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**FEATURES OF THE ORGANIZATION OF EDUCATIONAL ACTIVITIES  
OF STUDENTS IN THE PROCESS OF IMPLEMENTING  
THE METHOD OF PROJECTS IN TEACHING BIOLOGY**

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**BİOLOGİYANIN TƏDRİSİNDƏ LAYİHƏ METODUNUN HƏYATA KEÇİRİLMƏSİ  
PROSESİNDƏ TƏLƏBƏLƏRİN TƏDRİS FƏALİYYƏTİNİN TƏŞKİLİNİN  
XÜSUSİYYƏTLƏRİ**

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**ОСОБЕННОСТИ ОРГАНИЗАЦИИ УЧЕБНОЙ ДЕЯТЕЛЬНОСТИ УЧАЩИХСЯ  
В ПРОЦЕССЕ РЕАЛИЗАЦИИ МЕТОДА ПРОЕКТОВ В ОБУЧЕНИИ БИОЛОГИИ**

**Summary.** The research analyzes the Parts of the organization of educational activities of students in the process of implementing projects for teaching biology in secondary schools in Azerbaijan. We benefited from lesson observation comments effects and teacher-student consultations for deliberation. The fact that the students in the group where project-based learning was implemented were more successful in the process contributed a lot to their active role.

**Key words:** *problem-based learning, project-based learning, teacher and student perception, lesson parts.*

**Xülasə.** Tədqiqatda Azərbaycanın ümumtəhsil məktəblərində biologiyanın tədrisi layihələrinin icrası prosesində şagirdlərin tədris fəaliyyətinin təşkili aspektləri təhlil edilir. Biz dərs müşahidəsi şərtlərinin və müzakirə üçün müəllim-şagird məsləhətləşmələrinin təsirindən faydalandıq. Layihə əsaslı təlimin həyata keçirildiyi qrupun tələbələrinin bu prosesdə daha uğurlu olması bu fəal rola daha çox kömək etmişdir.

**Açar sözlər:** *problemlə öyrənmə, layihə əsaslı təlim, müəllim və şagird qavrayışı, dərs hissələri*

**Резюме.** В статье анализируются аспекты организации учебной деятельности учащихся в процессе реализации проектов по обучению биологии в общеобразовательных школах Азербайджана. Мы извлекли пользу из эффектов комментариев наблюдения за уроком и консультаций учителя и ученика для обсуждения. Активной роли во многом способствовало то, что студенты группы, где было реализовано проектное обучение, были более успешными в этом процессе.

**Ключевые слова:** *проблемное обучение, проектное обучение, восприятие учителем и учеником, части урока*

To solve problems that arise depending on the content and goals of students, learners create their creative resources without restrictions. At the end of these research processes, such as a

drama, a newspaper article, a research report, a magazine, a documentary, a web page, a model, a story, a poster, a brochure, etc. can be revealed. [Erdem, 2002]. These products, prepared in

different qualities according to the area of the research project, allow students to use different learning styles. Clif (1991) describes the diversity of recipe diversity: Poster, sketch, TV commercial, puppet show, collage, map, brochure, puzzle, guidebook, booklet, learning cube, flowchart, newspaper ad, school lesson, sketchbook, advertisement, bookbinding, cartoon, wallboard, model, radio advertisement, poem, play, newspaper article, colour book, picture, show, the story [Yildirim, 2007].

The National Curriculum is a conceptual framework document for public instruction, covering standards and learning outcomes for general education, the main conclusions of the organization of the pedagogical process, the final and tracked achievements of achievements, also the development of subject curricula programs. In the project of the main priority functions of the national curriculum in the educational process, justifications for public institutions and educational activities have been developed under the requirements for public education and educational requirements for content and training, systematized per a high level of general education [1].

The task of structuring the educational process based on higher education is the formation of professional experts who may have very serious concerns and have the opportunity for emergence and self-development. Professionally educated students consume a large amount of knowledge, not limited only by predilection, but also interested in learning, among which methodological projects play a major role. For project-based education, a high level of independence and motivation of students, as well as their great interest in learning and creativity, the formation of cultural and communicative abilities, the ability to work in learning, interdisciplinary communicative awareness, abilities and skills were revealed. Some researchers (V.V. Guzeev, E.A. Polat and others) notice that project-based learning motivates and enhances real learning in the group of students, reveals observation in the process of self-determination, and creativity and determines involvement. H. Ahmedov in his book mentioned using the project method in the training process, a planned version of the activity was created in advance.

