Possibilities and normative bases for involving students and young people in scientific research activities in our republic

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ABSTRACT

In our republic, large-scale measures are being implemented to improve the scientific potential of pedagogical teams by reforming the education system, raising the training of scientific personnel to the level of modern requirements, and attracting creatively-minded, talented young people to scientific research activities. The government of Uzbekistan considers education to be a priority area for all stages of reforms. The main link in education is science and its continuous development. Therefore, the main component of the national personnel training model is: science - training highly qualified specialists and their users, developing advanced pedagogical and information technologies.

Keywords: scientific potential

In our republic, large-scale measures are being implemented to improve the scientific potential of pedagogical teams by reforming the education system, raising the training of scientific personnel to the level of modern requirements, and attracting creatively-minded, talented young people to scientific research activities. The government of Uzbekistan considers education to be a priority area for all stages of reforms. The main link in education is science and its continuous development. Therefore, the main component of the national personnel training model is: science - training highly qualified specialists and their users, developing advanced pedagogical and information technologies.

Therefore, it is necessary to revitalize the work of directing young people to scientific research activities in current higher educational institutions, to train highly qualified personnel in educational areas, especially to develop their scientific and creative approach to each work, the competences to apply the received innovations, and to ensure the integration of science, education and production.Talabalar oliy ta'lim muassasasidagi tahsili vaqtida o'quv rejasidagi fanlardan kurs loyihalari, ilmiy referatlar, ilmiy anjumanlarda ma'ruzalar, bitiruv malakaviy ishning bajarilishi qoidalari, ularning rasmiylashtirilishiga qo'yilgan talablar bilan tanishadi.

From the first days of study, students are introduced to the activities of specialist departments, are involved in acquiring research skills and qualifications in the scientific research areas of the department on the basis of the mentor-student system. In particular, they are required to actively participate in student business forums, republican and foreign

scientific conferences and seminars, and scientific circles.

The subject "Fundamentals of Scientific Research" plays an important role in obtaining high biological knowledge for students. Scientific research is the main form of development and progress of science. It is distinguished by the consistency and sequence of scientific representation of biological processes. Any scientific research is characterized by the organization of a targeted specific study. Therefore, biological scientific research is carried out by a person using various methods in moving from the unknown to the known. Solving new scientific problems requires the creation of methodological methods for applying new knowledge [3].

Freedom of scientific creativity, engagement in scientific research activities, development and support of scientific activity in our republic are based on a number of regulatory documents.

Article 42 of the Constitution of the Republic of Uzbekistan states: “Everyone is guaranteed the right to freedom of scientific and technical creativity, the right to use cultural achievements. The state takes care of the cultural, scientific and technical development of society.”

Relations in the field of science and scientific activity in our republic are regulated on the basis of the Law of the Republic of Uzbekistan No. O’RQ-576 “On Science and Scientific Activity”, adopted on October 29, 2019.

According to it, the main principles of the field of science and scientific activity are:

scientific creativity and freedom of information;

efficiency and creative competition;

interest and encouragement;

objectivity of scientific expertise;

human life and health, and the environment.

Article 11 of this law is entitled “Attracting young people to science and scientific activities” and provides for:

development of relevant state programs;

taking appropriate measures to identify, select, and educate talents in educational organizations;

establishing specialized schools, boarding schools, special classes, centers, and training courses in relevant areas;

focusing on the effective application of knowledge acquired during the educational process in everyday life and professional activities;

organizing and encouraging various competitions among students;

is carried out by sending them to leading foreign scientific organizations and educational institutions for master's and doctoral programs, advanced training, and experience acquisition, and in other ways [4].

Scientific associations of young scientists in scientific organizations and educational institutions, production and other sectors are supported by the state.

Scientific organizations and oil educational institutions should create appropriate conditions for young scientists and students to conduct scientific activities.

