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OPPORTUNITIES FOR THE FORMATION OF RESEARCH SKILLS IN STUDENTS OF HIGHER EDUCATIONAL INSTITUTIONS

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ABSTRACT

The current stage of development of higher education implies a qualitative change of approaches to the definition of its content, as well as the forms of teaching and learning and research activity of students. This is due to the formation of a new paradigm of higher education, which is based on the idea of the creative personality of the student. This article deals with the preparation for the research activity of the future teachers of vocational training in the education process.

KEYWORDS

Training, research, the process of vocational education teacher, Development, principle, skill, of functional-active approach.

INTRODUCTION

In the process of today's globalization era, it is important for a person to create innovations in his daily and professional activities, develop new innovative ideas, choose an effective direction in various unexpected situations, and make rational decisions. If we observe the development trend in all areas, we can see the rapid development of new inventions,

optimized processes, rapid rejection of innovations, and a rapid increase in the level of competition in this area. The basis of all this is the human factor, the product of thought, its creative qualities. In this regard, the development of the personal and creative competence of students, who are the main participants in the educational process, in the

innovative improvement of the educational system, its goals and objectives, which is considered the most important for the development of society, is of urgent importance.

Research aimed at directing future teachers to scientific and research activities is being carried out on a large scale in the world today. In particular, a number of research centers and higher education institutions operate at the Graduate Studies School (SGS) at the University of Toronto in Canada, the Lawrence Berkeley National Laboratory (LBNL) at the University of California, Berkeley in the United States, and the Max Planck Institute in Germany to train students in creative and critical thinking by directing them towards research and developing their scientific research competencies.

In the context of the prospects for the development of the higher education system in Uzbekistan, the tasks of state support for young scientists in scientific organizations and educational institutions, scientific associations in production and other sectors, the creation of appropriate conditions for the scientific activities of young scientists and students in scientific organizations and higher educational institutions, and the involvement of young people in science and scientific activities are becoming a priority. Within the framework of the “Uzbekistan-2030” strategy, “Improving the status of teaching staff, bringing their knowledge and skills into line with international standards, as well as widening the scope of innovative activities in all areas, supporting scientific research and innovation initiatives” were identified as effective tasks to be achieved by 2030[1]. This requires improving the model and technology of the process of forming the scientific and research competence of future teachers.

The methodological foundations of the problem of preparing future teachers for scientific research activities were studied by such scientists of our republic as B.Rahimov, B.Nazarova, N.Narziyeva, L.Namazbayeva. The requirements and methods of conducting scientific research are covered in the research and educational literature created by B. Alemasov, A. Rakhmanov, A.Radjabov.

The studies of scientists from the Commonwealth of Independent States (CIS) countries, including L.Chernayeva, Y.Rindina, I.Idiyatov, M.Gubaydulin, D.Semonova, and I. Fedorova, scientifically outline the components and criteria of scientific research, pedagogical issues of developing research competence, and views on the concept of competence.

In the scientific research works of foreign scientists S. Brookfield, F. Buchberger, F.Campos, G.Collier, P.Cermeli, M.Kounl, V.Hatmeycher, J.Hertij, I.Klim, Heinrich, P.Heinrich, P.Kelz, students have thoroughly studied the methodology of organizing research activities and the formation of research competencies in them.

However, the problem of forming the scientific research competence of future teachers has not been specifically studied. This requires improving the technology of forming the scientific research competence of future teachers.

In the 20-30s of the 20th century, it was understood the need and importance of instilling in the teacher a scientific attitude towards children, arming the student with research methods, as well as the expediency of conducting scientific research work in educational institutions that train pedagogical personnel. Thus,

E.Katarov noted that independent scientific research in a particular field helps to improve the teacher's qualifications, "develops the ability to correctly assess the situation without relying on the uncritically accepted opinion of others." This idea was also supported by S.T.Shatsky, who emphasized that, in his opinion, the main purpose of a teacher should be to be an organizer and at the same time a researcher in the life of children. V.A.Sukhomlinsky's opinion on the need to apply a research approach in the work of a teacher is as follows: "If you want pedagogical activity to bring joy to the teacher, then start each teacher on a fruitful path of research so that daily classes do not become boring and monotonous"[2].

Research activities of higher education students were widely introduced into practice in the 70s-80s of the 20th century. The increased attention to research activities was associated with the growth of scientific and technical progress in society and, as a result, with changes in the requirements for training specialists in higher educational institutions. Since the mid-1980s, the experience of future teachers in engaging in scientific and research activities during professional training has been intensively studied, complex tasks of an educational and research nature are being developed for practical classes, and the subject content of students' research skills is being determined.

