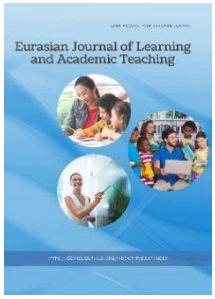

Methods For Implementing The Methodology Of Teaching Biology On The Basis Of A Functional Approach

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ABSTRACT

The formation of functional literacy in the lesson is a condition for the development of the competence of students. Innovative technologies in the teaching of biology are fundamentally new methods of interaction between teachers and schoolchildren, ensuring effective achievement of the result of pedagogical activity. The use of new modules in education makes it possible to develop the functional literacy of the student.

Keywords: *Biology, functional, multimedia, virtual, audiovisual graphic, animated, visual, email, teleconference, expert.*

Introduction. The formation of functional literacy in the lesson is a condition for the development of the competence of students. Innovative technologies in the teaching of biology are fundamentally new methods of interaction between teachers and schoolchildren, ensuring effective achievement of the result of pedagogical activity. The use of new modules in education makes it possible to develop the functional literacy of the student.

Today, teaching methods that require active mental activity of schoolchildren come to the fore, with the help of which the ability to analyze, compare, generalize the information obtained, look for ways to see problems and solve them, experiment and describe the methodology for conducting it is formed. All this helps schoolchildren to realize their abilities in a wide information space, allows them to avoid homogeneity in education and maximally take into account the individual characteristics of children. The teacher should not only help students to fully master knowledge. It is also necessary to demonstrate their abilities, develop initiative, independence and creativity, that is, to form functional literacy.

In the current conditions of increasing requirements for the educational system, it is impossible for general secondary educational institutions to carry out the tasks set before them without perfectly equipped Biology study rooms. Biology classrooms have greatly expanded due to the introduction of alternative programs, specialized classes and educational tools implemented as a result of the establishment of classes adapted to the transition of deepening the educational science of biology.

Currently, intense and large-scale research is being carried out on the development of new devices and equipment that rely on electronic techniques, and ensures that the devices and equipment in question are carried out in a research and research method from the method of Education. Thanks to this, the possibilities of processing the data obtained during the experiment, checking the degree of reliability of the results of the experiment and proving hypotheses expand, the theoretical knowledge of the learners increases, and their interest in the studied academic discipline increases. In the future, it is planned to develop a complex of

software and equipment of such importance as educational and scientific microlaboratories.

Today, the environment in Biology study rooms is undergoing structural changes, since classrooms are equipped in terms of interdisciplinary connection, that is, educational tools are equipped with Physics, Chemistry, ecology, taking into account the commonality between Educational Sciences and biology. As a result of this, new approaches to the solution of thematic issues in the field of biology are observed in educators.

Analysis of thematic literature (Literature review).

The basis of distance education, as we noted above, is independent study. In this case, the starting point of independent study depends on the level of training of the learner, and the final point depends on the personal ability and talent of the learner in mastering the educational material.

Today, there are several definitions of distance education, all of which reflect approaches aimed at explaining the essence of this area. In our work V.A.We relied on descriptions in the interpretation of khutorskoy, and in our opinion, it is this description that can reveal the essence of distance education much brighter. That is, " Distance Education is a complex of services provided in education, based on the exchange of distance learning information and provided to the wider population of the country's interior and abroad in an informed educational environment. The informational educational environment of distance education is a systematic software aggregate of Information Resources, statements of interaction, software-hardware and organizational-methodological tools aimed at meeting the educational needs of the user. Distance education is one of the forms of continuing education and is aimed at the full provision of a person's rights to access information and knowledge”

Research methodology (research methodology).

The use of computer and Information Technology in biology classroom activities provides educators with the possibility of modeling and other similar biochemical processes that take place in living organisms. Alternatively, the skills of articulation in educators, the ability to direct their knowledge and conclusions in the environment, draw conclusions as a result of observations and experiments, and diagnose primary data obtained in the laboratory will begin to be formed.

In order to achieve the above-mentioned results, biology classes will be equipped based on the modern requirements for teaching this subject. First of all, the methodology for teaching biology is a study room – a complex consisting of two rooms, one of which is intended for a teaching audience, and the other for conducting laboratory work. That is, the main task of this training room is to methodically prepare the learners.

