

## CAMPUTER TECHNOLOGY IN BIOLOGY

**Rustamov Abubakrsiddiq Muhammadjon o'g'li**

*A student of the 11th grade of the specialized school named after  
Abu Ali ibn Sino, Almazar district, Tashkent City*

**Abstract:** *Which are the applications of microcomputers in biology today? Some areas where the work with microcomputers is becoming increasingly important are considered: laboratory applications, event simulation and word processing. Almost all laboratory computer applications can be described as one of the following functions: 1. control of experiments, including timing and synchronizing external voltages; 2. data acquisition, usually through digital conversion of analog electrical signals; 3. data storage and, 4. data analysis. Event simulation is considered both as a research tool and as an important element in the educational area. Word processing and the automatic creation of literature references lists is considered as an ignored role of the microcomputers in the laboratory field. What about the influence of biology in computer technology? As specialized magazines say, many laboratories of biotechnologist are working hard to build a molecular computer. That is, an artificially designed ultramicroscopic machine built of proteins, nucleic acids, metals and non-metals in a planned arrangement. And this is not the end. The latest application able to expand our horizon in the biological field may be starting to be used at this moment.*

**Key words:** *computer, technology, academic performance Biology is the study of life. It entails what life needs to survive, what makes life possible and how life forms interact with each other.*

Computer Technology and Programming is the science of computer use, software design, information security, hardware maintenance, repair and the establishment and management of computer networks. The aim of this Department is to educate technicians who will work in computer technologies, who are between the engineers and technicians, and who have more theoretical knowledge than the technician, and have more application ability than the engineers. An employee of these qualifications can assume leadership and management roles in some small or medium-sized businesses.

Computer Technicians are responsible to the management for the efficiency of the works. They may supervise the work of software technicians assigned to specific tasks. The technician will have a high level of application skills and will be familiar with contemporary trends in advanced information

technologies. Accordingly, the students are expected to gain skills in finding error, problem solving, decision making and process planning. In the Department of Computer Technology and Programming, most of the vocational courses are applied. In our laboratory, which consists of fast computer systems, the lessons are held with the help of projectors by using visual materials for our students to understand the subjects better and develop the applications quickly. After the lectures, the students learn how to transfer the information learned to the real life through the application and project works. Students can find the opportunity to apply the theoretical subjects they have learned through their internships in the workplace.

The students who are successful during the internships can start working in that company after the graduation. In addition, students who want to take a 4-year education on computer systems can transfer to such departments as Computer Engineering, Mathematics-Computer, Computer Education, Information Technology on the condition that they become successful in Vertical Transfer Exam. The medium of instruction of the Department is Turkish. English preparatory education is optional.

Biological computers use biologically derived molecules such as DNA and/or proteins to perform digital or real computations. The development of biocomputers has been made possible by the expanding new science of nanobiotechnology. The term nanobiotechnology can be defined in multiple ways; in a more general sense, nanobiotechnology can be defined as any type of technology that uses both nano-scale materials and biologically based materials.[1] A more restrictive definition views nanobiotechnology more specifically as the design and engineering of proteins that can then be assembled into larger, functional structures. The implementation of nanobiotechnology, as defined in this narrower sense, provides scientists with the ability to engineer biomolecular systems specifically so that they interact in a fashion that can ultimately result in the computational functionality of a computer.

Since biology is one of the natural sciences, it is more effective to use natural objects to master biology. It can be seen from this that if the student sees with his own eyes the information he has read in the book, the information he has seen on the slide, the understanding he has in the tests he has worked on, the ability of the student to learn will increase by two times.

The third component of the content of biological education is creative activity experiences, and in order to develop this activity, first of all, it is necessary to develop independent and creative thinking skills in students. Thought is a spiritual-human quality that constitutes human activity, his own

strength, power and knowledge. Since the development of thought is the main driving force of socio-economic development, it is necessary to develop students' independent and creative thinking skills in the process of teaching biology. In order to develop students' independent and creative thinking skills in teaching biology, the teacher should first of all: - create educational tasks for students to work independently in class, prepare instructions for conducting experiments and observations in order to study biological objects, seasonal changes in nature; - taking into account the interests of students, it is necessary to choose additional literature and multimedia for their independent education; - to develop independent and creative thinking skills of students, it is necessary to use developmental educational technology in the educational process. In developing students' creative thinking skills, the teacher can use the components of creative thinking, in particular, the skills of independent thinking.

It should be noted that it is impossible to form and develop creative thinking skills in students without developing the skills of independent thinking. Students should be able to analyze, compare, divide the studied object into components, synthesize, imagine cause-and-effect relationships, generalize and draw conclusions, which are methods of mental activity when acquiring creative activity experiences.

### REFERENCES:

1. 5. Tolipova J, Isabayeva M. Biologiyani o'qitishning umumiy metodikasi. Ma'ruzalar matni. –Qo'qon, 2019. 6. N.M.Abdurahmonova. Biologiya fanini o'qitishda innovatsion ta'limning afzalliklari va uning imkoniyatlari. 1-3 betlar. <https://kopilkaurokov.ru>
2. 7. N.Reyimbayeva. Biologiya fanini o'qitishda yangi pedagogik texnologiyalarning amaliy ahamiyati. <https://megaline.uz>
3. 8. D.R.Iminova Biologiya darslarida o'yinli ta'lim texnologiyalaridan foydalanish. 19-20 betlar.