The US higher education system is based on 2-4 years of study at a college or university. The first stage - college education - consists mainly of general training, and research work is usually not distinguished as a separate form of activity. At the same time, at the initial stage, special attention is paid to the formation of independent work skills necessary for the implementation of ITF (scientific research activity). At the second stage of training - at the university - the implementation of ITF by students is a mandatory part of the educational process. At this stage, students are taught methods of research, analysis, synthesis. Training is mainly carried out according to individual plans. There are two specific directions: production activity and research work. In the second case, extensive theoretical training is carried out without practical areas and production practice, lectures are given only on fundamental areas. The rest of the time, students are engaged in educational work in research groups. The second stage ends with writing a dissertation based on the results of a small scientific study [5].

In the USA, a special form of involving students in the ITF is widespread - participation in the implementation of projects under the programs of the National Science Society. When a project submitted by a group of students is approved, they are provided with the necessary

equipment, conditions for working on the project are created, and its members are awarded a scholarship. Practice shows that such groups successfully solve the assigned tasks and sometimes find very original solutions.

The second distinctive feature of the organization of student ITFs in the USA is the active participation of private companies in financing scientific research, the cooperation of universities with industrial enterprises, the large number of research organizations where teachers, students and postgraduates work, and design institutes independent of the university administration [6].

France also recognizes the priority role of universities in fundamental and applied research. Having created a three-level structure of "license - master's degree - doctorate", French universities pay special attention to the development of practical training of students for scientific and research activities.

Since 2002, higher education in France has been carried out in two equal directions: research and professional.

Research activities carried out in the first stage of higher education are mainly academic, but also serve as a basis for the transition to the second year of study. Starting from the second year, French master's students in the research direction of the master's degree join a specific doctoral school. Their duties include participation in interdisciplinary seminars and participation in all educational events of the doctoral program. The following forms of work of research schools are distinguished: A) seminars held together with master's students from other universities; B) seminars with supervisors; C) master - researcher days; D) work with scientific supervisors and doctoral students in mixed groups.

For the implementation of individual educational research, a special (collective) organization of students' work is characteristic (relevance, topic, hypothesis, research goal, etc.) in accordance with all the standards of scientific research (when carried out by a group of several people). In this case, the results of the study are compiled in the article, in some cases - in a co-authored educational monograph in accordance with all the requirements for the design of works of this type [1].

As E.I. Brazhnik and L.I. Lebedev noted in their articles, this practice of training master's students exists at the universities of Amiens, Nantes, Cannes and Paris. The structure of the master's program includes four modules: A) a module of theoretical knowledge in research methodology; B) a module of special disciplines; C) a module of courses for student selection; D) a module for preparing a master's thesis.

In UK universities, the involvement of students in scientific work begins in the first year, but the main ITF is carried out in student research groups at the second stage of the university. For example, at the University of Manchester, its usual composition is 8-10 students, 3-4 postgraduate students and a supervising university teacher. Each department publishes a list of scientific topics that correspond to the interests of researchers and the capabilities of available equipment. At the University of Cambridge, students carry out 30-70% of all research and experimental work [8].

The research activity of German universities is based on the concept of higher education of W. Humboldt, which emphasizes the combination of academic and scientific work in the educational process. One of the main ideas of teaching at such a university is to teach students to think and familiarize them with the basic principles of scientific research. The university course is divided into two stages: the basic (3-4 semesters), according to the results of which a bachelor's degree is awarded, and the main (basic) diploma, academic bachelor's degree, master's degree or state exam is awarded, and the main (4-6 semesters), ending with the completion of the state exam. The main research work of the student is carried out within the framework of studies at the master's degree. The following forms of organizing ITF for master's students are presented: A) interdisciplinary theoretical seminars; B) participation in doctoral colloquiums; C) practical seminars. Participation in the listed scientific activities is mandatory for students and is encouraged by credits under the European Credit Transfer System (ECTS).

Scientific research is the process of acquiring new scientific knowledge, one of the types of cognitive activity. Involving students in scientific research activities serves to meet the need to provide our republic with scientific and pedagogical personnel.

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