

INNOVATIVE METHODS OF ORGANIZING INDEPENDENT LEARNING IN GEOGRAPHY THROUGH CASE STUDY TECHNOLOGY

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Introduction: *The article examines the content, essence, types and possibilities of using new pedagogical technologies in organizing independent education in geography, in particular the “Case Study” technology, in the educational process. Also, examples of independent educational tasks developed on the basis of problem situations based on the characteristics of geography in order for the teacher to present certain problems to students and direct them to search for solutions, collect additional information from students in addition to the knowledge they have acquired in class, and analyze them are presented.*

Keywords: *Case study technology, education, problem situations, cooperation, scientific and creative abilities, problem-based learning, independent learning, pedagogical technology, interactive technologies, professional motivation.*

INTRODUCTION

The introduction of modern pedagogical technologies into the education system, ensuring mutual cooperation between teachers and students in the educational process, and developing students' independent learning skills are among the important tasks facing education. In order to implement such tasks, it is advisable to use modern pedagogical technologies in organizing independent learning in all subjects in higher educational institutions under the credit-module system. The credit-module system is a new pedagogical approach that serves to make the educational process more effective and flexible. This system creates the opportunity for students to independently manage their studies, while helping to improve the quality of education. Therefore, the introduction of the most advanced modern pedagogical technologies into educational processes to effectively organize the independent education of future geography teachers is one of the most pressing issues today.

Literature review. General approaches to organizing the educational process in the context of the credit-module system of education have been studied by foreign scientists: N.A.Asanov, Y.L.Artamonova, O.V.Boyev, G.N.Gamamik, G.G.Pivnya, A.A.Kusainov, S.R.Ibatulin, O.A.Sevostyanova, A.L.Chuchalina and others, and by domestic scientists: V.U'rinov, M.Sultanov, A.Umarov, B.Sh.Usmonov, R.A.Habibullayev, G.A.Nazarkulova.

Foreign scientists such as T.V. Gabay, G.S. Abramov, G.I. Aleksandrov, V.G. Razumovsky, A.V. Usova, V.K. Buryak conducted scientific research on the issues of organizing independent learning of students during the educational process, while in our country, methodologists such as K.A. Tursunmetov, S.R. Abdalova, O.A. Koysinov, M.U. Kochkarov, Sh.E. Eshonkulova, M.L. Boltayeva, S.B. Ibragimova, B.R. Muqimov, M.Murodova, N.R. Saitkulova conducted scientific research on the scientific foundations,

pedagogical and psychological significance and forms of independent learning in the educational process.

It should be noted that in our country, in the field of geography teaching methodology, dissertation research on geography teaching has been conducted by such scientists as M.Nabixonov, O.Mo'minov, T.Abdullaeva, P.Musayev, M.Yunusova, R.Kurbanniyozov, O'.Safarov, A.Khayitov, M.Abdurakhmanov, Q.Bahromov, R.Gaypova, S.Matsaidova, F.Jumanova, H.Nikadamboyeva, F.Khamroyeva, A.Jonzakov, F.Saydamatov, M.Kuldasheva, H.Amanov, F.Rajabov, H.Shodiev, D.Abdullaeva.

Material and Methods. Effective organization of the teaching process of geography in the context of the credit-module system is of great importance in realizing the internal potential of students, teaching them creative and logical thinking, and developing modern social skills. The methodological skills of the geography teacher, modern pedagogical approaches and teaching methods, the use of rich scientific heritage, experience and pedagogical support ensure the success of students' independent learning. Due to the versatility and didactically complex nature of geography in the context of the credit-module system, students should consolidate their knowledge in the process of independent study using various methods, namely geographical comparison, analysis and synthesis, modular education, analysis, comparison of events and phenomena, and cartographic methods.

Results. The main goal of the "Case Study" technology is to activate the process of students' learning, to develop their scientific and creative abilities by solving existing problem situations. Also, the "Case Study" technology is an educational technology that teaches students to use their knowledge, skills, and competencies in a collaborative manner, to search for alternative solutions by analyzing the proposed solutions.

People encounter various problematic situations in their personal and professional activities, and the search for alternative solutions to these situations, the ability to express their opinions on the solution of any problematic process that has arisen, and the ability to find a solution to a problematic situation depend on the knowledge, skills, and qualifications of people. The "Case Study" technology, which is used in solving practical situations in the education system, is one of the pedagogical technologies that teaches students to find solutions to specific situational problems that arise in the process of their educational activities, and directs them to develop new solutions.

The essence of the "case study" technology is that it is based on a specific situation or event ("case" - event) [1]. Therefore, firstly, the analyzed event must reflect a real-life situation, and secondly, there must be a hidden problem or several problems in this situation that have not yet been completely resolved.

The "case study" technology is one of the problem-based learning technologies. The difference between this technology and the problem-based learning technology is that in the "case study" technology, specific situations and events are presented in a problematic way [2]. This technology is aimed at solving specific problematic situations specially developed on the basis of specific educational materials, which are compiled in advance on a topic and aim to analyze this problem together with students.

