

INTEGRATION OF INFORMATION, PEDAGOGICAL AND PRODUCTION TECHNOLOGIES IS THE MAIN FACTOR OF ADVANCING THE QUALITY OF EDUCATION

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Abstract. *In the following article it is pointed out that, the role of the integration of data, pedagogical and production technologies in the higher education system of Uzbekistan, the basic content of technology, technological cluster, technological park, technology transfer, bulk and nano-technologies, the role of innovative pedagogical and digital technologies in improving the quality of education and their interaction with production technology based on dependence play an important role in the creation of innovative economy development strategy.*

Key words: *technology, transfer, cluster, technological park, bulk technology, nano-technology, information, pedagogical and production technologies, prediction, foresight.*

INTRODUCTION

It is one of the main tasks to reform the higher education system of Uzbekistan to develop the integration of science, education and production. In order to solve this problem, there must be interdependence, compatibility and complementarity between information, pedagogical and production technologies. Nowadays, every pedagogue or production worker is required to be familiar with the set of information communication technologies and technical systems [1]. At the same time, the pedagogue should be an active participant in the production, and as a specialist he or she should also perform the role of a pedagogue. Besides, , the development of science depends on the activities of scientists at higher educational institutions and research institutes, cooperation with industry, and introduction of scientific achievements to production.

RESEARCH METHODS

In the following article, the analysis of scientific and teaching-methodical literature, pedagogical observation, comparative analysis, generalization, pedagogical experiment-test and foresight methods were used.

RESEARCH OUTCOMES AND DISCUSSIONS

Technology is a set of cost-effectively designed sequence of processes to achieve a set goal and a guaranteed result. The word "**technology**" comes from the Latin "**Thexnos**" - art, craft, industry and "**Logos**" - science.

A technological cluster is located in one limited area and is interconnected through production links, association of enterprises and organizations.

Technological park (technopark, TP) is an innovative infrastructure entity provided with highly qualified personnel and sufficient information and experimental base, creating conditions for effective development of entrepreneurship in the scientific and technical sphere. TP is a regional integration of science, education and production in the form of a union of scientific organizations, design and construction bureaus, educational institutions and production enterprises [2].

Technology transfer is the process of turning scientific ideas and research into products, goods, that is, a new type of activity in the form of "Innovative management", "Commercialization of scientific developments", "Introduction of research into practice".

In 1958, Professor R. Feynman (who won the Nobel Prize in 1965) delivered his famous lecture at the American Physical Society conference. In the scientist's lecture, "Physical laws and principles do not prevent manipulation of individual atoms and thus creation of various objects." Based on this, it can be said that in the near future humanity will step from the age of technology to the age of nanotechnology. Of course, long-term forecasting of the future education system takes an important place here. Foresight technology is widely used in developed countries to predict the future [3].

In **bulk technology**, humanity made an object by copying not individual atoms, but their entire complex, now, based on nanotechnology, humans can create an object by placing the desired atoms in the desired place.

Nanotechnology began to enter our lives from the end of the 20th century, that is, from 1981-1985. Nowadays, nanotechnology has entered our life as a science. In the ancient theological books, "Eve Adam a.s. was created from a rib. In this place the question arises.

"How can a woman be made from a part of a man's body?"

This question is answered positively by one of the current secular sciences - nanotechnology. A slight change was made to the program in the DNA extracted from an arbitrary part of his body, and his pair was created in accordance with the conclusions of modern genetic science.

In any case, all technologies serve to create goods or food products for human benefit, and these technologies are controlled by humans. Therefore, it is necessary to

know the technology of production of products, to improve them according to the growth of the need. The development of science and secular sciences plays an important role in the improvement of production technologies. What should be secular sciences, is it possible to predict the creation and development of the world in general, which technologies are primary in prediction? The solution to these questions will be found through a relatively new computerized foresight technology. [4].

Production technology means a set of processes based on a certain sequence of cost-effective production of a high-quality product that meets the requirements of the time and finds its place in the world market. If the technical means used in this sequence of processes or, in other words, technology, do not become obsolete, this technology will not change for a certain period of time. This technology is the design of production leading to a definite and predetermined goal and a guaranteed result.

Nowadays, the main task of higher education is not to teach the existing body of knowledge, but to develop the abilities of future specialists to create new knowledge. Future professionals are required to continuously improve their knowledge and skills through distance education [5] based on the principle of "Lifelong learning".

Information technology is a set of methods and means of collecting, storing, transmitting, and processing information.

The introduction of production and information technologies directly into the correct and effective practice depends on the potential of personnel. Pedagogical technologies play an important role in personnel training. Only on the basis of pedagogical technologies that meet the requirements of the time, we can train competitive specialists. Digital technologies play an important role in establishing such a training system. However, a full scientific study of the positive and negative aspects of the widespread use of digital technologies in the educational system is required [5].

Pedagogical technology is a set of scientifically based processes of education and upbringing, which are carried out depending on human thinking, that is, the intellectual potential of the teacher and the learner. Pedagogical technology cannot be considered as a permanently uniform (even in a certain short period of time), that is, a pre-designed process. In a word, pedagogical technology cannot be called a fixed project that fits into one frame. Because for each audience, for each group, depending on the audience's education, scientific potential, age, gender and other indicators, even a separate pedagogical approach and its technology are required for each audience in the group [7,8]. For example, a pedagogue is required to teach one subject to schoolchildren using a different technology, to students of a higher education institution using a different technology, to engineering and technical workers in production, and to pedagogues of a higher educational institution using a different

technology. It is also possible to change the teaching technology planned by the pedagogue, the preparation of the audience, and the situations that arise as a result of the questions and answers during the lesson in a certain group. Only then the pedagogue can deliver the desired result - i.e. his knowledge to the thinking of the listeners, and arouse active activity that develops in them. In my opinion, the purpose of teaching is not to teach the listener something obvious, but to teach him to read. Because the technical tools that we are teaching students today, especially information and communication system techniques, become obsolete very quickly, so the graduate should study independently, learn the secrets of working with new technical tools, and at the same time develop practical skills.

CONCLUSIONS

Currently, the development and improvement of pedagogical and production technologies takes place directly on the basis of information technologies. The use of innovative pedagogical technologies and modern technical means of teaching in educational institutions has a significant impact on the quality of personnel. The development of innovative pedagogical technologies directly depends on the development of information technologies, the level of the ability of teachers and students to use them. Therefore, the development of pedagogical technologies affects the quality of personnel training, and the quality of personnel affects the improvement of production technologies. Therefore, it is necessary that pedagogical and production technologies are inextricably linked with each other, improving on the basis of the development of information technologies, as well as enriching the information space with educational and production information. In conclusion, it can be said that the advancement of financial segments at the level of cutting edge necessities isn't as it were based on advanced generation advances, but moreover based on the integration of imaginative educational, data and generation advances. Therefore, this factor could be a technique for the advancement of the inventive economy.

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