The Use of Innovation Technologies in the Formation of Students' Professional Competences

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ABSTRACT--- This article is dedicated to the problem of the usage of educational integrated technology during the process of training of the future vocational education teachers in order to form independently and productively thinking personality.

Keywords: technology, integrated technique, competence, context educational technology.

Аннотация. Данная статья посвящена проблеме использования комплексной технологии обучения в процессе подготовки будущих преподавателей профессионального образования с целью формирования творческой, самостоятельно и продуктивно мыслящих личности.

Ключевые слова: технология, комплексная технология, компетентность, технология контекстного обучения.

I. INTRODUCTION

The formulation of the problem in general terms and its connection with important scientific or practical tasks. In the context of the implementation of the national training program, special requirements are imposed on vocational and pedagogical personnel for secondary specialized education (SSE). This is due to the fact that the degree of preparedness of graduates of professional colleges that determine the future of the national economy of Uzbekistan depends on the level of professional competence, scientific potential and professional skills of pedagogical personnel in SSE.

Increasing the effectiveness of formation of system-forming competences of the future teacher of vocational education can be achieved if modern educational technologies are used, the development of which is one of the scientific areas.

The term "pedagogical technology", which appeared in the last decades, was initially associated with the use of technical means of instruction. Further, the approach has changed somewhat: pedagogical technology has been understood as a phenomenon of modern learning, in which the course theory, the art of teaching and the teaching methodology are integrated, interconnected, integrated into a single system.

II. THE SCOPE OF INSTRUCTIONAL TECHNOLOGY

Analysis of the latest research and publications, in which the solution of this problem has been started and on which the author bases his work. In modern conditions, the importance of personal-oriented vocational education, which is associated with the requirements of society, the labor market, the individual and the development of pedagogical practice. An analysis of the work done within the framework of the personality-oriented paradigm showed that the basis of the new pedagogical thinking, design and evaluation is the personality as the leading value of education [1, p.15].

Statement of the main results of the study with full justification of the results. To develop the professional competence of future teachers in the framework of research work, a comprehensive technology of personality-oriented learning was developed, aimed at forming the main components of the content of education, which allowed to improve the quality of training of future teachers of vocational education. This technology includes the following elements:

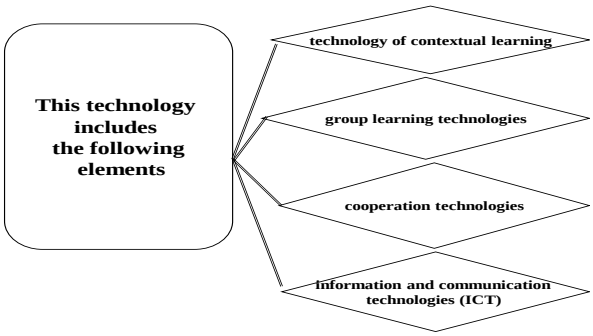

figure1. Technology includes the following elements

Introduce in the teaching practice elements of technology of contextual training, we proceeded from the following provisions. The goal of traditional education is the adoption of iconic educational information, and the more it is learned, the higher the level of human education is considered. But all information, including teaching, is of a dual nature:

firstly, it can be a means of knowledge of the world, and

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secondly, it is a part, a fragment of the culture itself. The student does not absorb the culture itself, for example, the culture of the profession, but only the means of mastering it [2, p.87].

In the process of learning, the student learns only something in technology and production technology, that is, he learns professional activity as a part. The problem is that the graduate in the practical activities of the most difficult to master exactly the social context in which he will work, then the production relations in the team, which teach not to action, but to social actions.

III. PROBLEMS OF TECHNOLOGY INTEGRATION

The basic concept of contextual learning is the context category. The context is connected with the concept of "situation", i.e., a system of conditions that induce the subject and mediate his activity. In this situation, therefore, external conditions are included, and the subject himself, and then the people with whom he is in contact.

Contextual training relies on the theory of activity, in accordance with which, the assimilation of social experience is carried out as a result of active, partisan activity of the subject. It embodies the following principles: the activity of the individual; problems; unity of education and upbringing; consistent modeling in the forms of educational activity of the listeners of the content and conditions of professional activity of specialists. Particular attention is drawn to the gradual, step-by-step transition of students to basic forms of activity of a higher rank: from educational activities of the academic type to quasi-professional activities (business and didactic games) and, subsequently, to educational and professional activities (research work of the student (RWS) , practice, internship) [3, p. 18].

The educational process in the university is one of the manifestations of social practice, it reflects all the laws that exist in society. Consequently, the contexts of life and the future of work Should fill the study of students with personal meaning, determine the extent of inclusion in the cognitive process.

Thus, the main goal of any professional education is the formation of a coherent model of the future professional activity of the student.

A feature of the use of contextual learning technology is that the acquisition of professional activity we provide within the framework and means of a qualitatively different activity - educational, which is characterized by its own peculiarities.

In order to form a specialist, it is necessary to ensure the transition from one type of activity (cognitive) to another (professional), with a corresponding change in needs, motives, goals, actions, means, objects and results.

As it is easy to find out, the subject of educational activity is abstract, it is texts, sign systems, program actions. In the real subject of future professional activity, knowledge is given in the context of production processes and situations. Traditional learning can not be resolved by this contradiction, hence the phenomenon of formal knowledge, the inability to apply them in practice, the difficulty of intellectual and social adaptation of graduates to the conditions of professional activity.

