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HIGHER EDUCATION INSTITUTIONS, SCIENTIFIC AND EDUCATIONAL ACTIVITY OF INNOVATION ORGANIZATION SPECIFIC CHARACTERISTICS

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Abstract:
This article describes the specific features of the innovative organization of scientific and educational activities in higher education institutions, the issues of developing students' engineering creativity and project activities based on the organization of educational and practical training focused on the use of active forms of education.

Keywords: scientific research, individual, interactive technologies, cognitive, heuristic, competence, modeling, design, motivation, innovative thinking, fundamental, professional adaptation.

Scientific and research work of students plays a major role in the formation of innovative structures in technical higher education institutions. The main goal of the organization and development of the system of scientific research activities of students is to increase the level of scientific training of specialists with higher education.

Today, in our country, special attention is paid to the coordination of measures aimed at supporting the research work of students and young scientists. Among them, to actively use the system of grants for students, to strengthen the academic mobility of young people from different regions by creating conditions for studying in the country's leading higher educational institutions and scientific institutions and organizations, to create a single information system that allows young people to make informed decisions about working in various scientific organizations of the country, and others.

In modern theory and practice, students' scientific-research work includes their independent activities outside the curriculum. According to the purpose and characteristics of implementation, among the types of scientific-research works that complete the educational process, the following are distinguished:

a) participation of students in individual research work and in the work of scientific circles and groups;
b) public scientific and technical activities ;
(c) competitive scientific and technical activities .

Students scientific research individual in their work and collective participation organize reach and study process complementary public and competitive events transfer the most talented , scientific inclined students to look for help as a mechanism that gives built _

The implementation of the goals of the educational process helps to attract students to innovative activities with the help of modern pedagogical tools, to study at the heuristic and creative levels of educational and cognitive activities using interactive technologies; students are supported to participate in scientific and research work based on the latest technologies that require science.

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Educational and practical training aimed at using active forms of education in the form of special courses on the development of engineering creativity and project activity provide an opportunity to implement innovative elements of the educational content.

Interactive educational technologies are used not only in seminars, but also in lectures. One of the forms of activating the cognitive activity of students is the use of game methods aimed at acquiring practical, professional knowledge and skills, modeling possible problematic situations in the future professional activity.

The use of mental maps and structural-logical diagrams in seminars activates innovative thinking of students, brings creativity to the process of preparation for professional practice, forms systematic critical thinking and independence.

To understand the problems of innovation, as well as to form a holistic worldview, webinars, conference video lectures with the participation of teachers from several areas are used.

An important aspect of using active methods of teaching is their orientation to educational motivation, systematic thinking, analysis of life and work situations, reflection and formation of personal life characteristics.

allows students to independently expand and deepen their knowledge , actively search for information, and quickly adapt to new social and economic conditions.

One of the priority tasks of the specialized departments of higher educational institutions and high-tech industrial enterprises is the targeted training of highly qualified specialists directed to a specific workplace. Therefore, the purpose of the educational programs of the departments is to form competencies that meet the requirements of training specialists in the field of engineering and technology.

A special feature of the innovative organization of scientific and educational activities in a higher educational institution is the organization of scientific and educational groups from the composition of scientific workers and professors, ensuring their connections:

- providing advice between the members of the scientific and educational group during debates, seminars, scientific conferences, discussing the progress and intermediate results of the research;
- presentation of scientific and technical ideas that will help the student in a scientific lecture, scientific publication, application for a proposed invention or participation in a competition, as well as participation in qualified scientific research;
- information, which contributes to the formation of the algorithm of goals, motives and behavior in the team, implementation of mutual stimulation, control and coordination of the actions of the teacher and student conducting joint scientific research.

The basis for the formation of groups are departments, scientific laboratories of HEIs, research institutes. Provides educational, scientific, scientific-methodical work, in particular:

- development of new lecture courses, establishment of new laboratory work and modernization of existing laboratory work, conducts training with students at a high scientific and methodological level;
- fundamental and practical problems on the surface scientific studies take goes ;
- scientific publications , textbooks , training manuals prepares ;

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- completed scientific projects discussion does ;
- scientific research laboratories new equipment and equipment with to equipment contribution adds ;
- intellectual work in students respect and interested relative to to form share adds ;
- students to support organization does _

The activity of students in scientific-research activity depends to a large extent on the organization of their scientific-research activity, the forms and methods of encouraging its active participants.

The innovative direction of students' research work is provided by:

- the relevance of course and diploma design topics in the priority areas of science and technology development;
- strengthening the methodological direction of research and technology in the creation of a new product or project;
- laboratories , OTM _ other infrastructure in departments scientific and technical products approved _ _ to do
- topics of research projects and applications for participation in competitions and innovative programs of various degrees;
- ensuring continuity and perspective in working on the project: course project - participation in scientific and practical conferences - diploma project.

it expands the field of professional adaptation by ensuring the free use of professional information resources and laboratory and production facilities of students; activates the process of forming professional competencies and attracting students to scientific and innovative activities.

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