

# FORMATION OF CARTOGRAPHIC COMPETENCIES IN THE PROCESS OF GEOGRAPHY STUDY IN GENERAL SECONDARY EDUCATION INSTITUTIONS

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**Introductions.** The new Ukrainian school is a key reform of the Ministry of Education and Science of Ukraine. The main goal is to create a school where it will be pleasant to study and which will give students not only knowledge of how it is happening now, but also the ability to apply them in life. Instead of memorizing facts and definitions, students will acquire subject competencies. Education of Ukraine today faces a twofold task: first, to form a comprehensively developed personality with a high level of intelligence and spirituality, with a modern innovative type of thinking; secondly, to bring up a conscious citizen – with a broad worldview and readiness for life.

Common to all competencies are the so-called cross-cutting skills: reading comprehension, the ability to express one's opinion orally and in writing, critical and systematic thinking, the ability to logically justify the position, creativity, initiative, ability to constructively manage emotions, assess risksmake decisions, solve problems, the ability to cooperate with other people. Today, much is said about improving the content of education in the direction of a competency-based approach. As one of the conditions for achieving new goals of education in the framework of modernization is the unloading of educational material through:

- "Refusal to acquire knowledge that is unclaimed in solving practical, cognitive, value-oriented, communicative problems (we are talking about those

scientific concepts and information that are studied solely to ensure the completeness of knowledge);

- refusal to focus on the long-term acquisition of knowledge that is only the basis for generalizations of a higher level;
- refusal to focus on the acquisition of such knowledge, which in real educational practice is not assimilated by the majority of students.

In our opinion, this way of solving the problem of student overload may not be entirely correct. With such an approach, the content that is focused, first of all, on the development of students, on the formation of general methods of action may disappear from the curriculum.

**Aim.** Identify the features of the formation of cartographic competencies in the study of geography in general secondary education.

**Materials and methods.** Analysis of the State standard of basic and complete general secondary education, analysis of ways to implement the provisions of the new curriculum in geography in terms of personality-oriented, competency-based and activity-based approaches, strengthening ties between school and family during geography.

**Results and discussion.** By competence we mean an integral characteristic of the general abilities of students, which help them to solve a set of problems and problems that arise in the world around them.

According to the provisions of the new State Standard of Basic and Complete General Secondary Education, the geographical component of the educational field "Natural Science" is aimed at students' knowledge of the natural and social components of the geographical shell of the Earth, the formation of complex, spatial socially oriented knowledge about the planet Earth as a result of the application of local lore, regional and planetary approaches and awareness of the holistic geographical image of their country. Geography, as a subject, within the competence approach can become one of the central subjects.

Understanding the dynamics of natural processes, changes in natural objects, the interaction of humanity with nature - the basis for the formation of a materialist

worldview of students. and not in the form of individual phenomena studied by biology, physics, chemistry, namely in their relationship and synthesis. Such a synthesis in school can provide only geography, above all, its natural science component.

Within the framework of this subject it is possible to allocate competences of three levels:

- Competencies related to the transfer of concepts, methods of action, techniques and tools from other disciplines to geography;
- Key competencies that go beyond geography, but which are most effectively formed in the course of geography (reconstruction, design, forecasting of natural and social phenomena);
- Actual geographical competencies that can be used in other areas of knowledge and human life (eg, map).

The fundamental, in our opinion, competencies are geographical.

Particular attention should be paid to working with the map. without a map, no endeavor is absolutely impossible, even if it is somehow connected with spatial activity (the map is the alpha and omega of all geographical constructions). At first glance, the maps show only the distribution of purely geographical processes and phenomena. At the same time the huge role of a geographical map in reflection of territorial distribution of historical, economic, sociological, political, ethnographic and set of other processes is removed. In fact, absolutely any phenomena that take place on the surface of our planet belong to the field of study of geography in the broadest sense of the word and are therefore amenable to mapping.

Formation of such competence as mapping can help students to translate their knowledge, thoughts, feelings into a symbolic (semiotic) form. The main function of a map given in a ready-made form is to provide certain information about a specific real object or phenomenon. Through mastering the methods of mapping (mapping) students, first of all, learn the methods of spatial orientation.

