Formation of cartographic competence of future geography teachers

Utkir Nurmamat ugli Ibragimov
Fazilat Ibrohim qizi Muzropova
Karshi State Technical University

Abstract: This article describes in detail student-oriented approaches in the process of teaching cartography, new solutions aimed at increasing the effectiveness of the current education system, and issues aimed at the formation of cartographic competence of future geography teachers.

Keywords: cartography, competence, pedagogical process, methods, educational goal, design

INTRODUCTION. The formation of cartographic competence uses a combination of several approaches, in which it is advisable to organize the training of students in cartography subjects as a pedagogical basis, namely: consistency; competence; personality orientation; contextuality; serves as a technological process.

The use of a systematic approach based on a comprehensive consideration of the pedagogical system as a specific set of interrelated tools, methods and processes necessary to create a purposeful study within the framework of this study is conditioned by the need to consider the teaching process as a pedagogical system with its own characteristics and patterns. The system is studied as a single whole, taking into account the internal relationships between individual elements and external relationships with other systems and objects.

The competence-based approach is one of the most promising approaches in terms of evaluating the effectiveness of student training, where the criteria for readiness for activity are competence and the factors included in it. It is important to develop the education system in our country, to update the content of training sessions in the higher education system, focusing on the formation of practical skills.

In the educational process, taking into account the individual characteristics of future geography teachers, it is necessary to rely on a personality-oriented approach based on recognition as an active subject, since such an approach involves taking into account a person's interest in personality, the friendly, tactful, respectful attitude of interlocutors, knowledge and their individual psychological characteristics.

In the process of teaching choreographic disciplines, a student-oriented approach ensures attention to each student; various classes are held to develop his personality. A personality-oriented approach is cooperation, help, attention, and teamwork.

Future geography will allow teachers to personally engage in learning activities. Contextual learning is based on the theory of activity, according to which the assimilation of social experience is carried out as a result of the activation of the subject. The application is due to the fact that it embodies the following principles: personality activity, problematicity, unity of learning and upbringing, modeling the content and conditions of a specialist's activity in the forms of student learning. The educational content is developed not as an academic subject, but as a subject of a modified educational activity of the subject of activity.

Contextuality of learning means that the process of teaching cartographic disciplines pursues, on the one hand, specific goals that are vital for each student, and on the other hand, it is based on their future activities, as well as spatial, temporal and other factors.

Cartography is proposed to use a technological approach as the main approach to teaching disciplines. The most important point in applying the technological approach is that it ensures the achievement of a guaranteed result – it forms the cartographic competence of students in higher education institutions. Ensures the formation of cartographic knowledge, skills, and abilities, as well as the implementation and readiness of students for academic activities in higher education institutions.

The technological approach to teaching involves the study of pedagogical facts, phenomena, patterns, etc. effective mastery of cartographic and topographic skills by students, the creation of conditions for professional development presupposes their interconnectedness.

With the technological approach, students strive to acquire knowledge on their own, the study of which is not limited to listening to and recording information about the academic discipline received from the teacher. Independent knowledge in the field leads to the formation of cartographic competence of students of higher educational institutions.

Applying this approach to future geography teachers, of course, serves to organize it in terms of content. This diversity contributes to the acquisition of professionally relevant information (knowledge, skills) leading to the formation of cartographic competence.

LITERATURE ANALYSIS. Taking into account the importance of the technological approach in the organization of teaching cartographic disciplines to students of higher educational institutions, we will determine its essence, and then, based on the proposed rules, we will justify the structure and composition of the elements of the educational process.

Currently, the search for new solutions aimed at improving the effectiveness of the education system is intensifying, with increasing attention being paid to the development and application of learning technologies by scientists and practitioners.

Awareness of the need to correct the traditional disciplinary-didactic model of learning, which has limited opportunities in the formation of interrelated systemic knowledge among students, creates new opportunities for the implementation of educational technology, which ultimately guarantees results.

The growing interest in educational technologies has a number of reasons for this research.:

- the variety of tasks facing higher education institutions involves not only theoretical research, but also the development of issues of technological support for the educational process. In theoretical research, laws are formulated, theories and concepts are created, while case studies analyze pedagogical practice itself and collect scientific results.;

- the introduction of a systematic approach to pedagogy leads to the need for systematization of teaching methods;

- provides an increase in the level of diagnostics (measurability) in setting learning goals and evaluating learning outcomes;

The pedagogical process of formation of cartographic competence of students of higher educational institutions is characterized by the following features of “industrial competence:

- guaranteed effectiveness of the pedagogical process, expressed in a predetermined level of knowledge, skills and abilities in the subjects of cartography. It assumes the state standardization of higher education, a certain stage and logic of the organization of the pedagogical process aimed at meeting the norms of the state educational standard in the direction of training and qualification requirements for graduates.;

- consistency and integrity, manifested in the interrelationship of the use of standard forms, methods, tools and procedures of teaching in educational and methodical work;

- standardization, structurality and reproducibility of the pedagogical process make it possible: on the basis of appropriate programs, to develop a certain structural and logical sequence of the graduate training process in a certain field; to provide each student with the standard requirements set out in the qualification requirements; to repeat the educational process according to the same curricula and programs.

