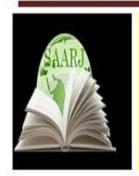


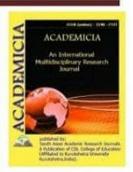
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# FORMATION OF PROFESSIONAL SKILLS OF FUTURE BIOLOGY TEACHERS AND DEVELOPMENT OF ITS CRITERIA

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### ABSTRACT

Biology at a time when the teaching system needs to be absolutely reformed in the coming year's science teachers also need to be up-to-date and professional. Biological science to the subject that the teacher teaches, along with an in-depth knowledge of the subject he or she teaches knowledge of related sciences and the use of modern techniques, use them, as well as apply the theoretical knowledge learned in practice it is necessary to take.

**KEYWORDS:** Curriculum, Pedagogical Technology, Interactive Method, Educational Effectiveness, Educational Process, Teacher Skills, Abilities and Qualifications.

#### INTRODUCTION

Today, it is up to the teacher to properly organize the cognitive activity of students, to conduct the educational process as a whole system, to integrate the knowledge and skills of students with each other, requires high pedagogical skills. Based on the educational, pedagogical, developmental goals of each topic in the curriculum, the lessons were taught using problem-based learning, modular learning, collaborative learning, didactic game technologies, helps students to organize their knowledge and skills properly. A problem situation is created under the guidance of a teacher during a problem lesson. This problem helps students to acquire knowledge, skills, creativity and intellectual activity as a result of active independent work. Problem-based lessons are effective at all stages of the learning process: new topic statement, reinforcement, and knowledge control. In this case, the student must first try to identify learning problems, to create a system of problem situations, based on the content of the new topic.

Problem lessons are organized in the following stages:

- 1. An equal number of groups of students are formed, whose level of knowledge is psychologically close to each other.
- The groups are given tasks consisting of problem questions and are introduced to their didactic purpose.
- 3. Focus students' knowledge on problem solving.
- 4. Have a group discussion

With the development of modern science, technology and industry, there is a need for a new project of educational content in the educational process, the use of advanced pedagogical technologies. In each lesson, the task is to continuously improve the effectiveness and quality of teaching using new pedagogical technologies to help students develop their interest in knowledge and independent work skills. Improving the learning process by focusing on students' cognitive activity as a factor in the formation of problem situations and tasks in the minds of students, the search for independent solutions, the acquisition of knowledge and intellectual development. Today, the reform of the system of continuing education in our country, which is on the path of independent development, and the introduction of information technology and improving the efficiency of education has risen to the level of public policy. At a time when the Republic of Uzbekistan is on the path to building a democratic, legal and civil society, the main goal and driving force of the ongoing reforms in the field of education is the education of a well-rounded person. An important condition for the development of our country is the creation of an improved system of training based on the development of modern economy, science, culture, engineering, technology. Until now, traditional education has taught students to acquire only ready-made knowledge. This method was tedious and deprived students of independent thinking, creative research, and initiative. Classes using modern innovative pedagogical technologies are more interesting, as they allow students to search for their own knowledge, to study and analyze it independently, and to draw their own conclusions. In this process, the teacher creates conditions for the development, formation, education and upbringing of the individual and the team, as well as acts as a manager, a guide.

Using modern innovative pedagogical technologies, students will be able to learn new information and evaluate their own knowledge. Therefore, the importance of modern teaching methods and innovative technologies in the teaching process in educational institutions is invaluable. In the educational process, it is important for every teacher to teach students to think creatively, to adapt to changing situations, to organize activities on the basis of free competition, and to be able to use pedagogical technologies, information technology, e-textbooks and multimedia in practice. This requires that students develop independence, free thinking, analysis of learning activities, and, in the future, professional skills and computer literacy.

Indeed, modern innovative pedagogical technologies increase the efficiency of the educational process, form students 'independent thinking, increase students' passion and interest in knowledge, and develop their skills and abilities to use them freely in practice. In the process of education based on pedagogical technology, the scope of teacher's and student's activities is clearly defined, the specific technology of organization of education is specified. Pedagogical technologies, firstly, allow students to learn their knowledge, skills and abilities easily and with interest, and secondly, help teachers to grow both professionally and spiritually. Today, a special goal is set for the educational process. It is about giving students the opportunity to express



