis of the curriculum shows that the curriculum related to the formation of cartographic knowledge is covered in 11 topics (some of them for new knowledge and some for activities). In the topics of the first section **Geographical Information** the theoretical knowledge about the content of the basic cartographic concepts is acquired. In the course of Geography and Economics in 5th grade a large number of key cartographic concepts are formed - geographical globe, geographical map, cartographic projections, mapping methods, types of geographical maps and their application, geographical grid system, latitude, longitude, geographical coordinates, scale, legend, and others shown in the figure 1.

- Recognition and use of the elements of the geographical map and globe;
- Recognition of the types of geographical maps and the main methods of mapping;
- Presentation of geographical information in a map, text, various graphic images or through Information and Communication Technologies [9].

The main application of the acquired theoretical cartographic knowledge and skills is most used in the lessons for activities - for reading a geographical map, for activities with scale and geographical grid system, observation and description of geographical objects, natural areas and others.

The purposefulness and complexity in terms of the acquisition of cartographic knowledge and skills are the basis for better education in 5th grade. The learning process focuses not only on their mastery, but also on the formation of ways of activities that put students in an active position [8].

The cartographic concepts focus on mastering and understanding their essential features; in the case of regularities - on the tracing of their spatial exhibition; in the case of the methods of activity - on the explanation of the way and the ability to perform at the beginning more slowly and uncertainly, and subsequently true and complete; in the leading ideas - on their formulation and explanation.

As expected results of the training on the topics in the section „Geographical Information“ students must learn the content of the concepts - geographical globe and geographical map, their essential features, to know the types of maps and basic methods of mapping, to know the elements of the geographical grid system - parallels and meridians, to know the numerical and linear scale. The skills for determining latitude and longitude, determining the geographical position of a point, characterizing the elements of the geographical grid system in a certain sequence, working with different types of scale and calculating distances on the map are set.

The formation of cartographic skills is related to the 8 lessons for activities set in the curriculum. They are aimed at acquiring the following skills by students:

- Using different ways for orienteering in nature;

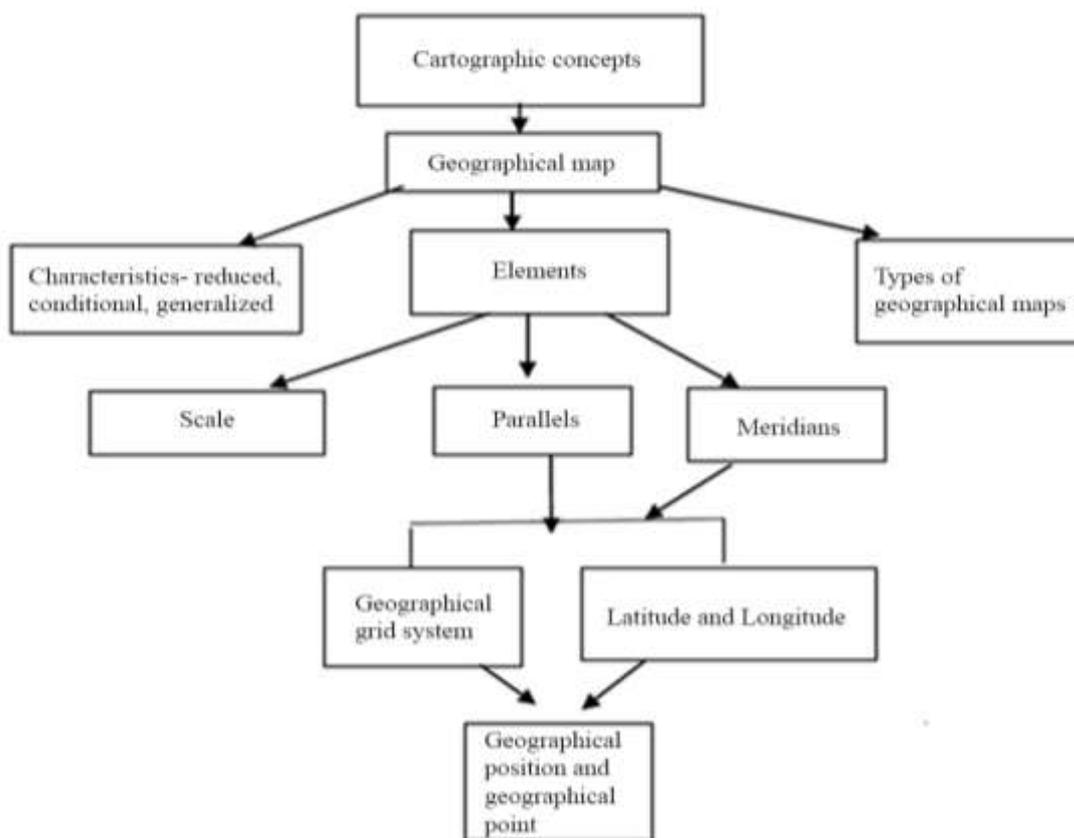


Figure 1. Basic cartographic concepts in the curriculum in geography and economics for fifth grad

The knowledge and skills that students must acquire in the formation of concepts related to cartography in fifth grade according to State Standards are shown in Table 1. [7].