Thus, the above suggests that the essence of the technological approach to the organization of teaching cartography disciplines in higher educational institutions is as follows:

- in the preliminary design of the educational process with the possibility of subsequent repetition of the developed project in pedagogical practice;

- the active role of the student in the organization of the educational process, taking into account his individual needs, characteristics and abilities at all stages of the creation and implementation of learning technology;

- when setting specially organized goals that ensure the possibility of objective quality control of achieving the set didactic goals;

- the integrity of the content and content of the learning technology, i.e. the inadmissibility of making changes to one of its components without affecting the others;

- in choosing the optimal methods, forms and means determined by the natural connections of all elements of learning technology;

- in the presence of quick feedback, which allows timely and effective adjustment of the learning process.

METHODOLOGY. Students' mastery of disciplines related to cartography is facilitated by:

- the formation of a positive attitude among students towards the acquisition of cartographic knowledge, skills and abilities;

- ensuring stable mental performance;

- ensuring the interaction of participants in the "subject-subjectivity" educational process ;

- creation of appropriate conditions for the formation of psychological readiness to work in a particular professional field.

The requirements set out in the qualification requirements for cartographic disciplines, their knowledge, skills and abilities should encourage students to work with the map, increase their interest, develop their horizons, form not only the level of knowledge, but also the ability to conduct research of educational importance, and this is primarily the goal of developing cartographic competence.

In achieving the educational goal, cartography plays an important role in the training of creative and deep-thinking personnel in the teaching of natural sciences. It promotes the development of thinking abilities, mastery of research methods, mastery of a certain stage of self-harmonious development, the formation of a special "cartographic" worldview, influences the nature of attitudes towards future activities, develops a worldview and cognitive activity, the desire for self-education, forms an attitude towards cartographic sciences as a means of improving the educational process. It promotes students' independent learning and increases cartographic competence.

Summing up the above, it should be noted that cartography in higher education institutions is a motivational component, which is an effective means of improving the quality of teaching disciplines and contributing to the formation of cartographic competence of students.

A systematic approach serves as the basis for ensuring the roundness and continuity of the content of the educational process and the related lesson material. Below is a structural and logical model for the preparation of cartographic science (Fig.1). In the logical model, the relevant sections, modules, chapters, and topics are divided into training sessions in accordance with the students'

perception and memorization abilities for a long time, preventing students from overloading the learning process at different stages of the educational material and training sessions.

