

Pedagogical and Psychological Aspects of Improving the Methods of Developing Students' Creative Research

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ABSTRACT

Pedagogical and psychological aspects of improving the methods of development of students' creative research are highlighted. Psychological factors that shape the worldview of students are included in mastering engineering graphics. These factors are shown step by step from the point of view of pedagogy.

The importance of developing students' creativity is highly appreciated. Creativity, first of all, is important for the main problem of modern society - the creation of a new type of production based on the information and knowledge economy, its essence is important for the creation and development of innovative technologies, goods. Creativity is necessary for a person as a quality characteristic of mobile professionals required in the modern labor market, which requires a combination of fundamental knowledge, highly specialized skills and universal qualities. Today's experts believe that the role of education and higher education institutions is extremely important in the process of integrating knowledge into production processes. Its unique technological capabilities can be ensured only when young professionals come up with innovative ideas. The quality of engineering personnel is becoming one of the main factors of the country's competitiveness, and it is the basis of its technological and economic independence.

I would like to emphasize that there has been and continues to be a great demand for engineers in every country. In addition, there is an objective demand for changes in the engineering personnel training system. Not only technological, but also the whole way of life is changing, ideas about engineering are changing, demands for this profession are growing. Today, he is a high-level specialist who not only ensures the operation of the most complex equipment, not only designs modern equipment and machines, but actually shapes the surrounding reality - it is not by chance that such fields as biogenic and social engineering appeared.

In any case, it is necessary to analyze the advantages and disadvantages of the operating system available today for the training of engineering personnel. We believe that the technical education system should be focused on training engineers whose skills and competencies meet the demands and needs of enterprises. These are not only chief designers and researchers who strive for new

technological solutions. [53,64]

We also know what it is: it is robotics, production of new materials, biotechnology, preventive and personalized medicine, engineering and design. Of course, it is necessary to clearly understand which industries can become locomotives for the development of entire regions. Also, it is necessary to update the development programs of the state and regions, to include in them departments that determine the need for personnel, first of all, engineering personnel. Such departments should set guidelines for the entire system of technical education today. This also applies to the number of budget places and additional training of practicing engineers. Currently, the modernization of education is considered the leading idea and main task of the state education policy. In the production of educational techniques, first of all, it is necessary to follow the principle that allows to use psychological-pedagogical, physiological, age-related and other characteristics of students of junior school age [81].

Information technologies in the modernization of pedagogical systems

Wide implementation of achievements is also an important factor, which increases the quality of education. Advances in information technologies currently serve as a means of familiarizing students with modern culture, and in the conditions of an information society, this becomes especially relevant. It is necessary to keep in mind the creation of innovative educational techniques based on the demand of the times.

STUDY OF DECREES AND ORDERS ON SCIENTIFIC WORKS AND INNOVATIONS.

- Implementation of the laws of the Republic of Uzbekistan, decrees and orders of the President, decisions of the Oliy Majlis and the Cabinet of Ministers in the field of education and science, regulatory and legal documents and instructions of the Ministry of Higher and Secondary Special Education, the Ministry of Health, the Ministry of Innovative Development;
- Providing organizational support to departments and courses in the implementation of plans and programs, scientific-research, innovative, inventive activities and standardization tasks of scientific research;
- Students participate in national and international scientific and practical conferences, Scholarships of the President of the Republic of Uzbekistan, state scholarships management of the preparation process for the competition, as well as for the Republican Science Olympiads;
- General leadership and control over the scientific and research activities of the institute's departments, as well as in scientific research projects and grants participation, monitoring the effectiveness of research, various practical activities at exhibitions, solving issues related to the introduction of scientific and technical developments;
- Ensuring compliance with regulatory requirements, high-quality documentation, coordinated and established order in conducting scientific research;
- Organization of protection of intellectual property objects, management of parentage of scientific achievements, registration of inventions and rationalization proposals;
- Scientific materials of the staff of the institute's departments, as well as scientific articles of the magazine, during the educational and scientific activities of the institute preparation and publication process of scientific and periodical publications, library control the updating of literature; international digital libraries Providing access to Scopus, Web of Science, etc. for the institute's employees;

- Coordination of planning, organization and holding of republican and international scientific-practical conferences, ensuring the participation of teachers and students in scientific conferences held by leading foreign higher education institutions and scientific research institutes;
- To ensure the training of highly qualified scientific pedagogues through doctoral studies and independent researchers, as well as to help the employees of the institute to obtain scientific titles on time;
- Participation in the formation of scientific projects for receiving foreign grants together with the international relations department should be the main task of the vice-rector [47-51].

At the same time, scientific research on the introduction of modern information technologies into the educational system should be carried out. It is emphasized that the strategic approach to the creation of educational information tools and their use is the basis of development. Today's young generation are Internet enthusiasts. Students are always on the Internet, so one of the main problems should be the formation of the Internet space. Bringing networks in a new way, students can quickly learn news about events, messages [66].