Objects of pedagogical projects:

1. Pedagogical situation
2. Pedagogical process
3. Pedagogical system [5]

Project methodology, increased engagement in conspicuous, extraordinary pursuits, and close dissemination with the application motivate students to vigorously explore the world around them, transform to acquire theoretical knowledge in abilities and skills, form creative pursuits, and create an experience to achieve professional goals. The project method is suitable to be considered as the performance of active work by students. A large number of scientists note the project method as a learning process designed not only based on basic knowledge, skills and abilities, but also to create creative abilities and develop intellectual abilities in the process of solving complex problems. The use of the project method in the educational process allows for solving some complex problems. The priority is student interest. This method involves students in the formation of research abilities, independently obtaining information from various resources and applying them for practical purposes. The next task is realized in the implementation of the beginning of student-centred education when students implement projects per their interests and interests. The third problem is that various projects are affected, students acquire research algorithms, learn to independently find and analyze, share knowledge, and acquire different from the invaders. As a result, creative and intellectual skills arise, and such manifestations as independence, acceptance, and decision-making develop.

At the end of the process, these studies can be revealed, such as drama, newspaper articles, research reports, magazines, documentaries, web pages, models, stories, posters, brochures, etc. [Erdem, 2002]. These products, prepared in different qualities according to the area of study of the project, allow students to use different learning styles. Cliff (1991) described the variety of products as follows: Poster, Sketch, TV commercial, Puppet show, Collage, Diagram, Brochure, Puzzle, Guide, Booklet, Learning cube, Flowchart, Newspaper advertisement, Map, Educational

lesson, Scrapbook, Advertisement, bookbinding, cartoon, wallboard, model, radio advertisement, poem, play, newspaper article, colour book, picture, show, the story [Yildirim, 2007].

The project method, increasing classes in the classroom, acts as an independent activity and is closely related to the application, which motivates students to vigorously study the world around them, transform the acquired theoretical information into abilities and skills, form creative skills, and create an experience to achieve professional goals. The project method is suitable to be considered as a way of engaging students in active learning. A large number of scientists note the project method as a learning process designed not only to obtain basic information, skills and abilities but also to form creative skills and develop intellectual abilities in the process of solving complex situations. The use of the project method in the educational process allows for solving some complex problems. The priority is student interest. This method encourages students to develop research abilities, independently obtain information from various resources and apply them in solving practical exercises. The next task is embodied in the implementation of the principles of student-centered education when students make projects that suit their skills and interests. The third task is that by doing different projects, students acquire the research algorithm, learn to independently find and analyze knowledge, and share information acquired from different subjects. As a result, their creative and intellectual skills are formed, such as independence, acceptance of responsibility, interest, sociality, and the ability to make decisions. The skill of solving real professional exercises and tasks is also formed. In the end, the project method is closely related to the use of modern information and communication tools: these can be e-mail, search engines, forums, online meetings, online competitions, etc. High motivation forms the student's activity on international and regional projects. Students can show not only tour projects but also projects of tourist guides and projects of event events. Thus, the method of projects is a learning technology, the task of which is aimed not only at applying the existing

factual knowledge but also the acquired modern ones, more often using self-education. The project of a student can be viewed as a way to implement a cognitive activity, form creative thinking and develop specific personality traits that act as a result of obtaining an educational program. 3. The implementation of projects for students is a chance to open up a creative opportunity and develop their abilities and skills, for example, research, social communication skills, evaluative (marking the progress and outcome of their work), demonstrative (the ability to present, answer questions, use visual aids), reflexive (the ability to take the place of a spectator and evaluate other speakers) 4. In addition, the implementation of projects may recommend joint activities. the implementation of projects in a team will be effective if the team has a common task and each student understands his work and is responsible. Teamwork motivates participants to understand the ideas of other participants, to act together, and to shape their work. Product activity of the project team is associated with the joint work of all participants and the ability to share work, responsibilities and duties. Also important is the place of the teacher, who acts as a mentor and consultant. He needs to create the necessary conditions for deepening the cognitive motivation of students and the skills of their self-education. The creative approach of such a teacher is the reason for the increased interest of students.

Thus, several factors should be noted that affect the successful construction of knowledge and the productive work of students on the project. These are the development of a knowledge base that forms the basis for the start of independent work on the project; development of new knowledge obtained during the study; control over the necessary interpretation of knowledge; learning the ability to construct knowledge. In addition, the project manager must identify and implement integration with the course "Methods of teaching technology" where students acquire the main theoretical knowledge on the topic of projects. The project method allows a more detailed approach to the study of the material, certain sections of it, of course, are not one

hundred per cent, but, following the lecture material, the seminar program, it gives good practical products. The demand for taking into account in the project all the material covered is revealed by the detailed specification of the project created by the teacher, which includes only the task, but also the core trends for its implementation.

The project method is based on the idea that the educational and cognitive activity of a teacher is focused on the result obtained in solving a specific practical, possibly theoretically important task. As usual, before the start of the implementation of each specific topic of project work, students are presented with a task that undoubtedly must have an individually important character, so personal motivation is formed in solving such a task. In addition, it is better to create a project in such a way as to touch upon the student's existing knowledge, but also the importance of acquiring new information was formed. As a result, during the implementation of the project, the student will meet with the importance of acquiring new ones. And so, with the independent implementation of the project, the student will have to find a resource of information that is important for him; as a result, he will have to think about new information, formulate the necessary topic and mark the search keywords. "To solve a problem" means to use in this situation the necessary information and methods from different areas of spheres of life, having received a real and visible result [8, 147]. At the heart of the project, the method is creativity, the ability to lean in the information field and independently develop one's knowledge.

