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# Scientific-Pedagogical Basis Of Formation And Development Of Research Skills In Students

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## ABSTRACT

In this article, the formation of research skills is about teaching students to rationally use scientific methods related to the performance of research tasks in solving the problems of their future professional activities.

## Keywords:

Formation, development, improvement of research skills, quality education.

In the world, modern forms and methods of designing, organizing and conducting pedagogical experiments aimed at the activity, creativity, and research activities of learners are widely used as an important factor in the formation of an information-educational environment aimed at developing the creative capabilities of an individual.

In particular, the "Cooperation Strategy of the Council of Europe countries in the field of professional training of specialist personnel until 2020" regarding the quality of professional education, researched the issues of integrating research elements with collaborative training technologies.

The formation of research skills is understood as teaching students to rationally use scientific methods related to the performance of research tasks in solving the problems of their future professional activities.

If we think about the concept of "Research", scientific research is one of the types of cognitive activity, the process of creating innovations in the development of knowledge. Scientific research is distinguished

by its authenticity, reproducibility, verifiability, accuracy.

In pedagogy, "Research" is of social importance regarding pedagogical laws, principles, mechanism of teaching and upbringing, theory and history of pedagogy, methodology of organizing educational work, its content, laws, methods, and organizational forms. Expressed as the process and result of scientific activity aimed at obtaining new knowledge.

Let's define the research method here — it is a method of involving students in independent and direct observation, on the basis of which connections between existing objects, subjects and events are established, conclusions are drawn, and laws are studied.

The introduction of elements of research into education increases activity, initiative, curiosity in future teachers and develops their thinking, stimulates students' need for independent research, "Inventions", "Discoveries" and new ideas, develops their ability to "Research".

It can be seen from this that in order for a modern vocational teacher to meet such

requirements, he must have the ability to be independent, research and creative.

In pedagogical literature, the principle of research implies the organization of the educational process in such a way that students get acquainted with the main methods of research used in the subjects they are studying, master the convenient elements of research methodology and acquire new knowledge, nature and social phenomena, research it is shown that they should acquire the skills of independent achievement.

The application of the principle of research allows to increase students' ability to know and learn, and their activity to develop. The advantage of the principle of research in teaching is that the teacher can choose the object necessary for the formation and development of research skills in students and direct the teaching to it.

I. Ya. Lerner and M.N. Skatkins commented that "In order to fully master the experience of creative activity and acquire knowledge and skills at the same time, a research method that was used much earlier in pedagogical practice is necessary", and the essence of the research method is "The students' as a way of organizing searching, creative activities to solve new problems."

Every future modern specialist should be prepared for independent education and learning in such a way that they should not only know the currently available techniques and technologies, but also be able to master new techniques and technologies in a much shorter period of time and efficiently.

It should be noted that the formation and development of creativity in the future junior specialist is a special pedagogical task and requires the development of special methods for the implementation of this task.

According to U. Sadikov, it is necessary to teach students a creative approach to every issue, not just to impart knowledge, in order to train a specialist who meets the requirements of the times. The development of students' ability to think creatively depends on their interest and hobby.

A creative approach to education provides an opportunity to fully implement individualized training.

Creative work by foreign pedagogues and psychologists: D. Gilrord, E. Torrance, L. Termen, R. Sternberg, M. Vollach, Russian scientists V. Dashlova, P. Galperin, V. Kalnikova, D. Bogoyavlensky, T. Kulikova and others although the thinking is theoretically based, today researches focused on the development of methods for the development of creative activity continue.

According to D.B. Bogoyavlenskaya, creative work is an activity aimed at solving a problem situation. Creative activity means striving to overcome difficulties or problems, understanding the importance of events, processes, objects. That is, the search and finding of new solutions for a person's professional activity and satisfaction with the results is understood.

The role of research skills in preparing future vocational teachers for professional activity is important. These include theoretical study, observation, problem setting, hypothesizing, setting goals and objectives, choosing research methods, making a plan based on a hypothesis, conducting an experiment, stages of conducting an experiment, obtaining the results of an experiment, experimenting with a hypothesis It includes skills related to result comparison, theoretical analysis and generalization, practical support. Some of the mentioned ones are formed in learning the basics of science, some in the process of practice, and others through research work.

Taking into account the fact that a lot of scientific research is conducted by Russian scientists on the formation and development of research skills, we focused on their work and thoughts.

E.I. Borchuk in his dissertation research describes research skills as "The ability to conduct scientific-empirical research in various subject areas". The author states that the effectiveness of the formation and development of research skills "Provides due to the use of the invariant of educational and knowledge

activities adequate to the invariant of scientific-empirical research activity."

According to A.G. Iodko, research skills consist of a system of intellectual and practical skills of educational work necessary for independent performance of research or its part.

O.I. Mitrosh understands research skills as "Learning the methods of cognitive activity necessary to see one's own and others' pedagogical experience and solve pedagogical tasks."

Taking into account the opinions of the authors listed above, we adopted the following definition of research skills in our work.

By research skills, we understand the skills to effectively perform creative or scientific activities using scientific research methods.

In some cases, the skill of educational research is understood as "The ability to apply the appropriate methodology of the scientific method in the context of the performance of the educational research task in solving the educational problem."

In our republic, the rapid development of science, technology and technology, the reform of the education system based on the requirements of today's time, the wide introduction of advanced innovations and practical developments in professional and pedagogical education are of great importance.

In the Strategy of Actions for the further development of the Republic of Uzbekistan, "Further improvement of the continuous education system, increasing the possibilities of quality education services, continuing the policy of training highly qualified personnel in accordance with the modern needs of the labor market" is defined as a priority task.

Therefore, it is necessary to improve the process of preparing future specialists for research activities by forming practical skills based on comparative comparison of pedagogical problems, critical analysis, generalization and selection of optimal options of teaching methods.

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