The English concept of "competence" literally means "ability". In content, it serves to highlight "the effective use of theoretical knowledge in activities, the ability to demonstrate a high level of professional competence, skills and talent" [3].

The concept of "competence" entered the field of education as a result of scientific research by

psychologists. From a psychological perspective, competence means "how a specialist behaves in unconventional and unexpected situations, enters into dialogue, takes a new approach in interactions with opponents, performs ambiguous tasks, uses conflicting information, and has a plan of action in continuously developing and complex processes"[4].

The State Educational Standard of Higher Education defines the concepts of competence and competence as follows:

Competence is the ability to apply knowledge, skills and personal qualities for successful activity in a certain field;

Competence is the ability of a person to successfully apply the knowledge, skills and abilities acquired in a specific educational field or specialty, as well as the formed personal qualities, in his work activity[5].

Pedagogical and psychological characteristics of the formation of future teachers' research competence: it is important to strengthen communication with students, to allow them to adapt and accept innovations, to help students develop their ability to express their ideas and think critically.

The Toronto Research Center at the University of Toronto, Canada, is an important center for conducting and coordinating student research activities. One of many research and academic centers affiliated with the University of Toronto, it plays a significant role in supporting and developing scientific research internationally. The center supports student initiatives in research in fields such as natural sciences, engineering, humanities and social sciences, helps develop, manage and coordinate projects, assists researchers in providing resources, finds sponsors for

funding, organizes seminars and conferences, and provides extensive access to modern laboratories and equipment.

The center organizes educational and professional development programs for students, researchers and postgraduates, including seminars, trainings and workshops on topical topics, and collaborates with other research institutions, universities, the private sector and government organizations to implement joint projects and initiatives within the framework of cooperation. In innovation and commercialization, it supports technology transfer and commercialization of research results by helping to translate scientific achievements into practical solutions and innovative products. The Center for International Cooperation is engaged in international scientific projects and exchanges, and ensures the establishment of contacts with foreign scientific institutions and researchers.

One of the goals of my daily work is to develop research skills in students through our activities in pedagogical classes. We are responsible for teaching students methods of comparison, proof and planning, generalization and hypothesis formulation, planning and setting up experiments. Analyzing students' thoughts about the classes, we convince them that all processes leading to independent research and discoveries outside the scope of the established activities are especially interesting for them. This direction leads to the development of research skills not only in the independent work of students, but also in

- pre-prepared comments on the text, reports, lectures, conversations,
- collective thinking;

- planning research activities and experiments;
- putting forward a hypothesis, defining the goals and objectives of the study;
- working with scientific literature and Internet resources;
- collecting experimental data; analyzing, systematizing, summarizing the data obtained;
- making presentations;
- properly designing the research product. It should be noted that students engaged in research activities stand out from the rest. An important factor is that the collaboration between the professor and the students is strong, and they learn to see and formulate problems in cooperation. The method of in-depth study of problems in the field of research by students is the implementation of the methodology, obtaining a numerical result. It is not enough to fix and present the result - the student must comprehensively understand this result and develop a unique, personal attitude towards it. Working on a research problem frees the thinking of students and encourages them to be creative. The professor acts as the organizer of the form and conditions of research activity, as a result of which the student forms an internal motivation to approach scientific or life problems from a research, creative position. In the research process, the student plays various social roles. In the process of academic speeches, the student acts as a teacher, researcher at the conference and presents the results of his creative activity. In the process of participating in conferences, he has the opportunity to compare his personal achievements with other students. All this - competence in a particular field of knowledge and

interest in it, experience of creative activity, specific skills and fulfillment of various social roles - leads to the formation of the student's research experience. Competence, interest, creativity, self-knowledge - we see that research activity forms specific components of the human mind necessary for the future social and professional adaptation of students. It is in the process of research activity that most, if not all, basic competencies are formed:

1. General cultural competence
2. Educational and cognitive
3. Information
4. Communicative
5. Socio-labor
6. Personal competence.

Research activity is one of the modern methods of education, which is one of the promising forms of student activity within the framework of the modern educational process. Thus, students' research work in subjects helps them to improve their skills of independent creative work, develops the ability to carefully work with the information bank, immerse themselves in it, analyze, prove, generalize and draw conclusions, and ultimately form their own well-founded conclusions, that is, future specialists will be able to project their abilities into life situations. The result of such activity is the development of a professionally oriented, intellectually and creatively developed personality in life, capable of setting specific goals and achieving them.

At the same time, special courses organized under the scientific department of the educational institution,

circles operating on the basis of departments are also the main assistants in the formation of students' research activity. The opening of research centers in higher educational institutions of our republic, similar to the research centers operating in foreign educational institutions described above, will lead to the formation of research activities of students, which will directly lead to the discovery of new ideas and new discoveries in science.

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