



THE SIGNIFICANCE OF APPLYING PROJECT METHOD TECHNOLOGY IN INDEPENDENT STUDY OF THE SUBJECT OF BIOLOGY

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ABSTRACT

The article reveals that the economic, social, ecological, political and military problems arising in the era of globalization can be solved only through a high level of consciousness and thinking, which directly depends on the education system. It is stated that the development of any state and society depends on its intellectual potential, and the innovative processes implemented in the higher education system of Uzbekistan are shown. The role of independent education in the credit-module system of higher education and the innovative pedagogical technology of its organization are explained by the method of projects, its content, the history of its development, and the ways of using this method.

Introduction

In this modern world, the 21st century is considered as the time of high technologies, thinking century, the era of mass information, the era of globalization. Globalization is a global process that has arisen as a result of human consciousness and thinking, it is a process that does not know borders and regions, does not recognize systems, and is continuously growing and developing. During such globalization, the development of any country, its strong position among the developed countries, first of all depends on the intellectual potential of the country, the education of the young generation and the modern personnel training system in

general. In today's global era, an important aspect that is required of all of us is to be worthy of the intensity of progress in action and aspiration. Ever since mankind appeared on earth, its eternal mission is to study, learn, and strive for greatness. Currently, the next important issue in the higher education system of Uzbekistan is to improve the quality of education, to adapt to international standards, to train specialists who have a modern, independent mind and are skilled owners of their profession [1]. The solution to this task requires the application of continuous innovative processes to education.

Problem setting and its importance.



Innovative process means creation of innovation, assimilation, related to its use, distribution and development complex activity is understood. Innovative in education implementation of processes is one of the important conditions for the development of the quality of education. One of such innovative processes in the higher education system of Uzbekistan is the transition of higher education institutions to the full credit-module system. In the credit-module system, special attention is paid to the student's independent education in addition to the classroom. In practice, 40% of the student's learning load for a specific module is in the classroom, and 60% is independent learning. It should be noted that, despite the fact that 60 percent of the total workload allocated to independent education by subject in the credit module system of higher education institutions is allocated to independent education, classes are carried out by outdated, traditional technologies, i.e. by writing summaries on the topic, preparing abstracts and presentations or oral defense of the topic, and the independent learning loads of some subjects are not taken into account at all, and the process of organizing independent education requires the use of digital technologies and independent scientific and creative activities of students the failure to use innovative pedagogical technologies aimed at the development of activity has a negative impact on the quality of education. Improving the quality of education requires the introduction of innovative educational technologies into the educational process, the transition to developmental education, the formation of self-confidence, self-development and improvement, scientific and creative

thinking competencies in future personnel. Of course, the implementation of modern innovative pedagogical technologies in the educational process plays an important role in the emergence of such an educational system [2]. One of such innovative pedagogical technologies is called "Project method".

Research methods. During the research, methods such as the analysis of scientific and teaching-methodical literature, pedagogical observation, comparative analysis, generalization, and pedagogical experience-testing were used.

Results and discussion.

We will analyze the method of using the project method in independent education on the example of "Biology". The Project Method is a flexible model and training system with subjective and objective innovations that gain practical importance for the organization of the educational process aimed at the full use of the individual's abilities through the development of physical capabilities, independence and creative abilities. Currently, the project method is widely used in the educational process of the United States, Russia, Great Britain, Belgium, Israel, Finland, Germany, Italy, Brazil, the Netherlands and many other developed countries as the most common pedagogical technology in the world [3]. The method of projects is considered a complex method, all innovative pedagogy currently used in the educational process embodies styles. From the origin of the projects style to the development period, many clear and complete opinions have been expressed about this project. For example: labor training (K.V. Woodward, N.K. Krupskaya, S.T. Shatsky), vocational training (N.E. Erganova, G.V. Rogova, F.M.



Rabinovich), differential training (N. P. Guzik, E.A. Yunina, I.E. Whit), person-oriented teaching (I.S. Yakimanskaya), pedagogical cooperation (V.F. Shatalova, V.A. Sukhomlinsky, I.P. Volkov, L.S. Vygotsky.) Scientists such as I.G. Voronchikhina, M. Knoll, and V. N. Sternberg carried out scientific research on the history of the origin of the style of projects. In his analytical works, M. Knoll emphasizes that the method of projects did not originate in American pedagogy. This project originated in the Italian architectural workshops as early as the 16th century.

In modern pedagogy, various comments and explanations are given to the method of projects. Including E.S. Polat, V.N. Sternberg, G.M. Godjaspirova, N.Yu. Pakhomova, M.L.Serdyuklar own scientific revealing the didactic aspects of the style of projects in his work

gave their definitions. E.S. Bolat defines the method of projects as "a method of achieving a didactic goal by working out all the details of the problem (technology) prepared according to a specific sample, the practical results of which are determined scientifically and theoretically, and the completion of which is completely realistic." V.N. As a result of his scientific research, Sternberg defines the modern definition of the project style term as "a student's creative work on a given task and topic" [4]. The analysis of existing literature and scientific works on the method of projects shows that this method can be applied as a separate independent method or as a pedagogical technology that includes all creative methods. In the existing pedagogical and methodological literature, the following different terms can be found for this pedagogical technology:

project style, design style, project technology, etc. But in almost many sources, the term "project method" is used, and therefore "pedagogical project" includes projects in the field of pedagogy in general.