In this case, the teacher presents a multiple-choice problem, students express their thoughts and opinions to find a solution to this problem, in this process the teacher identifies

the knowledge that students lack in solving the problem, and gives the necessary instructions and recommendations to search for and find a solution to the problem. In this case, students are directed to independent activity, generalizing the knowledge they have acquired so far and using their own experience to find ways to find a unique solution to the problem. In this situation, students are also required to have additional information and everyday information in addition to the knowledge they have acquired in class. In the process of collecting, analyzing and working with additional information from various sources, students independently draw conclusions and make their own suggestions for solving the problem.

Teaching using the “case study” technology is a method of teaching in which a real creative process is modeled. In other words, a problem situation is created and students’ research on solving the problem is guided [3].

Students acquire new knowledge with the help of a teacher and peers. For this, two factors are important: the student has a need to master and know a certain educational material, and the second is the desire to acquire new generalized knowledge necessary to solve a certain problem. This is because the organization of independent learning using the “Case Study” technology requires a specific approach to the sequence of learning and analysis of educational material. In this case, the teacher poses questions as educational problems. At the heart of the questions is an educational issue that reflects a certain problem.

The “Case Study” technology belongs to the group of interactive technologies. This is because this technology is implemented through the “subject-subject” relationship between the teacher and the learner. In such educational activities, the student becomes an active subject of learning, in which the skills of working together with a team, expressing and defending one’s opinion are formed [4].

Most importantly, this technology is aimed at accelerating educational activities and going beyond academic activities, directing students to solve problems related to their profession and forming professional motivation.

The open dialogue method is more effective in using problem cases in geography lessons [5]. The main factor in open dialogue is the skills and qualifications of students and the teacher’s ability to organize communication. In this case, it focuses students’ attention on specific information in the case text, encourages them to logically answer the questions posed in order to solve the problematic situations in it, and draw the right conclusions. Identifying the problem in the given case text, analyzing the phenomenon and process, evaluating the situation and expressing their own opinions on it develop students’ communication skills.

The “case study” technology can be used in independent learning outside the classroom, as well as in monitoring and checking the results of education [6].

In this case, each student is given individual cases for independent learning or for passing the exam. Students identify the problematic situation in the case and submit their proposals and conclusions aimed at solving it to the teacher in the form of a report. In this case, students have more opportunities to work with additional literature and materials, and

they develop competencies in working with information and identifying, understanding and explaining natural, socio-economic phenomena and processes.

The “case study” technology mainly provides students with the opportunity to work on the basis of problem situations, phenomena or scientific research in studying various geographical issues. This methodology encourages students not only to master existing knowledge, but also to find new knowledge and think independently.

The advantages of using cases in independent learning in geography are as follows.

- The use of the case methodology requires students to read and analyze a large amount of literature. This process develops independent thinking and forms the student's independent reading skills. The student reads, analyzes and draws conclusions from the necessary literature, scientific articles or geographical sources to better understand the situation.

- Proper time management is very important in independent learning. Cases give the student the opportunity to work at a time convenient for him and at his own pace. This is important for the student to deepen and expand his knowledge. In such a method, the student determines how to allocate his time and which literature to work on, so the learning process is more effective.

- The “Case study” technology teaches students to analyze a problem situation and find a solution to it. In this process, students compare different sources and information, analyze them, and draw their own conclusions. They also see the situation from different perspectives, which develops critical thinking and decision-making skills.

- The case methodology introduces the student not only to theoretical knowledge, but also to practical problem-solving skills. Studying various natural and social processes in the field of geography, analyzing problems in geographical areas prepares students to solve real-life problems.

- Solving cases requires the use of several sources and literature. This encourages students to study a wide range of scientific, statistical and practical sources. In this way, effective time management and making decisions based on accurate information are learned.

When organizing independent learning, the teacher should develop various types of cases, taking into account the learning objectives. In case-based independent learning tasks, there is an opportunity to organize student activities in various ways. For example, the proposed situation can be staged and discussed using the methods of “Brainstorming”, debate, scientific debate.

There are several types of cases.

1. Practical cases. In this case, the situation or event is realistically reflected. Its basis is historical sources, real documents, statistical data. The purpose of this type of case is to model ways to solve a real historical event, an ecological or technological problem, and to form the skills to use the knowledge gained in life.

2. Educational cases. The task of such cases is to provide education, and the basis is educational situations. The skills formed in the process of completing these cases become qualifications.

3. Scientific cases. They are developed in order to direct students to research [7].

Cases used in the “case study” technology must meet the following requirements:

- the selected case text must correspond to the topic and purpose of independent learning;
- the problem given in the case text must be relevant and have several solutions;
- the problem situation that needs to be found and solved must exist in real life;
- the information must be sufficient to solve the problem situation being studied;
- the ability to provide recommendations and instructions to students as a means of helping them solve a problem situation and to evaluate their actions [8].

The use of the “Case Study” technology in organizing independent learning can create a number of difficulties for the teacher.

