

Amangeldi Ozerke

Dissertation submitted for the degree of Doctor of Philosophy (PhD) under the educational program «8D01503 – Geography» on the topic «Pedagogical methods for the formation of geographic culture in teaching geography in secondary schools»

ABSTRACT

Relevance of the research. In modern society, the formation of geographical literacy among school students is of particular importance, as it constitutes an essential part of a person's general culture and lays the foundation for the harmonious development of personality. Through geography, students learn to understand global problems, the interrelationship between nature, society, and humanity, as well as to find their place in the world. Geographical culture includes a holistic perception of the surrounding world, the development of spatial thinking, and the ability to convey geographical concepts and ideas through terminology and cartographic models.

Culture as a social phenomenon includes values, norms, ideals, and forms of behavior that determine a person's attitude toward reality. In this context, geographical culture shapes students' worldview, their ability to orient themselves in space, assess environmental situations, and make responsible decisions. The development of these abilities requires a purposeful educational process in which school geography plays a decisive role.

The Law of the Republic of Kazakhstan "On Education" states that the goal of the national education system is the formation of a comprehensively developed, highly moral personality with a sense of civic responsibility and cultural self-awareness, capable of personal growth and successful integration into society. In accordance with this law, the importance of teaching students various cultural domains, including geographical culture, is emphasized. This, in turn, contributes to the development of environmental awareness, patriotism, and respect for national and universal human values.

The annual Methodological Instruction Letter prepared by the Ministry of Education of the Republic of Kazakhstan for teachers for the 2025-2026 academic year clearly indicates that the objectives of teaching the school geography course include the development of geographical thinking, the formation of students' integral geographical culture, instruction in the methods and language of geography, as well as the cultivation of geographical thinking. This confirms that the issue of forming geographical culture has theoretical and practical significance reflected in official documents. In addition, it aligns with the United Nations Sustainable Development Goal 4 – Quality Education within the Sustainable Development Goals – 2030 framework. In particular, the content and results of the research directly correspond to the goal of Quality Education (Ensure inclusive and equitable education and promote lifelong learning opportunities for all).

The development of students' spatial thinking, environmental and global responsibility through the formation of geographical culture is an important

component of quality education. In this context, the research is aimed at improving students' personal, cultural, and environmental literacy in accordance with the general principles of sustainable development.

International organizations emphasize the special role of geography in modern education. For example, UNESCO materials identify geography, alongside philosophy, history, foreign languages, and information technologies, as one of the leading fields of knowledge that help individuals understand the world and find their place in it. This demonstrates that geographical education has universal significance and is directly related to the development of global culture.

However, in practice, the level of geographical knowledge and awareness of the younger generation remains insufficient. Geographical illiteracy is observed not only among students but also among public servants. At the international level, this problem is confirmed by the PISA study, as tasks related to geography are included in the natural sciences domain. These tasks are aimed at assessing students' ability to analyze spatial patterns, understand the relationship between natural and social processes, and apply geographical knowledge to real-life situations. PISA results show that a significant proportion of students experience difficulties in performing such tasks, indicating the need to improve the methodology of teaching geography and to seek new approaches to forming geographical culture.

In this regard, the application of innovative teaching methods and technologies becomes particularly important. The introduction of interactive methods such as discussions, project-based work, and role-playing, as well as the use of information and communication technologies such as GIS, digital maps, Google Maps, Google Earth, and statistical databases, contributes to the development of analytical thinking, spatial thinking, and the ability to apply knowledge in practice. In addition, geography becomes an important means of fostering national and universal human values such as patriotism, diligence, justice, responsibility, and respect for nature and culture.

Therefore, the development of geographical education within the school curriculum is one of the key tasks of modern education. It contributes not only to the cognitive development of students but also to the education of a comprehensively developed personality capable of actively participating in the solution of global and national problems. The scientific and practical relevance of the research is determined by the need to develop effective pedagogical methods that contribute to the development of geographical culture among secondary school students.

Purpose of the research: Development of a system of pedagogical methods for forming students' geographical culture in teaching geography in general education schools and its scientific and methodological foundations.

Object of the research: Teaching geography in general education schools.

Subject of the research: Pedagogical methods and techniques for forming students' geographical culture in teaching geography.

Research objectives:

– To identify the theoretical foundations and structural components of the concept of “geographical culture” from a pedagogical perspective and to substantiate its place in the content of education;

– To analyze the interrelation of the components of geographical culture in the process of its formation and to determine ways of their improvement through creative thinking and visualization;

– To develop pedagogical methods and a model for forming geographical culture in teaching geography based on the principles of «Quality Education»;

– To test the effectiveness of the pedagogical model and methods during a pedagogical experiment and to develop methodological recommendations.

Theoretical and practical significance of the research:

The theoretical significance of the research lies in substantiating pedagogical methods for forming students' geographical culture. This expands the methodological understanding of pedagogical science regarding the content and structure of geographical culture as an important pedagogical category. The study summarizes and уточняет the views of domestic and foreign researchers on the problems of geographical education, contributing to the development of the theoretical foundations of geography teaching methodology.

The practical significance of the research is determined by its compliance with the Law of the Republic of Kazakhstan «On Education», state educational standards, and curricula. The research results can be used in teaching geography in general education schools, in the development of curricula and methodological manuals, as well as in the creation of elective courses. The materials of the study can also be used in the system of training and professional development of pedagogical staff.