Based on the above analysis, it can be concluded as follows: from the didactic point of view, the method of projects should be considered not as a separate method in a short sense, but in a broad sense as a technology of pedagogical projects that includes many methods. (E.S. Polat [5], M. Yu. Bukharkin, M.V. Moiseeva, A.E. Petrov, N.Yu. Pakhomova [6], S.A. Krasnoselsky, L.B. Pereverzev, I.D. Chechel, I.S. Sergeev, etc.). Considering the essence of the word project, when we think about the technology of projects, we can consider it as a way of organizing the learning activity of the student, aimed at achieving some form of result (material, text, intellectual, etc.). Modern scientific research shows that project technology is widespread in all areas of knowledge in the educational process and it can be used in almost all subjects in order to develop interest in learning and creative abilities. Project technology has wide pedagogical possibilities, as the experience of well-known pedagogues using this technology shows. It provides an opportunity to fully master the program material, to properly plan one's own educational activities, to form practical skills and competencies in the studied subject, to develop personal project skills and competencies, and in modern conditions, to develop the student's personal qualities [7]. The practical application of the results of problems and their solutions in biology opens a wider way for the use of the



project method in independent education. The educational project can be used more effectively in the form of group activity in independent education under the guidance of the teacher. In order to clearly understand the essence of the project and how to use it, the concept of the project can be divided into the following areas: scientific and technical; creative; production area; educational projects in educational processes.

Doing a project is the process of creating a project, a sample, a state of an object that is likely to be made or to be made. It is a process of acquiring theoretical and practical knowledge on a specific activity, a set of methods. It is a way of knowing to achieve the specified didactic goal, a process of organizing the learning process.

A learning project is working on a learning project, obviously achieving the intended goal in the form of a "product" (project).

Educators approach this method in order to solve didactic tasks. It should be noted that this method is a complex method (but not universal), because its use requires the combined use of other problem-solving methods: small group teaching, brainstorming, discussion, problem-oriented role-playing games, reflection. The set of these methods forms a didactic system of person-oriented training and forms professional competence. Therefore, the use of this technology requires the teacher to master innovative information technologies and special pedagogical skills [8]. Of course, project activity is different from creative activity.

Because any scientific research and intellectual activity is creative, thinking and imagining it without creative thinking won't be reliable. When thinking about creative activity, the ideas of creative

authorship and the ways of its implementation defined by the author are understood. For example, someone may like the creative work of an author, and someone may not like it. Because it is the idea and creation of one author. Projects are different in style. Here are some of the scientific methods of research in problem solving. They will be used and objective conditions of its implementation, clear evaluation criteria will be available. The chosen method is based on clear evidence, theory, knowledge, observation and experience. Therefore, using the project method not only in independent education, but also in modern lectures [9], seminars or practical trainings is effective.

In independent education, students learn to work in a team on the example of concrete work on a project, i.e. in the role of a leader who is responsible for all the results of the project, makes the final decision by agreement, distributes tasks among the group, or listens to his partners, knows how to see alternative decisions, they should gain experience playing the role of an executive employee. The use of modern electronic resources on science [10] also plays an important role as a didactic support of project activity. Of course, any future pedagogue should know how to work with data in his field, be able to collect information on a given task, compare its indicators with previous ones, make reasonable conclusions, generalize, evaluate, use the acquired knowledge in developing problems, prepare it as a drawing or a concrete object, or it is necessary to make proposals for use in the educational process, to prepare a scientific report, to be able to confidently present their evidence and the results of their activities. In order to solve a problem in



project activities, it is required to use a set of knowledge in different fields in a generalized manner.

Project activities can occupy several sessions, in some cases last longer, and take individual or group forms. During the project review, each project participant is assigned a role and they perform the task assigned to them. He knows exactly this part of the problem, and other aspects of the project are the result of group discussion

knows when it's done. Because of this, the entire project activity is known as a method, it is not considered as a strategy of the process.

Conclusion.

The project style is a complex style (but not universal) because its use is similar to other problematic styles: in small groups teaching, brainstorming, debating, problem-oriented and require the joint use of role-playing games, reflection, etc.

The use of the project method in independent education forms a didactic system of person-oriented training and forms professional competence. Therefore, the use of this technology requires the teacher to master innovative information technologies and special pedagogical skills.

The use of the project method in the independent education of biology plays an important role in the formation of professional competence in students, as well as in the formation of the culture of teamwork and social competence related to the organization of joint activities on the project. Often experiential, social when working on a project (survey, questionnaire, interview, etc.), relative-comparison method, mathematical and sometimes static processing of the obtained results further research is required.

In such conditions, the teacher's advice is required in the process of independent education. It is the duty of the project manager (leader), coordinator to organize the use of biology projects in independent education, to find the necessary tools and materials related to the subject. It belongs to the sphere of communication culture and communicative competence.

The application of the project method in independent education arouses interest in science in students, encourages them to think independently, to have a scientific and creative approach to problem solving.

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