This technology requires the teacher to develop critical thinking and creative activity, as well as constant work on himself, to collect new information in the subject in order to develop the skills of developing cases [9].

Because cases are based on data collected from real situations and empirical analysis. The teacher’s activity in using the “Case Study” technology in independent learning consists of two stages: The first stage is the teacher’s creative work to develop the case text and the necessary questions for its analysis. This stage is carried out before organizing independent learning and includes the teacher’s research, methodological and constructive activities. The second stage is the teacher’s activity in the audience. This includes the teacher’s introduction, conclusion, organization of work in small groups, management of the discussion, and assessment of student activity in the analysis of the situation.

Working with cases in the process of organizing independent learning consists of the following three stages [10]:

The first stage is the introduction to collaborative activity. The main task of this stage is to form motivation for collaborative activity.

The second stage is the organization of collaborative activity. The main task of this stage is to organize activity to solve the problem in small groups or individually. Each group selects a speaker (who presents the solution to the problem), a secretary (who records the progress of the discussion), and a timekeeper (who controls the passage of time). If the case is structured correctly, the solution of one group will not be similar to the answer of another group. The teacher organizes and manages the discussion.

The third stage is the analysis of collaborative activity and reflection. The main task of this stage is to highlight the results of working with the case. The teacher concludes the discussion, evaluates the work of the groups, and draws conclusions.

Discussion. We will consider the methodology for using the “Case Study” technology on the example of the topic “Soils of Uzbekistan” of the course “Natural Geography of Uzbekistan”. The purpose of these cases is to expand and consolidate the knowledge acquired by students in the lecture on the types, properties, distribution and condition of soils distributed in Uzbekistan through independent educational tasks and discussion of cases.

Formulation of problem 1: The soils of the plain-steppe part of Uzbekistan contain various salts, have a low humus content and are saline. What are the reasons for having such properties?

Questions for solving the problem:

1. What is the reason for the accumulation of various salts in soils?
2. Why is the humus content of the soils of the desert zone low?
3. Under what conditions do barren and saline soils form?
4. What are the properties of brown-brown soils?
5. Where do meadow and swampy meadow soils occur, explain the reason for this.

Formulation of problem 2: In the mountains of Uzbekistan, one or another soil type is not distributed in a continuous mass, forming a ribbon, but occupies different areas at different altitudes, and even within the same soil type, there are different humus contents and different thicknesses? Explain the reason for this.

Questions to solve the problem:

1. Explain the reasons for the change in soil types with increasing altitude and the factors affecting them.
2. Why is the humus content relatively high in typical and dark gray soils and the humus-retaining layer thick?
3. Explain the differences between brown soil and dark brown mountain-forest soils located in the same altitude region.
4. Why are light brown soils distributed on two slopes of the same mountain at different heights, different thicknesses, and different humus contents?
5. Under what conditions do peaty-boggy soils form?

Formulation of problem 3: Soil is a very necessary resource for human life. Because a person obtains the food products he needs from the soil. In this regard, Uzbekistan has a very favorable opportunity. Because its territory has 44.7 million hectares of land, and according to experts, the land that can be developed for irrigated agriculture is 18 million hectares. So far, only 4.2 million hectares of the total land fund is used for irrigated agriculture. 50 percent of the soils on the lands used for agriculture (about 2.1 million) are saline to one degree or another and are subject to moderate and severe erosion. What natural and anthropogenic factors cause salinization and erosion of irrigated soils?

Questions to solve the problem:

1. In what places does soil become salinized and what measures are taken to combat it?
2. What do you understand by primary and secondary salinization?
3. Explain the factors affecting soil salinization.
4. Explain the causes and consequences of soil erosion.
5. Analyzing the data in Tables 1 and 2 below, explain which type of soil erosion prevails in Uzbekistan and its causes, and what reclamation measures should be taken to combat them?

Table 1

Types of soil erosion in Uzbekistan

Types of erosion	Ratio to total area, in %
Water erosion	14,2
Irrigation erosion	1,16

Wind erosion	48,7
Water and wind erosion	4,3
Non-eroded area	31,2
All	100

Table 2

The level of erosion of Uzbekistan's soils under the influence of water, irrigation and wind

Types of erosion	Ratio to total area, %			
	Stro ng	Aver age	Wea k	All
Water erosion	42,9	26,9	30,2	100
Irrigation erosion	19,1	20,9	60,0	100
Wind erosion	10,8	55,6	33,6	100

Conclusion. In organizing independent learning as described above, it is advisable to give creative tasks using case study technology, and during their implementation, to provide students with the necessary instructions and recommendations to form practical skills. Giving students freedom when working with cases, creating favorable conditions for them to master new knowledge based on the acquired knowledge, forms in them qualities such as having an independent mind, fully expressing their opinion. After the student consolidates the knowledge acquired in the lecture based on the case study technology, when performing creative tasks, firstly, students complete the task with a full understanding of the content and essence of the task, secondly, they complete the task quickly and easily, and thirdly, they achieve high results. As a result, students acquire creative and independent thinking, analysis, and comparison skills.

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