Table 1. Cartographic concepts and skills for working with cartographic sources in the curriculum in Geography and Economics in 5th grade (Source: Popov, A., and team, Textbook in Geography and Economics for 5th grade, Sofia, Anubis, 2016 [6].)

Section, topic	Cartographic knowledge and skills	
	concepts	Skills
SECTION ONE GEOGRAPHICAL INFORMATION 1. Geographical globe and geographical map	Numerical scale, general geographical maps, thematic map	Defines what a geographical map and scale are. Reads symbols on a geographical map. Knows the methods for mapping (on the quantitative background, on the qualitative background, on the lines of movement, point method). Uses the elements of the geographical map (reads symbols, calculates distances, recognizes ways of mapping).
2. Geographical grid system	Geographical grid system, Longitude Latitude	Determines geographical coordinates on the map. Calculates distances using the numerical scale.
3. Geography detective /activity lesson/	-	Composes a short text in response to a geographical question (geographical investigation). Knows and uses scale; applies the concepts map, map elements.

The successful application of the curriculum for the formation of cartographic knowledge and skills from the curriculum for 5th grade implies: its careful study and highlighting the new moments; choosing a textbook that offers the best opportunities to achieve the goals; planning and optimal organization and implementation of the educational process in the specific school environment. The latter is related to the need for interaction between teacher and students emphasizing on: humanization - establishment of new social roles to achieve a kind of cooperation, partnership, mutual respect and exactingness to achieve the common goals; sociologizing - creating another environment for communication between the participants; technologization - use of modern educational technologies, based on the learning situation - learning task and relevant forms, methods and tools for its implementation.

Conclusion

1. The acquired cartographic knowledge and skills lay the foundations of the cartographic culture of the students, which develops throughout the course of study in Geography and Economics.

2. The use of testing as a method for control and assessment of cartographic knowledge and skills facilitates the receiving of the necessary feedback.

3. The method of testing with the application of properly developed test tasks ensures the objectivity of assessment in the subject, helps to form a positive motivation for learning and teaches students to be systematic, responsible and critical to their own preparation.

4. Regarding the new requirements for the results of teaching Geography and Economics and the use of innovative educational technologies, cartographic knowledge and skills are not only necessary but also an integral part of the learning process, contributing to the development of educational and research competence of students.

References

- [1]. Vladeva, R., *Contemporary aspects of the system "Education in Geography"*, UNI, „Episkop Konstantin Preslavski“, Shumen, **2016**.
- [2]. Dermendzhieva, S., Sabeva, P., Dimitrova, B., *Geography and education. Methodology of teaching Geography Part I*, UI „Sv. sv. Kiril i Metodiy“, V. Tarnovo, **2010**.
- [3]. Dermendzhieva, S., Sabeva, P., Dimitrova, B., *The Geography lesson*, UI „Sv. sv. Kiril i Metodiy“, V. Tarnovo, **2012**.
- [4]. Zhechev, V., Vladeva, R., Types of assessment and control in teaching geography and economics, *SocioBrains, Issue 54, February 2019*, s. 553-563.
- [5]. *Law on Preschool and School Education in the Republic of Bulgaria*, published the State Newspaper issue 79 from 13 October **2015**.
- [6]. Popov, A., and team, *Textbook in Geography and Economics for grade 5*, Anubis, **2016**.
- [7]. Popov, A., and team, *Teachers' Book Textbook in Geography and Economics for grade 5*, Anubis, **2016**.
- [8]. Sabeva, P., Cartographic literacy as a component of the geographical culture of students, Collection of the scientific conference with international participation "*Bulgaria, Bulgarians and Europe - myth, history, modernity*", editor in chief Boris Borisov, Veliko Tarnovo, UI "Sv. sv. Kiril i Metodiy", s. 475-484, **2012**.
- [9]. Temelkova, D., Rolevata - game in the formation of cartographic concepts and skills in the teaching Geography and Economics in 5th grade in a school for visually impaired children, *Geography, 5-6, 2009*, s. 23-29
- [10]. Uchebna programa po geografija i iekonomika za 5. klas, **2015**, <https://www.mon.bg/bg/28> (17.02.2020).