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themselves creatively and to help them develop positive personal qualities. Due to the complexity of the educational process, the effectiveness of education depends on the activity of teachers and students, the availability of teaching aids, the organizational, scientific and methodological excellence of the educational process. Today, there is a growing demand for teachers who take a responsible approach to the organization of lessons in innovative ways, have professional and methodological skills, master modern pedagogical technologies, and are able to organize education on the basis of innovations. Effective ways of teaching are being developed using the created conditions wisely. Even students of a certain class with different levels of mastery require a great deal of skill on the part of the teacher to achieve their pedagogical goal by applying differentiated-individual teaching methods. Individual teaching is a process in which each student actively participates in the learning process and makes a personal contribution to the learning process, taking into account the methodological approach and speed of the teacher. Interactive learning with interactive teaching methods encourages students to develop the following skills: the student is not taught, he is taught to read, study, work independently, to learn through independent analysis, to think creatively, to think freely on the basis of personal conclusions, to be able to think independently against opinions, to defend one's position. Thus, the quality and effectiveness of education depends on the student's effective reading, independent thinking and thinking activities aimed at mastering the content of learning. The use of creative games in biology lessons involves the creative application of knowledge, skills, and abilities acquired by students, and the solution of problematic situations that arise during reading through creative research. Such games are designed to develop students' independent creative research and logical thinking, to strengthen their knowledge, and to impart new knowledge. Creative games can be used to generalize knowledge of major topics and chapters in all biological sciences. In this case, the students in the class are divided into groups with equal opportunities according to the level and number of mastery. The groups can be conditionally divided into specialists such as ecological, parasitological, embryological, endocrinological. In this case, the experts of each group of participants independently and creatively perform the tasks given by the teacher and discover new things in science. Students base their answers on visual aids using visual aids. The organization of scientific conferences is in the form of research, lectures and discussions. In such classes, well-read and curious students prepare lectures and visual aids for conferences as biologists. The rest of the students ask questions about the issues they are interested in as conference participants. The main purpose of the scientific conference is to develop students' skills and abilities to work with additional literature, popular science materials, lectures, express their opinions, as well as to develop a culture of speech and communication. In this case, the teacher predetermines the topic of the scientific conference lesson. Divides it into separate sub-topics. Selects additional literature on small topics. Provides necessary instructions for preparation for the conference. Press conference sessions are held with the participation of all students in the class. Some of the students are industry experts, and most are newspaper, magazine, and television reporters. The theme of the conference and the responsibilities of the participants will be announced at least a week in advance. The teacher discusses with the students the questions to be asked to the conference and their answers. Questions and their answers should be short and to the point. In this lesson, the teacher introduces the topic, the purpose of the conference, and the participants. Instead of imparting knowledge to students in a ready-made way, students acquire the skills to acquire knowledge by searching, finding, and processing knowledge from textbooks, the Internet, and various other sources. Through the



acquired knowledge, it is possible to think creatively. At the same time, the student's ability to apply the acquired knowledge in life and practical activities is determined by his / her skills and abilities. The effective organization of student activities plays an important role in the effective use of the structure of the learning process. Because the student's personality is at the center of the learning process. Today, multimedia is one of the main directions in informing the learning process. The use of modern information technologies in education is effective in improving the software and methodological base, materials and further raising the level of knowledge of students.

One of the main issues in education is the problem of personal development in the teaching process. Development is a complex process that expresses the essence of quantitative and qualitative changes in the physiological and intellectual growth of an individual. Personality development is the process of physical and mental changes in an individual over time, through which the individual rarely and more, from simple to complex, from the lowest to the highest, matures and matures. In the organization of this education, each student is approached on the basis of his psychological, physiological and social development, existing abilities and capabilities. Fundamentals of Developmental Education in Russia L.V. Zankov, D.B. Elkonin and V.V. Based by Davidov. In the 1970s, V.V. Davidovput forward the idea of student selfdevelopment. In 1996, the Ministry of Education approved the introduction of these technologies in educational practice. There are currently a number of other developmental education technologies in the country, but they have the status of alternatives. Certain technologies are used in the organization of developmental education in the education system. Among them are: design technology, problem-based learning technology, modular learning, didactic games, collaborative learning. There are also trainings, creative assignments, cases, tests, puzzles, logic problems, special exercises, quick sayings, riddles, crossword puzzles, rebuses, scanwords, chainwords, projects, competitions, didactic games, brain teasers and more. Thus, developmental education helps to develop the individual's abilities, to fully realize his inner potential.

Modern pedagogical technologies are widely used in the process of developmental education. The teacher's ability to choose technology appropriately, appropriately and effectively ensures the successful organization of developmental education.

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