Among the technical means of teaching biology, multimedia, virtual, audiovisual graphic and animated visualization tools, including screen projection tools, are important.

The use of Multimedia presentations allows the teaching material to be presented in algorithmic order as a system of bright supporting images filled with fully structured data. In this case, various channels of perception are involved, which makes it possible to put information in the long-term memory of students, not only in the factual, but also in the associative form.

Information services accessible to users of the internet network include e-mail, invitation and announcement service, access to library catalogs, database access, assessment and access to expert systems, establishing co-operation with authors from different countries, E-transmissions, E-publications, conferences, teleconferences, computerized programs in certain professional and educational areas, exchange with lecture texts and other services.

When using the internet, the following opportunities open up before the distance education industry:

- e-mail distribution of educational materials to individuals studying distance learning technologies;

-establishment of Return communication between the educator and the educator by email, as well as sending questions, results of tests, control and coursework;

- conduct a discussion of educational materials, control work and exams in the manner of online dialogue;
- access to the information archive;
- use of software tools and collect the necessary information;
- Organization of video messages, video messages on the network.

At the present stage of the development of school education, the problem of using computer technology in classes is of great importance. Information technology provides a unique opportunity for development not only to the student, but also to the teacher. The computer cannot replace the live Word of the teacher, but new resources facilitate the work of a modern teacher, make it more interesting, effective, and increase students ' interest in studying biology. Conducting classes using a Video player will arouse students ' interest in the topic.

One of the most advanced and modern directions for improving the educational system is the use of information communication technologies (ICT).

ICT networks provide the user with the following advantages:

- implementation of communications through email or Telegram channels;
-participate in conferences and scientific and practical conferences online;
- timely adoption of science-related news;
- implementation of distance learning;
- to carry out the exchange of information with specialists in the field remotely, and so on.

The interpretation of the possibilities for the implementation of education using ICT in this form is mainly inherent in the method of distance learning.

At present, distance learning centers are being established: it is noteworthy that such a center is established under the educational institutions of each OS, educators. The term distance education-in essence means obtaining the necessary knowledge outside the educational audience or class, without direct participation in the course processes.

Let us dwell separately on the features, properties of distance learning opportunities. First, distance education ensures the interaction of the educator, the educator and the source of information while standing at a certain distance from each other. Secondly, distance education assumes an individual approach to the educator, taking into account the individual characteristics, qualities and defects of each recipient of Education. Thirdly, distance learning creates opportunities for the student to acquire independent knowledge, generalize information.

Communication between the educator, the educator and the source of knowledge is carried out in various ways, in particular, through the exchange of printed information, a computerized conference, video conferencing, electronic textbooks, etc. Distance education is a promising method that ensures the necessary knowledge of individuals who are not able to receive education in full-time and part-time departments.

Distance education is in harmony with innovative technologies according to the method of implementation, since in this method the educational process is carried out directly (without any exception) through a computer. The most basic means of distance learning are computer curricula. For the introduction and effective use of these training programs, the need arises for computer ICT networks.

The widespread use of ICT networks necessitates the solution of another problem, and it is the problem of implementing methodological and content provision. That is, the use of computer networks in education requires a new approach to each element of Education. In pedagogical practice, the following manifestations of ICT are widely used: e-mail, teleconference, mailing list, electronic whiteboard of announcements, etc. Uzbekistan is gaining sufficient experience in the field of radio and television, programmed educational tools, the use of computer training tools for educational purposes. So why did the interest in distance education become so intense? Maybe the presence of tools that will be necessary for distance education is the reason for this? There are a number of factors that contribute to increased interest in distance learning.

Analysis and Results (Analysis and results).

The popularity of distance education, its wide introduction in the educational system is due to its importance in solving a number of problems. That is, distance education helps to solve the following problems:

- provides additional opportunities for individual education (for children with disabilities, children with high abilities);
- facilitates access to education for the purposes of post-tertiary education and professional development without separation from production;
-new opportunities open up in the preparation of young people in remote villages to enter the Osms;
- methodical assistance to educators and a system of additional information will be created.

We can also say that distance education is promising for its importance in solving the above problems, which are noted as an important issue in the face of today's education and social policy in general.

