Theme 2.1. Student research as a mandatory component of the future specialist training system.

Student research is an integral part of the professional training of undergraduate and graduate students.

Psychological and pedagogical literature distinguish between the terms "educational activity" and "research activity". Thus, under the research work is understood the work of a student who finds an independent creative study of the topic. And under the research - mastery of the technique of creativity, familiarity with the technique of research, with scientific literature.

Among the peculiarities of educational research V.Andreev points out the factor of subjective, "discovery" of new knowledge, which "has not objective but only subjective significance and novelty. Moreover, actualization of past knowledge is a prerequisite for research and development. ”

D. Tskhakaya points out that "a student's research work should contain some, albeit a small novelty." A clearer interpretation of the term "educational and research work" is found in V. Vorobyov's work: "reasonable introduction of elements of scientific research, elements of creativity into the educational process." There is another point of view, according to which students' educational and research work should be distinguished not by "inclusion" or "non-inclusion" in the curriculum, but by the stages of preparation of specialists for creativity.

A. Lebedev under educational research means such “work of students that provides them with the necessary skills of creative, research activity. This work is completed by the student's independent decision of a task already developed in science or technology. "

A research scientist calls such a scientific and technical work of a student, as a result of which he "gets a new result for science or technology."

This approach to these concepts seems to be the most correct.

P. Pidkasystyy notes that students' research activities are determined by a higher form of independent learning cognition, since it takes the form of scientific foresight (the student sets the goal himself and looks for ways to solve it).

A. Yanovsky considers research as a transitional link from educational activity to research, since it contains almost all components of scientific research and creation of a new product with features of research work, based on the previously acquired knowledge, and develops skills and abilities for further scientific activities.

Scholars I. Ermakova, G. Klovak, O. Pehota state that students 'educational and research work is two basic directions of the same concept: "students' scientific activity, which is carried out in the following directions in the higher education institutions:

1) educational research, which is an integral part of the educational process and is included in the calendar-themed and educational programs as a must for all students;

2) research work carried out outside the educational process within the student scientific and creative society. "

Thus, research has in its essence two interrelated elements: teaching students the elements of research, the organization and methods of scientific creativity, and research conducted by students under the guidance of professors and teachers. Considering students' research activity as a form of cognitive-creative activity, N.Uysimbayeva believes that the student research provides for the formation of intellectual activity, which is part of the professional competence of a future specialist.

It is important that during the scientific work the student-future specialist makes the transition from mastering the ready knowledge to mastering the methods of obtaining new information, acquiring the skills of independent analysis of phenomena and processes using scientific methods, learns to find ways of non-standard, creative solution of the set tasks.

The research activity of the students of higher education institutions is carried out in three main directions:

- research work, which is an integral part of the educational process and is included in the curricula and curricula as compulsory for all students;

- research work carried out outside the educational process within the student scientific society - in circles, problem groups, information studios, etc .;

- scientific and organizational events, conferences, competitions, etc.

It is important for the development of professional competence that the use of student research in all three of these areas.

For example, within the process of preparation of a specialist with higher education, student research includes abstracting of scientific literature in the process of studying disciplines; performance of laboratory, practical, seminar and independent tasks, control works with elements of problem search; performing atypical research tasks in the practice period; development of methodological materials using research methods; preparation and defense of coursework, diploma and master's thesis related to the problems of scientific research of the department.

The most widespread forms of student research that occurs outside the classroom are student groups and problem groups.

According to O. Pehota and I. Yermakova, the participation of students in scientific circles gives an opportunity to involve them in consideration and attempts to solve scientific problems of professional direction, expand their outlook, provide an opportunity to communicate freely, participate in the discussion of proposed topics, identify initiative in the implementation of scientific issues research.

The Circle by its activity helps to increase the level of scientific preparation of students; generates interest and need for scientific creativity; promotes the development of independence, improvement of internal organization, conscious attitude to learning, deepening and consolidation of the knowledge acquired in the course of study of educational disciplines; formation of practical experience of

activity in a certain environment; awareness of the future specialist with higher education prospects of building relationships in the system "personality-society nature" on the basis of ecocentrism.

In order to develop professional competence, it is effective to involve students in the following types of research: fulfillment of tasks of a research character; preparation of scientific reports, reports and abstracts on topical issues; realization and protection of course, diploma and master's works on topical topics; articles; methodical developments on topical issues of future professional activity.

Currently, the project method is very relevant. It can be offered to students for displaying creative abilities in solving and non-standard solving of both actual social and ecological and ecological-pedagogical problems, and most importantly, for formation of professional competence of the future bachelor or master.

It enables the following interrelated pedagogical problems to be solved: enabling students to experience the practical importance of education in solving pressing issues; promoting the development of personal skills and application of acquired knowledge, gaining practical experience.

Psychological - pedagogical possibilities of the method of projects are explained by the decision with its help educational, developing and educational tasks:

- creating an image of holistic knowledge for understanding the patterns of interaction in the system "man - society - nature";

- increasing motivation to obtain additional environmental and social information in order to transform knowledge, thinking and ideas into the material force of society's development;

- study of methods of scientific knowledge in application to social or natural environment;

- developing the ability to reflect and interpret the results;

- development of research qualities of the personality and improvement of system thinking;

- organization of the basic algorithm of behavior on the basis of greening of spheres of public and industrial activity.

It is the method of projects that helps to shape the future specialist personal traits that develop in the activity and can not be learned verbally.

While working on the project, students gain experience of individual independent activity. With this method, future specialists solve the problem, which involves, on the one hand, the use of different methods, teaching aids, and on the other - the integration of knowledge and skills from different fields of science, technology, creative industries.

Within the scope of the work, students can get involved in the development of the following types of projects: research, creative, game, practice-oriented, information. The value of the project method is that it enables the development of social or environmental competences.

Thus, in the course of work on the project, the following motivational mechanisms are included:

- mental (idea, purpose and formulation of the task, hypothesis, reasonable choice of method or method, introspection and reflection);

- presentation (construction of an oral report on the work performed, the choice of ways and forms of visual presentation of the results of the activity);

- communicative (ability to listen and understand others, find a compromise, interact within a group);

- search engines (find information, search contextually);

- information (structuring information, highlighting the main, receiving, searching and transmitting information, orderly storing it).

Also, students become aware of the value and effectiveness of educational information when engaging in independent cognitive activity within the framework of project-based projects to address issues of importance in the social or environmental sense.

While working on a project, students interact directly or indirectly with real-world objects, highlight a problem, understand its essence, and focus their efforts on finding ways to solve it.

Thus, students' research work has considerable potential to improve the training of the future specialist and the formation of his / her professional competence.

Involving students in such activities promotes the development of their skills of search, research, creative solution of tasks.

Student research activates independence, research skills and focuses on independent research.