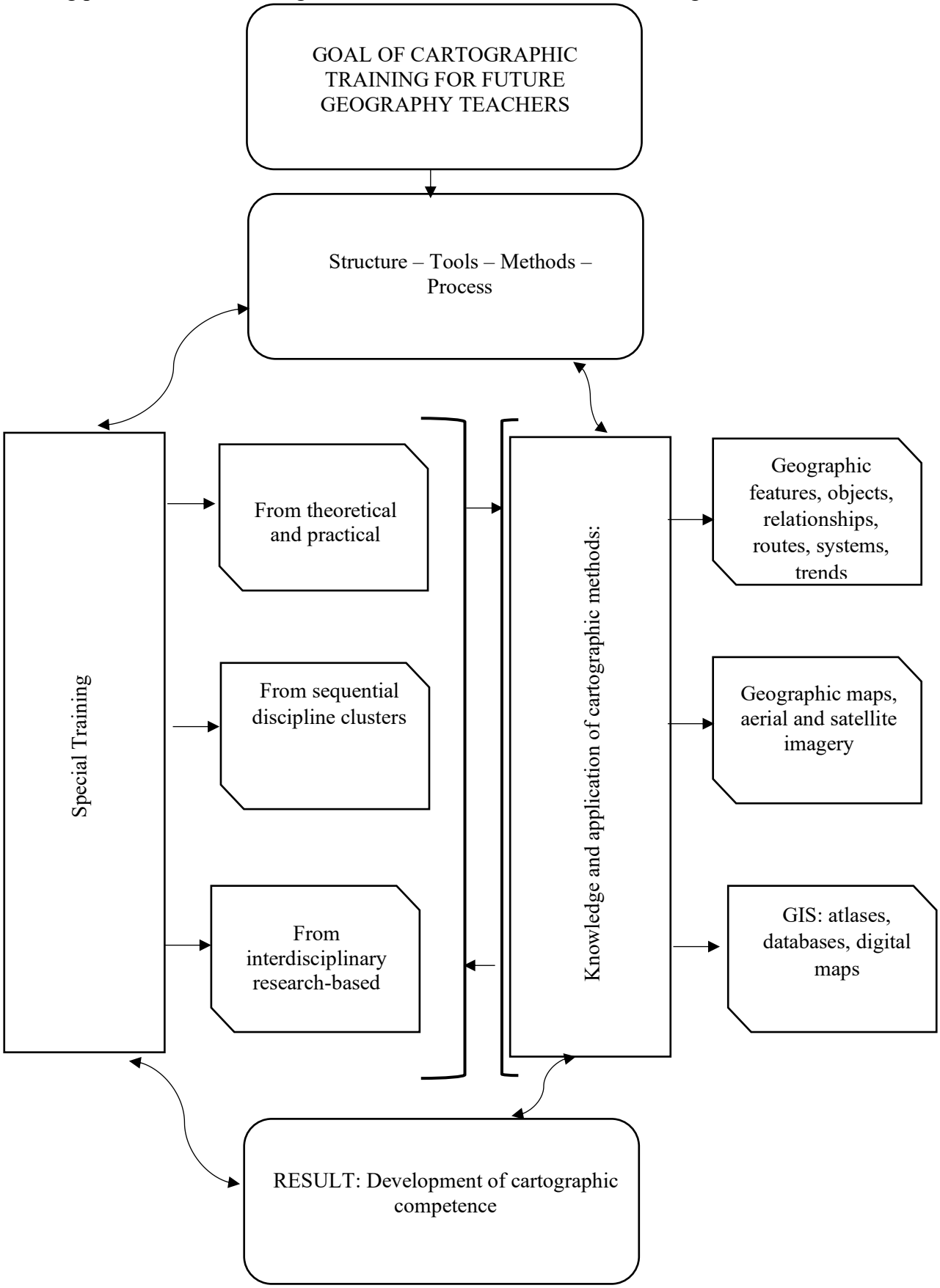

Figure 1. Structural and logical model of teacher training in the subject “cartography”

DISCUSSION AND RESULTS. Aimed at the formation of cartographic competence of future geography teachers, it involves the choice of methods, forms and means of teaching that may be required in the targeted technology under consideration, as well as their justification.

When choosing effective methods of teaching cartography, the following main factors should be taken into account:

- teaching students the common goals of harmonious development;
- features of the methodology of teaching cartography disciplines;
- the goals of the specific lesson material and the tasks set on the way to this goal, and their content;
- the criterion of the time allotted for the study and assimilation of the subject;
- the level of students' training;
- the state of logistics and equipment of the audience, the availability of visual aids;
- the level of preparation and personal qualities of the teacher.

The methods used in the directed technology of teaching cartography subjects aimed at the formation of cartographic competence of future geography teachers contribute to the harmonious personal self-development of students, the acquisition of a high level of knowledge, skills and abilities, the formation of a creative approach to solving problematic issues, the formation and development of cartographic competence.

CONCLUSIONS AND SUGGESTIONS. Cartography in the process of teaching disciplines includes the planning of learning, the state of organization of independent learning, the ability to read independently and apply its results in practice. This included not only educational materials, various educational and methodological developments, teacher's skills in teaching, methods, but also the extent to which students' knowledge and skills are formed. Consequently, knowledge acts as a means of studying cartographic material, i.e. as a means of teacher's pedagogical activity and students' educational activity.

References

1. U.N.Ibragimov. Dissertation "Improving the system of formation of cartographic competence of future geography teachers" (PhD): Samarkand-2022.

2. U.N.Ibragimov, M.M.Aralov, P.R.Kurbanov, M.G.Nazarov, H.X.Zhumaeva textbook "topography, cartography and GIS". Against: Intellect, 2023.

3. Ibragimov Utkir Nurmamat oglu" Monitoring and compilation of electronic maps of agricultural lands using remote sensing materials ""Eastern Renaissance: innovative, educational, natural and social sciences " Journal (5), May 2023, 916-928 https://oriens.uz/journal/article / monitoring and compilation of electronic maps of agricultural lands using remote sensing materials/

4. Ibragimov Utkir Nurmamat oglu, Aralov Muzaffar Mukhammadievich. 2022. "Basic methods of creating topographic maps". Journal of Architecture, Engineering and Modern Technologies 1(4):31-33. https: / / www. sciencebox.uz /index. php/architecture/article/view / 4913