In the last century, countries have made efforts to regularly change and develop their educational programs to ensure that people perceive rapidly evolving scientific knowledge and changing technologies accordingly, to enable them to gain the necessary knowledge, skills and understanding. by age and to know their surroundings from the point of view of a scientist (MEB, 2007). Thanks to these outstanding achievements, biology has reached a position that can change the history of mankind in many ways. Biology, being a branch of science that significantly affects everyday

life, society and the environment and studies life in all aspects, is known to have very rich content in terms of concepts (Akkaya et al., 2009). The correct perception of these concepts by students ensures that students become conscious individuals about nature and living beings. Because in all spheres of life people live together with nature and all living things.

Regardless of the level of education, people strive not only to gain knowledge but also to grow as productive minds. Although many things are needed for this, the method occupies an important and priority place among them. Without scientific methods, information cannot go beyond storage. The value of science in everyday life can only be achieved through methods that develop scientific thinking and behavioural skills. The basis of the goals of the biology lesson is to educate people who can base their lives on scientific thought without harming the environment in which they live and are compatible with society (M.E.B, 1992).

The application of the project method in practice also contributes to a change in the position of the teacher. Thus, the teacher moves from a source of ready-made information to the position of an organizer of the educational and research work of his students. The psychological atmosphere in the classroom or audience also changes. The teacher must change the focus of his educational work and the work of students to colourful and diverse, as well as research, research and creative activities [10].

In the science of biology, it was aimed at studying the subjects of biology by accumulating knowledge by students with the help of teaching methods and techniques. However, our era is constantly undergoing scientific changes, and every day we are confronted with new technological developments (Gul and Yilmaz, 1995). Therefore, in recent years, classical biology education has been abandoned and modern biology education has begun. As in all fields of science, it is important in biology to improve people's research skills and help them communicate between their findings and their daily lives. Given today's developments, we can list the goals that biology education wants to convey to students:

To provide basic information about the living world.

To teach the relationship of living beings with the environment.

Develop the ability of scientific thinking.

Improve the ability to use tools and equipment.

Teach laboratory experiment techniques.

Develop a sense of self-confidence.

Develop problem-solving skills.

8. Providing the opportunity to work with groups in a learning environment.

9. Ability to transfer your knowledge and thoughts to others improve the ability to argue (Aydzy and Bora, 2004)

Teaching methods and techniques are of great importance for the implementation of learning in biology education, which is considered a cultural necessity in the modern world. Applying methods that take students away from memorization and encourage them to think and explore will translate program goals into behavior more effectively. To do this, student-centered learning approaches should be preferred over teacher-centered teaching (Hevedanly et al., 2005). For this reason, there is a need to use various methods and techniques that ensure the active participation of students in the educational and pedagogical environment. One of the methods that ensure the active participation of the student in the lesson is the project approach to learning (Celoni, 2005).

Knowledge cannot be built passively or without personal input; understanding arises as a result of adaptation; that the person understands the subject under discussion, agreeing with their experience, knowledge and knowledge; information is created by interaction; The constructivist approach to learning, which asserts that the language used and the social structure plays an important role in this interaction, has received significant benefits. The constructivist approach to learning, because of all the assumptions made, has begun to include a project-based approach to learning that emphasizes student-centered

learning approaches and teacher guidance (M.E.B, 2007).

The purpose of the curriculum of the biology course prepared for the biology course in secondary schools under the Ministry of National Education of our country is to educate people with biological literacy. Competent person in the field of biology;

1. Understands and assimilates the nature of science in general and biology

He understands the need to study biology to recognize himself and understand the events taking place around him.

3. Has a meaningful cognitive structure built around the key concepts of biology.

4. Analyze the interaction between science, technology, society and the environment about the past, present and future.

5. Seeks to solve problems he encounters using the scientific method.

6. As a social person who is mentally and physically healthy and aware of his abilities, he has different communication skills, attitudes, values and understanding.

7. He has acquired the necessary technological and psychomotor skills in biology (M.E.B, 2007).

**The research aim.** The project method considers that there are issues to be researched. The project method involves not only the achievement of a particular result, but also the rules of this organization of the process of achieving the goal, being an organized search or research group of a set or a set of individuals, or in groups. This process must be technologically advanced enough to create situations that are motivating to get and obtain results together.

**Novelty.** The scientific novelty of the article lies in the fact that the article reveals in detail the features of the organization of educational activities of students in the process of implementing the method of projects in teaching biology.

**Importance.** The practical importance lies in the development of guidelines for the teacher on the use of the method of projects in the preparation of students in biological classes.

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