

PREPARATION FOR THE ORGANIZATION OF SCIENTIFIC RESEARCH WORKS IN STUDENTS OF PEDAGOGICAL HIGHER EDUCATION INSTITUTIONS

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Abstract. *In this article, the necessity and possibilities of developing the organization of scientific research work of students during the educational process in pedagogical higher education institutions are highlighted. Students of pedagogical higher education institutions can gradually apply theoretical knowledge in the field of science and develop research skills. The organization of scientific research works is the system of scientific research works performed by students of higher educational institutions, it is said that scientific research works are mainly carried out in pedagogical and educational directions related to the profession.*

Keywords: *pedagogical, scientific research, higher education, activity, problem, education, science, student, skill, teaching, technology, criterion, technique.*

Introduction. At a time when techniques and technological processes have developed in the world, training of highly qualified and competitive specialists is one of the important and urgent issues for our country, which is striving to take a worthy place in the world community.

On the basis of science, technology and technology, it is planned to train specialists who are independently creatively active in socio-political life, capable of achieving their goals, foreseeing the future and promising tasks, and capable of solving them rationally.

In the system of higher education operating in our republic, attention is being paid to the training of free and independent thinking, organizing, knowledgeable, initiative and strong-willed specialists. In this regard, scientific researches of theoretical and practical importance are being carried out. Here, the role of scientific laboratories is of special importance.

Research carried out in higher education institutions is focused on the solution of existing problems. In the process of pedagogical higher education, it is distinguished by the expediency of carrying out the educational process simultaneously with scientific research work and in connection with each other, rather than acquiring only existing knowledge and then engaging in science.

In the new edition of the Law of the Republic of Uzbekistan "On Education", training of highly qualified and cultured personnel capable of independent activity and independent decision-making is defined as one of the main tasks in the higher education system [1].

In the decree "On approval of the concept of development of the higher education system of the Republic of Uzbekistan until 2030" signed by President of the Republic of Uzbekistan Sh.M. Mirziyoyev on October 8, 2019: the public under the Ministry of Higher and Secondary Special Education of the Ministry of Higher and Secondary Special Education of the Republic of Uzbekistan and the State Inspectorate for Quality Control of Education under the Cabinet of Ministers. The proposal to establish the Republican Council of Higher Education in the form of a non-governmental non-profit organization on the basis of the Council and the Council of Rectors

of Higher Education Institutions of Uzbekistan was approved. We can recognize these tasks as important tasks of training personnel with research competence in the higher education system [2].

We can see that the role and place of the teacher is very important in the organization of educational work at the level of today's and future requirements at each link of the continuing education system. The reason is that, no matter how perfectly developed educational and methodological complexes (curriculum and science programs, state education standards, textbooks, study guides, teaching tools, didactic materials, etc.), without qualified and experienced pedagogues, it is impossible to practice the formation of practical skills for students. We can see that it cannot be applied.

Since our society has entered the 21st century, it has been taking on important tasks. This poses the problem of improving the literacy of an active participant of this century in the direction of working with information according to the requirements of world standards. Today, it is no secret to anyone that without a creative approach to the study or management of any phenomenon and process, it is not always guaranteed to be able to choose the optimal option for achieving the desired goal. This is related to modern knowledge, which is a product of human thinking. Since the development of science is a product of the scientific and creative activity of mankind, through this activity, people find, assimilate, systematize scientific knowledge and use it in further activities.

Today, every person in our country lives under the influence of the progress of science and technology. It is also characterized by the fact that techniques and technologies are improving and developing day by day, hour by hour, and even minute by minute, and as a result, there is a need to train qualified specialists accordingly. If science, creativity in general, from the research and technical solutions of scientific research work to the application of the obtained results in practice (in production, education, training, art, etc.) will have successfully completed its task. The pace of scientific-technical, social development, efficiency and quality improvement in various spheres of human activity largely depends on the extent to which each member of society can implement a research approach to solving constantly emerging scientific and practical problems will be. Therefore, as one of the most serious reserves of training highly qualified and mature specialists, life forces us to increase the intellectual potential of our youth. In this regard, it is necessary to significantly organize the scientific research abilities of students of higher educational institutions through more active and purposeful development. Development of research ability is not only a goal, but also a means of developing a well-rounded person. One of the criteria for evaluating an all-around mature and well-developed person is the level of a person's ability to demonstrate a creative, research approach to a specific issue. In the process of carrying out such important work, a person finds opportunities for self-expression, satisfies his spiritual needs and creates values of social importance.

Scientific research work of students in a higher educational institution, in turn, requires them to acquire deep and solid knowledge. It is impossible to have a creative approach to practical work, to carry out educational research and scientific research without independent and thorough knowledge.

Methods.

At the current stage of the development of pedagogic science, it is necessary to clearly define the methodology of pedagogic science as a system of private knowledge, not limited to the solution of specific topical methodological issues. First, it ensures the reliability of pedagogical

theories, and on the other hand, it shows that it is impossible to effectively organize and conduct pedagogical research without methodological knowledge. In the creative process, today there are different approaches to the methodology of pedagogy, its subject, and we will try to briefly explain their essence.

Methodology as a separate science performs two functions: descriptive (expressive) and prescriptive (normative). The first one aims to express the object theoretically, and the next one creates conditions for the researcher to get a clear goal. The existence of these two tasks requires the pedagogy methodology to be divided into two groups - theoretical and normative.

The following can be included in the theoretical methodology of pedagogy:

- ▶ definition of the concept of "methodology";
- ▶ general description of science methodology, its levels;
- ▶ methodological knowledge and activity as a system;
- ▶ sources of methodological support of research activities in the field of pedagogy;
- ▶ methodological analysis of the object and subject of pedagogical research.

