

## The Conditions and Legal-Normative Foundations for Directing Students Towards Scientific Research Activities

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**Annotation:** This article focuses on the legal and regulatory foundations for directing students towards scientific research activities, the conditions being created for engaging in scientific research, and the characteristics and principles of directing students towards research activities.

**Keywords:** Higher education, concept, principle, scientific activity, scientific research, hypothesis, theoretical source, law, curriculum, transparency, bachelor.



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**Introduction.** In directing students towards scientific research activities, along with laws, regulatory documents, and state policy, the implementation of the credit-module system in the modern educational process creates an important platform for enhancing the scientific potential of specialists who meet the qualification requirements, engaging them in the research process, and integrating theoretical knowledge with practical experience.

In his book “Yangi O‘zbekiston taraqqiyot strategiyasi” Sh.M. Mirziyoyev emphasizes that the following priority tasks in the development of science must be implemented in recent years. One of these tasks is to create necessary conditions and incentive mechanisms for students in bachelor's and master's programs at higher education institutions to engage in scientific activities, work with doctoral students, monitor the research they are conducting, and improve mechanisms to ensure timely defense of their work. [1.227 p]

**Literature review.** Currently, many legal and regulatory documents have been approved for the development of students' scientific research activities. The “Law on Science and Scientific Activity” of the Republic of Uzbekistan, the “Concept for the Development of Higher Education in Uzbekistan until 2030,” the “Concept for the Development of Science until 2030,” the “Regulations on the Introduction of the Credit-Module System into the Educational Process in Higher Educational Institutions,” State Education Standards, and qualification requirements for bachelor's programs have formed the basis for organizing the educational process and guiding students' scientific research activities through a systematic approach. This provides opportunities to enhance scientific potential, integrate theoretical knowledge with practice, and engage students in scientific research.

**Research Methodology.** The article systematically examines the process of guiding students towards scientific research activities, acquiring knowledge and skills that meet qualification requirements, integrating theoretical knowledge with practice through the credit-module system in the modern educational process, and developing scientific research activities. Additionally, methods and tools aimed at optimizing the educational process to expand student potential and advance scientific research are discussed. Overall, various methods for stimulating students' interest in scientific activities and utilizing knowledge through different approaches are debated.

**Analysis and results.** The second chapter of the “Concept for the Development of the Higher Education System of the Republic of Uzbekistan until 2030” is titled “Current State and Existing Issues of the Higher Education System.” The chapter states that currently, there are 114 higher education institutions in the country, of which 93 are local and 21 are foreign higher education institutions and their branches. [2]

The number of students studying at higher education institutions in the Republic is 410,000 in bachelor's degree programs and 13,000 in master's degree programs, which has increased 1.7 times over the last 3 years.

54.8% of students are studying in the fields of humanities and pedagogy, 25.2% in production and technical fields, 5.2% in social sciences, economics, and law, 5.9% in agriculture and water management, 4.4% in healthcare and social security, and 4.5% in service sectors. [2]

Based on the evidence provided in the Concept, it is important to emphasize that in order to systematically organize the work of directing students to scientific research at higher education institutions operating in the Republic and the students studying there, it is necessary to organize the educational process for bachelor's degree students based on scientifically grounded requirements.

The Concept outlines the following actions to increase the effectiveness of scientific research activities at higher education institutions, engage youth in scientific activities, and develop the innovative infrastructure of science:

- Enhancing the effectiveness of spiritual-educational and moral work;
- Actively involving stakeholders in the process of training highly qualified specialists;
- Ensuring the financial independence and sustainability of higher education institutions, strengthening their material and technical support;
- Systematically developing higher education institutions and improving management activities;
- Implementing effective mechanisms to combat corruption and ensure transparency;
- Increasing the investment attractiveness of the higher education system, ensuring international recognition, and maintaining its competitiveness. [2]

The conditions for directing students to scientific research activities are widely discussed in books and scientific articles. Below are the necessary conditions for the implementation of this process:

1. **Creating scientific and creative opportunities in the education system:** In order to direct students to scientific research activities, it is necessary to establish scientific centers, laboratories, scientific clubs, and creative teams at educational institutions. These conditions provide students with the opportunity to conduct research and apply the results in practice.
2. **Teaching scientific methodology and research methods:** Students need to learn the methodology of scientific research to begin their scientific activities. It is essential to organize special courses and seminars in higher education institutions to teach scientific research methods, manage scientific investigations, and analyze research results.

3. **International scientific cooperation and internships:** Engaging students in cooperation with international scientific organizations and universities, as well as conducting scientific internships, helps enhance their scientific skills. Participating in international scientific conferences and scientific projects provides students the opportunity to join the global scientific community.
4. **Incentive mechanisms for scientific activities:** Incentive mechanisms play a significant role in directing students to scientific research activities. These mechanisms include scientific awards, scholarships, grants, and competitions held within scientific projects. These processes help engage students in scientific activities and increase their motivation.
5. **Supporting scientific activities:** It is important to create conditions for students to engage in scientific activities and provide opportunities for participation in scientific projects. Additionally, publishing scientific articles and introducing research results to the public enhances students' scientific status.

In his scientific work, B.V. Pershutkin identifies three main tasks of fundamental education for researchers. "The first is to provide optimal conditions for developing versatile and adaptable scientific thinking. The second is to create the foundation for mastering the scientific information base and studying the modern methodology for understanding real life. The third is to shape the individual's internal need for self-development". [3] In this context, it is crucial to ensure that the educational process not only provides scientific knowledge but also equips students with the ability to apply this knowledge in practice and fosters an internal motivation for self-development.