Scientific hypothesis of the research: *if* during the research, in forming students' geographical culture, the theoretical foundations for the application of pedagogical methods, as well as effective and systematic methods and techniques of their use in geography lessons, are applied, *then* this will contribute to increasing the level of students' geographical culture, developing geographical and spatial thinking, and fostering environmental responsibility.

Theoretical and methodological foundations of the research:

Pedagogical and psychological foundations.

In the works of K.D. Ushinsky, the unity of teaching and upbringing, as well as the idea of comprehensive personal development, is scientifically substantiated. In the field of Kazakhstani pedagogy, Zh. Koyanbayev, A.S. Beisenbayeva, and K.K. Kozhakhmetova thoroughly examined issues of education and personal development of students. From a psychological perspective, the cultural-historical theory of L.S. Vygotsky and the activity-based approach of S.L. Rubinstein made it possible to explain the development of students' cognitive activity and thinking.

Foundations of geographical science and methodology.

V.P. Maksakovsky introduced the concept of “geographical culture” into scientific circulation and defined its structural components (geographical thinking, the language of geography, research methods, and the geographical picture of the world). In the works of N.N. Baransky, the significance of geographical thinking is revealed, while A.A. Alaev substantiated cartographic thinking as the main tool for the development of students' spatial worldview.

Problems of forming geographical culture were examined in the works of N.N. Demidova, A.V. Lyubichankovsky, N.D. Shakirova, and N.B. Usenov. Their dissertation studies reveal various aspects of geographical culture (geo-ecological, economic-geographical, climatic, as well as aspects related to digital education). Issues of geographical thinking, cartographic literacy, and methods of geographical research are reflected in the works of Yu.G. Saushkin and N.N. Baransky. Problems of cartographic literacy are considered in the works of S.V. Bulanov and N.L. Mikhaylenko, while methods of geographical research are discussed in the works of A.G. Isachenko, A.N. Vitchenko, N. Clifford, and N. Castree. A key role in the formation of the concept of the “geographical picture of the world” was played by the works of V.P. Maksakovsky, *Geographical Picture of the World*. In addition, at the global level, the works of J. Urry contributed to the understanding of socio-geographical complexity.

In the prefaces to textbooks for general education schools, K.D. Kaimuldinova and S. Abylmazhinova emphasize the formation of geographical culture as the main goal of education. In the works of D.M. Kazakbayeva, the theory and practice of teaching school geography are considered; in the studies of U.Ä. Yesnazarova, the content of environmental education is examined; in the works of L.S. Nurabekova, the methodological foundations of education through local studies are presented; in the research of B.M. Zhaparova, the development of ecological culture through regional periodicals is analyzed; and in the works of B.S. Zhyldybayeva, the improvement of cognitive activity based on folk pedagogy is discussed. Official school geography textbooks of the Republic of Kazakhstan were used as the main educational and methodological basis for forming students’ geographical culture.

In the field of teaching methods and pedagogical technologies, the works of E.A. Tamozhnyaya, M.S. Smirnova, I.V. Dushina, V.A. Nizovtsev, N.G. Dmitruk, S.V. Vasilyev, Yu.A. Ivanov, A.S. Akasheva, and K.D. Duissebaeva are significant. In these works, modern pedagogical technologies (use of ICT, gamification, interdisciplinary connections, and the development of functional literacy) are adapted to the teaching of geography.

Provisions submitted for defense:

– The pedagogically substantiated definition of the theoretical content and structure of the concept of “geographical culture”, as well as the consideration of its place in the content of education in relation to the teaching of geography, serve as the basis for forming students’ holistic scientific understanding of natural and social space;

– The use of tasks based on creative thinking and visualization, aimed at developing the components of geographical culture in their interrelation, contributes to its systematic formation among students;

– The use of a system of pedagogical methods and a structural-content model aimed at forming geographical culture in teaching geography in accordance with the principles of “Quality Education” makes it possible to increase the effectiveness of the educational process and improve the quality of education;

– The systematic application of the proposed pedagogical model and methods in the educational process has a positive effect on the development of students’

geographical and spatial thinking and functional literacy and ensures an improvement in the quality of geography teaching in general education schools.

Publications and implementation of research results.

A total of 11 scientific works have been published on the topic of the dissertation, including: 1 article in journals indexed in the Scopus database; 3 articles in journals recommended by the Committee for Quality Assurance in Science and Higher Education of the Ministry of Education and Science of the Republic of Kazakhstan; 6 publications in the materials and proceedings of international conferences; and 2 articles in national journals. The research results have been published in scientific journals of Romania, Turkey, and the United Arab Emirates. Pedagogical methods aimed at forming geographical culture have been implemented in the educational process of schools in the city of Almaty (KSU «School-Gymnasium No. 81», KSU «General Education School No. 93», KSU «School-Gymnasium No. 23») through the implementation of the elective course «Formation of Geographical Culture: A Journey to the Heart of Asia through the Country of the Great Steppe (Kazakhstan)», which is confirmed by implementation certificates.

Structure of the dissertation.

The dissertation consists of an introduction, three chapters, and a conclusion; it includes 61 figures and 31 tables, a list of 194 references, and 7 appendices. The total volume of the dissertation is 165 pages of typewritten text.