The selection of creative students and working with them in the process of teaching various subjects is the most effective indicator of education in our country.

raising the process to a new level, the quality of teacher training

The production process is being strengthened with improvement based on international standards and higher pedagogical training.

When entering a technical university, a young person chooses his future profession must connect, he must have all the conditions for quality education and employment. For example, basic engineering training can be done at technical universities in capital cities, and the number of training programs combined with practice in large enterprises can be increased. It is necessary to refer to foreign institutes for taking lessons in technical faculties, to attract practitioners more actively. Our students, young teachers, graduate students will see the issue of gaining experience directly in foreign universities and scientific centers, which will ensure the achievement of the intended goal [16]

Educational technologies are also changing, information and communication education for each subject in the institution of introduction of technologies (ICT).

opens up great opportunities for expanding the system.

It is recommended to use new technologies in the educational process, to choose technologies according to the content of the subject, the goals of the lesson, the level of preparation of students, the possibilities of meeting their educational needs, and the age group of students.

The fact is that the human brain grows rapidly and "ripens" in the first years of life. It is ripe, that is, the growth of the number of brain cells and the anatomical connections between them depends on the diversity and intensity of the work of the already existing structures, as well as the extent to which the formation of new ones is stimulated by the environment. This "ripening" period is the period of the highest sensitivity and plasticity to external conditions, the highest and widest opportunities for development. This is the most favorable period for the beginning of the development of the entire diversity of human abilities. But a person begins to develop abilities only when there are incentives and conditions for this "moment" of perfection. The more favorable conditions are, the closer they are to the optimum, the more successfully the development begins. If maturation and the beginning of activity (development) coincide with the time, go synchronously, and the conditions are favorable, the development proceeds easily - with the highest acceleration. Development can reach its peak and the child can be gifted, talented and bright.

However, at the "moment" of maturity, the possibilities of developing abilities that have reached their maximum level do not remain unchanged. If these opportunities are not used, that is, if the relevant

abilities are not developed, if the child does not engage in the necessary activities, then these opportunities begin to disappear, deteriorate, and the faster the activity becomes weaker. Loss of development opportunities is an irreversible process. The time interval between the moment of maturity of the structures necessary for the formation of creative abilities and the beginning of the targeted development of these abilities causes serious difficulties in their development, slows down its pace and leads to a decrease in the final stage.

EDUCATIONAL TECHNOLOGY IS COMMONLY DEFINED AS FOLLOWS:

- ✓ *a set of techniques - a field of pedagogical knowledge that reflects the features of the deep processes of pedagogical activity, the specific characteristics of their interaction, and ensures the necessary effectiveness of the management educational process;*
- ✓ *A set of forms, methods and tools for conducting social experiments, as well as technical equipment for this process;*
- ✓ *A set of certain actions, a sequence of operations (technological chain) related to the organization of the educational process or the specific activity of the teacher and aimed at achieving the specified goals [47].*
- ✓ *The priority areas of development of the field of pedagogic education are defined as:*
- ✓ *thorough mastering of education and teaching methods, information and communication technologies and all foreign languages, education modern pedagogical technologies;*
- ✓ *training of professional pedagogues with management skills;*
- ✓ *identifying young people with a high interest in the pedagogical profession, as well as continuously carrying out targeted training and education of them;*
- ✓ *improvement of curricula and programs in practical directions and specialties of the field of education based on foreign experience, creation of innovative and educational resources;*
- ✓ *by developing the harmony of education, science and production in the field, improving the quality of education, training competitive personnel, organizing the implementation of scientific and innovative activities;*
- ✓ *to constantly study the analysis and requirements of pedagogic personnel customers, to develop mutual cooperation with them, and to determine the prospective plans of the scientific basis of pedagogic personnel training and provide them with them;*
- ✓ *continuous development of the professional skills of pedagogues on the introduction of digital technologies to higher pedagogical education, the development of the integration of the development of modern information and communication and educational technologies.*
- ✓ *Systematic development of higher education processes that prepare pedagogic personnel and improvement of their management;*
- ✓ *improvement of pedagogical education infrastructure, further expansion of international cooperation in the field;*
- ✓ *modern pedagogue with high culture, practical professional skills, well-versed education, teaching methods and assessment criteria management of personnel development processes;*

Summary. From a psychological point of view, preschool age is a favorable period for the development of creative abilities, because at this age children are very inquisitive and eager to learn

about the world around them. And parents contribute to the expansion of children's experience by arousing interest, educating children, involving them in various activities. And gaining experience and knowledge is a necessary condition for future creative activity. In addition, the thinking of preschool children is much freer than that of older children. Preschool childhood is also a sensitive period for the development of creative imagination.

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