In the higher education institutions of the Republic of Uzbekistan, there is a special regulation that defines the procedure for students' internship, which aims to integrate scientific and practical activities, develop students' professional skills, and increase their interest in scientific research. According to the provisions of the regulation, students are provided with the opportunity to understand how to apply theoretical knowledge in practice and test theoretical knowledge in real-life conditions through practical experience. The internship is an essential tool for guiding students into scientific research, as it creates opportunities for them to apply theoretical knowledge, test scientific methods, and develop professional skills. In the initial phase of the internship, students familiarize themselves with the areas of activity, which helps them understand the organizational and social environment necessary for scientific research. In the main phase, students acquire the required skills for scientific and practical activities by conducting scientific research, experiments, and performing practical tasks. In the final phase, the results of the work are analyzed, and the evaluation process, along with additional advice from the internship supervisor, helps form an effective approach to scientific and practical activities. The internship helps students develop skills such as applying scientific methods in practice, analyzing results, and drawing scientific conclusions, which enhances their interest and motivation for scientific and practical activities.

The second chapter of the Law of the Republic of Uzbekistan "On Science and Scientific Activity" is titled "Regulation of the Science and Scientific Activity Sector," and Article 11 of the chapter is titled "Engaging Youth in Science and Scientific Activity," which includes the following:

To engage youth in science and scientific activity, the government supports the identification and nurturing of talents in educational institutions, organizing scientific competitions, sending students for advanced training to foreign scientific organizations and educational institutions, and creating the necessary conditions for young scientists and students to develop scientific activities. [4]

The "Concept for the Development of Science until 2030" emphasizes the importance of creating the necessary conditions for scientific research in higher education institutions to direct bachelor's

degree students towards scientific research activities. It includes engaging students in scientific projects and grant programs, encouraging their participation, and providing opportunities to participate in international scientific conferences and symposia. Additionally, it is essential to organize scientific internships, advanced training courses, and research centers, as well as expand opportunities for obtaining academic degrees. This will create conditions for students to develop their scientific potential and enhance their knowledge and skills in modern scientific and technical fields. This, in turn, will increase their interest in scientific research and lead to greater involvement in scientific activities.[5]

The Appendix to the Resolution of the Cabinet of Ministers of the Republic of Uzbekistan dated December 31, 2020, No. 824, titled “Measures to Improve the System Related to the Organization of the Educational Process in Higher Education Institutions,” includes the Regulations on the “Implementation of the Credit-Module System in the Educational Process of Higher Education Institutions.” In Chapter 2, under the section on key concepts, a specific definition is given for the educational program.

The educational program is designed to implement the educational process in the bachelor’s degree or master’s specialization. It includes the main characteristics of education (volume, content, planned outcomes), organizational-pedagogical conditions, general requirements for the subject programs, as well as the set of information resources and educational-methodological guidelines necessary for organizing and implementing education. [6]

When organizing the educational process in higher education, it is crucial to apply the aspects outlined in the educational program to the process. Therefore, it becomes clear that in conducting our scientific research, we need to study the aspects that should be emphasized when developing subject programs. In the development of students’ scientific research activities, it is essential to incorporate topics that will direct students towards scientific research activities into the subject programs. This should be done based on the educational program and the subjects relevant to the specialization.

According to the state educational standards, directing bachelor’s degree students towards scientific research activities is achieved by incorporating research-based practices into the curricula and programs. This process encourages students to develop scientific-methodological competencies, conduct independent research, and build practical skills.

In addition, the qualification requirements for the Bachelor’s degree program in Pedagogy and Psychology include the ability of the graduate to perform the following tasks in scientific research activities:

- The ability to conduct scientific research and obtain new scientific and practical results;
- Proficiency in using modern research methods and methodologies, theories and concepts related to education, and advanced practices;
- Conducting research on subjects related to the teaching methodology and subjects in educational fields at research institutes and scientific centers;
- The ability to search and find information about the latest scientific achievements on the internet in a targeted manner;
- Studying scientific collections related to subjects in educational fields, as well as local and foreign scientific-research achievements;
- Participating in the preparation of scientific research papers and the expert review of field literature;
- Collecting, reprocessing, and systematically analyzing scientific data on the topic;

- The ability to implement research results and developments. [7]

In her guide titled “Methodology of Professional-Pedagogical Research,” Shipilina Lyudmila Andreevna emphasizes that the quality of future teachers' preparation for scientific research activities is evaluated based on their university education level—bachelor’s and master’s degrees—and the development of scientific research activities. For bachelor’s students, she highlights the following:

- Interest in academic and scientific activities;
- Knowledge of the conceptual and terminological apparatus of professional pedagogical research;
- Understanding the logical structure and creative core of professional pedagogical research;
- Knowledge of the content and principles of planning and conducting professional pedagogical research;
- Familiarity with scientific and scientific-practical pedagogical research methods;
- The ability to address pressing issues in vocational education practice;
- The ability to find, select, and work with theoretical and empirical sources;
- Skills in practical research activities: formulating the research topic, hypothesis, goals, and objectives, creating bibliographies, making excerpts, systematizing collected materials, conducting analytical analysis of studied sources, presenting personal evaluations and reflections, etc.;
- Experience in individual or team project activities;
- Mastery of basic pedagogical and psychological diagnostic methods;
- The ability to formalize and justify research results. [8.33 b]

From the above, it is clear that it is very important for students to know how to plan and carry out pedagogical research, formulate the research topic, hypothesis, goals, and objectives, create bibliographies, make excerpts, systematize collected materials, conduct analytical analysis of studied sources, present their evaluations and reflections, as well as search for and generalize theoretical and empirical sources.

In conclusion, the development of students' research activities is an important priority. In this regard, it is considered appropriate to engage students more broadly in scientific activities and to achieve the formation of an innovative infrastructure for science when creating educational programs in higher education institutions based on the curriculum.

## BOOKS

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