The normative framework covers the following questions:

- ▶ scientific substantiation of aspects of pedagogy that are different from other forms of spiritual transformation of objective existence;
- ▶ determining whether work in the field of pedagogy is in accordance with the fundamental principles of science;
- ▶ clarity of purpose;
- ▶ allocation of a special research object;
- ▶ use of special knowledge methods and tools;
- ▶ the same use of terms;
- ▶ systematization of pedagogical researches;
- ▶ research rationale: problem, topic, its relevance, research object, subject, goals and objectives, hypothesis, protected circumstances, scientific innovation, scientific-practical importance;
- ▶ the structure and logical sequence of pedagogical research;
- ▶ system of pedagogical sciences, their interaction.

The directives and regulatory documents adopted on the research problem also form the normative basis of the methodology. From a philosophical point of view, methodology is considered as a system of principles and methods of organizing theoretical and practical activities, as well as a doctrine (theory) about this system. More precisely, the subject of methodology is a theory about the organization of activity.

Result. In the system of pedagogical higher education, integration processes are of great importance in the organization of students' scientific research work, and it means the interconnected development of various fields of science, their integration into a whole, and their integration. The integrated process, based on purposeful orientation of students to scientific research work in the educational process, allows for the expansion of the scientific capabilities of the departments of higher educational institutions in a short period of time. In today's developing era, the development of the integration of science and education depends on many aspects of research. Scientific research works of students in pedagogical higher educational institutions are mainly carried out in pedagogical, educational and educational directions related to the profession. Its main tasks are:

- to develop students' interest in research activities, creative research, to develop the skills of a scientific approach to educational work;

- formation of educational research skills and qualifications in the process of studying blocks of specialization and other subjects;

- developing the ability and skills to study and analyze literature and other scientific sources;

- acquisition of skills and qualifications to be able to see problems in the field of educational and educational work with students, as well as to perform scientific research in this field;

- to learn the methods of scientific research and learn to apply them in practice.

Scientific research works performed by students are organized in two directions: first, research works related to educational activities, that is, educational research works;

the second, scientific research works related to the scientific directions of the departments.

Research studies related to educational activities include:

- study and critical analysis of scientific literature and sources, Internet information, works of domestic and foreign scientists, as well as literature on scientific research methodology and methods;

- collecting and preparing materials for experiments and experiments for practical training in educational subjects;

- preparation for laboratory training and research related to its implementation;

- educational research related to the study of special courses and seminars;

- preparation of abstracts, documents and lecture texts based on collected research materials;

- conducting individual and collective research on educational tasks during pedagogical, production and field practices, during educational expeditions;

Scientific research works of students related to scientific research directions of departments include:

- students' work in scientific (science) circles. In circles, students learn to choose a topic, compile a bibliography, learn scientific knowledge methods and research methods, prepare scientific documents and lectures based on literature, the Internet and other sources, make presentations about their research work, discuss scientific problems, and participate in debates participation;

- participation in scientific works performed by teachers of the department, senior scientific staff, as well as in research works conducted by enterprises, scientific methodical institutions of the public education system;

- participation in archaeological, ethnographic and other expeditions conducted by scientific research institutions;

- participation in work in construction bureaus, research works conducted on the basis of a grant, contract;

- construction of tools, technical means of education, making instructional weapons, studying the scientific organization of labor in collective farms, educational institutions;

- participation in contests and Olympiads based on the results of his scientific research;

- preparation and defense of graduate theses, master's theses, preparation of scientific articles, pamphlets, publication, etc.

Discussion.

Currently, in this period of rapid development of technologies, the research carried out in higher education institutions is focused on the solution of existing problems. Here, the role of scientific laboratories is of particular importance. In today's age of information technologies, in the process of higher education, it is not necessary to acquire only the existing knowledge and then engage in science, but to carry out the educational process simultaneously with scientific research works and in an integral connection with each other is appropriate. Because the educational process organized using information technologies is based on a lot of information, the student will not be able to absorb all the information or information and will not have the opportunity to systematize them. Therefore, the future specialist cannot approach his work with high interest and aspiration until his knowledge level is perfect. When education is combined with the process of scientific research, in order to ensure the accuracy and reliability of the results of the scientific research that the student is participating in or conducting, in order to independently master the existing information and the chosen field of interest, all tries to use the opportunities as much as possible. Research work encourages the student to develop a sense of responsibility and discipline in completing the tasks set before him. In order to organize the integration of the educational process with science at a high level, first of all, it is appropriate to pay attention to the condition of educational and scientific-problem laboratories and the content of the research conducted in them. The main focus is to focus on the student's interest in this activity and the ability to develop the necessary skills, for which the research and scientific research that is and should be conducted in scientific laboratories will include more local problems. should be. Therefore, the student pays more attention to the research that is conducted in a way that is related to the solution of the problem that he has encountered and will face. Such processes are considered to be one of the main criteria for organizing the integration of education and science. The goals and objectives of the statement of scientific research results are to popularize news and information in this direction.

As a result of this, the conclusions obtained from the scientific research work are brought to the attention of representatives and specialists of the field, and it is possible to determine the effectiveness of the work through the reported relations and to supplement it with new information in necessary cases. Scientific works are diverse, they are created as a result of research in various disciplines and begin to serve to study the general laws of objective things and phenomena in society and nature. In fact, science studies not random events, but scientific hypotheses, problems and laws, their place and status in science. Due to this, scientific literature is distinguished by the wealth of evidentiary materials and the truthfulness of the analysis.

Conclusion.

In conclusion, it can be said that there is a need and opportunity to develop scientific research of students during the entire process of training specialists at different levels of education, solving various problems in pedagogical higher educational institutions. The advantage of the proposed approach is that students can gradually apply theoretical knowledge in the field of science to practice, develop research skills.

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