The concept of distance education implies a positive change in attitudes and approaches to all types of activities carried out in the educational system. This concept is an alternative to the traditional educational concept and costs a lot economically. In terms of individualization of education, distance education is a very acceptable method. Taklfis are being developed to create an automated educational concept by further improving distance education, summarizing all the aphasisms of Individual and collective education.

Distance education can be said to be the most optimal option for using communication tools in automated education.

Distance education is a form of education that embodies the elements of full-time and evening education in itself through new information technologies and multimedia Systems.

The basis of distance education is the goal-oriented and controlled independent study of the learner.

The following can be included in the master tasks of distance education:

- increasing the role of the learner in his independent studies;
- increase the volume of educational accumulations to be mastered;
- opportunities to study with peers and consultant educators;
- increase the balance of heuristic knowledge due to the introduction of multimedia educational programs, interactive lesson forms;
-create opportunities for self-expression in the creative aspect of the learner;
- expanding opportunities for learners to use creative achievement assessments;
-activation of the participation of learners in distance projects, competitions and Olympiads.

The peculiarities of distance learning are the following:

- flexibility: that is, the learner has the opportunity to gain the knowledge he needs remotely at a time when he is acceptable, in any educational setting and in a comfortable environment;
- modularity: the principle of modularity forms the basis of the distance education program, that is, each stage covers a specific area of knowledge. From the modules of the stages, a training program is formed, which has the feature of individuality;
-the emergence of a new role and new tasks in the educator: in distance education, the educator is assigned tasks such as coordinating education, supervising, advising, providing guidance, and he will have to perform a more coordinating role;
- control of the quality of education in a specialized way: the forms of quality control of distance education include distance examination, online interviews, distance course work and projects, as well as externships.
– the application of specialized tools and technologies of training-means the way, form and means of a person to work with a huge amount of information.

The main goal of the development of the distance education system is to provide the general public with the opportunity to gain knowledge, access to information and increase their own knowledge. The distance education system provides the basis for the learner to receive basic and additional knowledge and education in a particular specialty. The distance education system complements the types of full-

time and part-time education that are still practiced in the present period in content, and also contributes to the development of continuing education, ensuring the harmonization of various structures in the educational system.

In the distance education system, training in higher professional education is carried out in the form of teaching subjects of different levels.

The first basic level of distance education consists of the sum of the disciplines that provide the necessary level of theoretical training. As a result of mastering the subjects belonging to the first level, the learner acquires elementary theoretical knowledge of the corresponding specialty. The field of application of knowledge at the first basic level:

- vocational guidance of Secondary School students;
- adaptation to the environment of the distance learning system;
- it consists in meeting the educational needs of the population.

At the second primary level of distance education, educational subjects are studied that provide incomplete higher education. The subjects at this level include the complex of socio-humanitarian and Socio-Environmental Sciences, the complexes of Exact and socio-economic sciences. The third professional degree includes undergraduate-sized subjects. After studying, a bachelor's degree is awarded.

At the fourth special level of the distance learning system, special professional disciplines are studied that ensure that the learner has professional skills. At the end of the study, the graduate is awarded a master's degree in specialist degree.

The main tools of distance education can include printed publications, computer training systematic complexes of volumetric and multimedia variants, audio educational-informative materials, distance laboratory workshops, educational apparatus, electronic libraries, didactic materials based on the e-Learning System, Computer Networks.

Conclusion and recommendations (conclusion/recommendations).

The concept of establishing and developing a distance education system in Uzbekistan is based on the level of social significance of distance education in the Republic.

Based on the definitions analyzed above, we note that distance education refers to the provision of services for education in the medium of an informational educational environment to the population of any distance from an educational institution.

The informational educational environment is a systematic software aggregate of Information Resources, statements of interaction, software-hardware and organizational-methodological tools aimed at meeting the educational needs of the user.

Virtual experiment systems are software complexes that allow a student to experiment in a "virtual laboratory". Their main advantage is that they allow the student to conduct experiments that are impossible for safety reasons, due to time characteristics, etc.the main disadvantage of such programs is the natural limitation of the model inherent in them, from which the student cannot go beyond within the framework of a virtual experiment.

The use of Internet resources in the study of new material in the lesson makes the lesson more interesting, the student's motivation to acquire knowledge increases. On the internet, you can find thematic sites in all subjects of the school course, task books with detailed solutions, tests, theses, models of various experiments.

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