



THEORETICAL BASIS FOR IMPROVING THE METHODOLOGICAL TRAINING OF TECHNICAL ENGINEERS IN HIGHER EDUCATION

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Received: 7 th October 2021 Accepted: 7 th November 2021 Published: 15 th December 2021	This article aims to explore an approach to the development of vocational education and the improvement of methodological training of technical engineers through the prism of interdependent research methodology and practice.
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An engineer or an engineering, a specialist in a particular field of technology, and a professional with a higher education in one of the fields of engineering. In the East, people who used to be builders, surveyors, designers of buildings and structures, and geometers were called "engineers". Engineering is the profession of applying scientific, economic, and social knowledge to the construction of structures, machines, devices, systems, and materials. An engineer is called an engineer.

The technical work of any institution is mainly done by the chief engineer. How an activity is organized, how it works, depends on its success. The potential of the technician should be at the highest level of training by the engineer. To do this, it is necessary to study the achievements of science in general and the best practices of another organization in particular. However, its main task will be the technical development of a particular organization. Agogy gave works of S.I.Gessen. It is necessary to actualize all those contributions. Formation of the method The proclaimed and promoted here method consists of combining two activities in the educational process as essential parts of both, teaching and learning: cognitive scientific research and practicing its application. Such approach to defining "the method" was proposed by G.V.Kopnin. This means that in studying every particular theme of the course teacher and student use particular rules and procedures, peculiar to the theme.

The method becomes a way of learning as for student and for teacher. It motivates students to creative behavior in their future professional activities. . Development of creativity as the main didactic basis of education of modern engineers. Consistent and correct implementation of pedagogical technology are nologies by all members of the educational process is not sufficient to achieve the goals of modern engineering education. To this must be added an innovative direction a process aimed at developing the creative desire and ability in graduates. Traditional and some new methods do not pursue this goal. This does not mean that there is no creativity in education. Some specialties creative by nature: art, literature, economics, science, management. But in them, creativity is a unique ability or talent (so time genius). The question arises: is it possible to learn creativity? Many see creativity as a mysterious and unknown phenomenon of the psyche. But we believe uzb can be taught to be creative. Creativity at different levels is potentially unique to all people and the potential can be fully manifested in the process of nurturing them. Teachers should help students make such an opening. So creativity is not just an ontology in terms of didactics but also gnosiology, axiology, and praxiology. And so, it is necessary to consider the creative dialectic of human creative thinking and the foundations of social cognition. Certain professional specifications are derived from sprus in the engineering society, among them - the engineer, scientist, entrepreneur, pedagogue, designer, manager, politician, etc. Members with not only professional skills but also civic qualities and services. Engineer-pedagogical worker only a specialist in the science being taught, but a master's in didactics and methodology teaching engineering sciences. The engineer-scientist not only conducts research professionally, but is also qualified in management activities co-related to the production and promotion of technologies and devices he invented.

The engineer-entrepreneur is not only able to produce technical products and services, but also qualified in other fields aspects engineering. Engineer-politician is a specialist in management and law about promoting their interests and lobbying engineering society. The engineer-designer is directly involved in production and ordering mizing various art engineering facilities types. The work of engineers today depends more on something external rather than internal and engineering factors personal ones. Intending to direct engineers from the cognitive to the social aspect of professional behavior, we offer a kind of common matrix for the development and improvement of the engineering professional community. It is necessary to systematize the main directions of technical creativity in

engineering education. The Moscow State Technical University named after Bauman provides a brief overview of the forms of technical creativity and proves the importance of this activity. Block diagrams of organizational forms of technical creativity have been developed. The Technical University offers a new combined demonstration of specific types of technical creativity and its organizational forms. The main components of technical creativity are considered to be integrated and interconnected. Such an approach, which represents the integrity of technical creativity, does not exist in the scientific and methodological literature. However, it is very important because of its coordinating and directing functions. This document suggests that the principles of technical creativity and forms of its organization are applied in working with students. Forms of technical creativity in domestic and foreign practice are described along with their advantages and disadvantages. The importance of developing practical technical creativity skills at all stages of training future engineers has been proven.

In conclusion the ultimate goal of engineering education is educating professionals as creative individuals.

Creativity is a tool for professional self-development.

The idea of teaching a method is the most important component of the learning process.

The methodology of developing creativity is mandatory modern engineering education.

Creativity is the opposite of destructive and antisocial tendencies of consumption.

The cognitive basis of engineers' success is the universal matrix.

Emphasis on student self-study in education is aimed at supporting and developing their talents creativity, active behavior, ability to succeed, socialization.

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