From the standpoint of modern methods of geography, the map is a threefold means of learning: it serves as an object of study, a means of clarity and a source of

knowledge about the studied geographical phenomena. All three components of cartographic knowledge are interconnected and interact with each other, because without knowing the map, it is impossible to use it as a means of visualization and a source of knowledge. A person has to use the language of geographical maps all his life. The foundations of scientific knowledge about the map and basic skills of working with it are laid in elementary school.

The course of geography (6th grade) begins with the fact that students through the creation of their own "maps", the construction of various means of mapping the territory learn a special kind of modeling – cartographic. At the first stage of studying this course the purpose of training (training) is to form the concept of "map". Functionally, this concept allows for an imaginary, internal transformation of the visible (real) situation.

When studying the content of the school program, in the 6th grade the following geographical competencies are formed – the ability to read a map, to navigate it. in addition, the content of the topic includes such issues as: determination of geographical coordinates on the map; measuring distances on a map using a scale and degree grid lines; relief images on the map and many others.

Thus, we can say that students formed the concept of "map" only when knowledge of the map has become a means of imaginary transformation of a particular real (or hypothetical) situation. In the same period begins the formation of the concept of "scale" ("game" of scales, scaling), the ability to correlate a real object with its image on the plane make it possible to use this ability in other areas of knowledge and activities, based on cartographic generalization(selection, generalization of materials). For the formation of students' systematic knowledge and skills, and strengthening the practical orientation, much attention is paid to the formation of everyday geographical culture. The main task of the initial course of geography is to teach children to read a topographic plan, physical-geographical and climatic maps, to make on their basis descriptions of natural objects, routes, territories and water areas (according to standard plans). To provide the necessary cartographic and general educational preparation of students for the study of the first

country study course "Continents and Oceans". Practice shows that high school students and, moreover, elementary school students know the map very poorly: they do not know its language, do not have practical skills.

In the second step (stage) of teaching geography (grades 7-8) we deal with second-level competencies related to skills such as reconstruction, design and forecasting of natural processes and natural systems on Earth in order to establish possible ways of management Earth's geo systems to improve human life. to develop the competence of reading a map in 7th grade, the first practical work is the characterization of maps, which forms the knowledge of the types of maps. In the future, my students and I only specify this classification when reading the atlas for a particular course in geography. All maps in atlases and textbooks are small-scale, so this point does not focus on students' attention.

Thus, the main way students work in geography is modeling – the study of the structure, functioning, dynamics and development of ideal and real landscapes, connections, processes within and between them, as well as their management.

At this stage of learning (learning) geography, what was at the first stage of the goal (map), becomes a means to achieve another goal – the study of the functioning of natural processes on Earth in order to control the development of natural systems. It is this course in learning and can be called competency, that is, what was originally a goal for students, is gradually becoming a means to achieve new goals. This move is associated with the transfer of known methods of action in a new situation, in another subject.

At the final stage of teaching geography in primary school (grade 9), when the subject of geography is naturally transformed into socio-economic, work is underway to transfer the leading concepts and methods of action from subjects such as history, social sciences, economics and physical geography solving socio-economic problems. at this stage of training the project activity of students comes to the fore, which sets the whole content of the socio-economic geography of Ukraine. This stage of training is built as a project network game for the study of socio-economic

processes in different regions of Ukraine in order to predict the further socio-economic development of our country.

Competences of the first level are formed on geography in connection with other subjects at creation of uniform organizational and pedagogical conditions and are directed on formation of educational independence of teenagers. Such conditions include: a special way of organizing the educational process – concentrated learning, ways of independent work of students, control and evaluation activities.

**Conclusions.** Therefore, the competence approach in education, which has recently become central in the modernization of Ukrainian education, is a general way of involving students in various human activities, in which they acquire certain (key, subject) competencies. In terms of solving these strategic tasks, the most important personality traits are initiative, the ability to think creatively and find non-standard solutions. The key point in this is the geographical map, and the development of geographical (cartographic) competencies is the main task of the school subject.