It should also be noted that teachers practically do not pay attention to the development of creative, productive thinking in traditional teaching. The main load in this case is the memory. If the student thinks, then contrary to the traditional pattern of training, and not because of it. Productive thinking is an appeal to the new, to those unknown, non-standard and problematic situations that arise in his productive activities. Information, for example texts, other sign systems, in contextual learning turns into knowledge, that is, the student must understand the personal meaning of the learned, determine the effective attitude towards it. The student acquires practical competence only in the case of a double transition: from the sign (information) to the thought, but thoughts - to action. Consequently, the information should be given in the context of future work, with the aim of future professional use.

IV. RELATIONSHIP BETWEEN TECHNOLOGY IN EDUCATION AND PEDAGOGY & RESULTS

The main characteristic of the educational process of the context type, realized with the help of a system of new and traditional forms and methods of instruction, is the modeling in the language of symbolic means of the subject and social content of future professional activity. In the Special disciplines, real professional situations and fragments of production are recreated, the relations of the people employed in it. Thus, the student is given the outlines of his professional work. The basis of interaction between the teacher and the student is the situation in all its subject and social ambiguity. It is during the analysis of situations, business and educational games (games-communications, games - protection from manipulation, games for the development of intuition, game-reflection, etc.) the student is formed as a specialist and a member of the future team.

Collective-group learning technologies.

It acts as a combination of "monodidactic systems," providing cyclical management of cognitive activity of students in the implementation of subject-subject relationships in the psychological comfort of the training team. The type of communication determines the organizational form of training, which is historically interdependent [16].

Considering the features of collective and group teaching methods in comparison and taking into account the specifics of the teaching of highly specialized disciplines, it is possible to single out the main components of this technology, which contribute to the activation of students' educational and cognitive activity to solve the tasks at the creative level.

The use of cooperation technology is based on the fact that, under the existing traditional (class-lesson) system of studies, it most easily fits into the educational process, and may not affect the content of training, which is defined by the educational standard for the basic level of the university. The technology allows a more profound, profile-oriented

study of basic disciplines.

This is a technology that allows, when integrating into the real educational process, to achieve the goals set by any program, the standard of education for each subject by other, alternative, traditional methods, while preserving all the achievements of didactics, pedagogical psychology. As technology of cooperation in our opinion, it is truly pedagogical technology, humanistic not only in its philosophical and psychological essence but also in a purely moral aspect, providing not only the successful assimilation of the educational material by all trainees, but also the intellectual, professional and moral development of students, their independence, goodwill towards the teacher and to each other, sociability, desire to help others.

Information and communication technologies.

One of the factors affecting the improvement of vocational training is the characterization of the educational and spatial environment in which the vocational and educational process is carried out. The penetration of information and communication technologies (ICTs) based on the use of computers in this process creates prerequisites for the development of computer educational spatial environments.

The use of information and communication technologies is one of the most dynamically developing areas for increasing the effectiveness of the educational process. Information technology application to create new opportunities to transfer

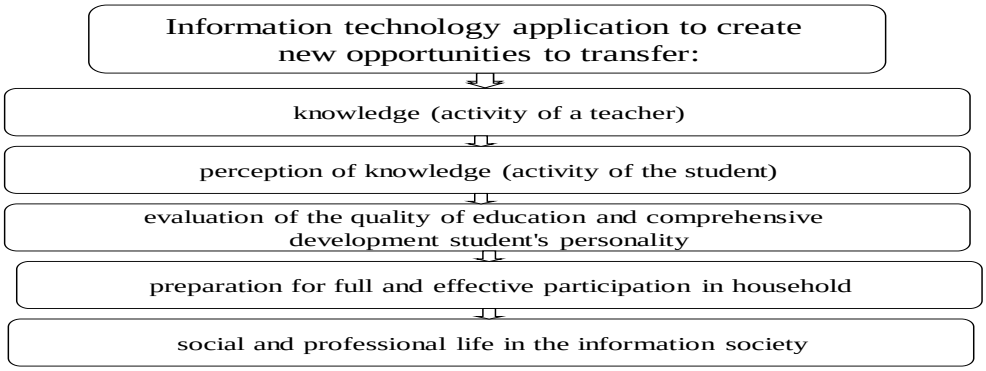


figure 2. Information technology application to create new opportunities to transfer

The use of information and communication technologies is one of the most dynamically developing areas for increasing the effectiveness of the educational process. Of course, for the application of ICT in the educational process, modern technical training facilities are needed. To conduct classes in the preparation of future teachers of vocational education, computer classes have been created, equipped with modern computer technology, software, a local computer network with the ability to work in global computer networks. Modern peripheral and projection equipment is installed [13].

An Not only information technologies, but also technological integration in the educational process will improve the quality of education. In this process, we will make the following points:

Ongoing action research project has shown that most in-service teachers have a narrow view of technology integration. When they were asked to briefly state why they need to appl y technology in their teaching, most of the student teachers (70%) maintain that it is a tool for instruction; they fail to relate it to pedagogy or identify how it will help them to improve their teaching or facilitate learning. An educator who does not understand the purpose of technology integration or how it could be applied is less likely to achieve success in a technology-based learning environment. Eby J warns that "technology could not support learning without teachers who know how to use it and integrate it into subject-specific area."

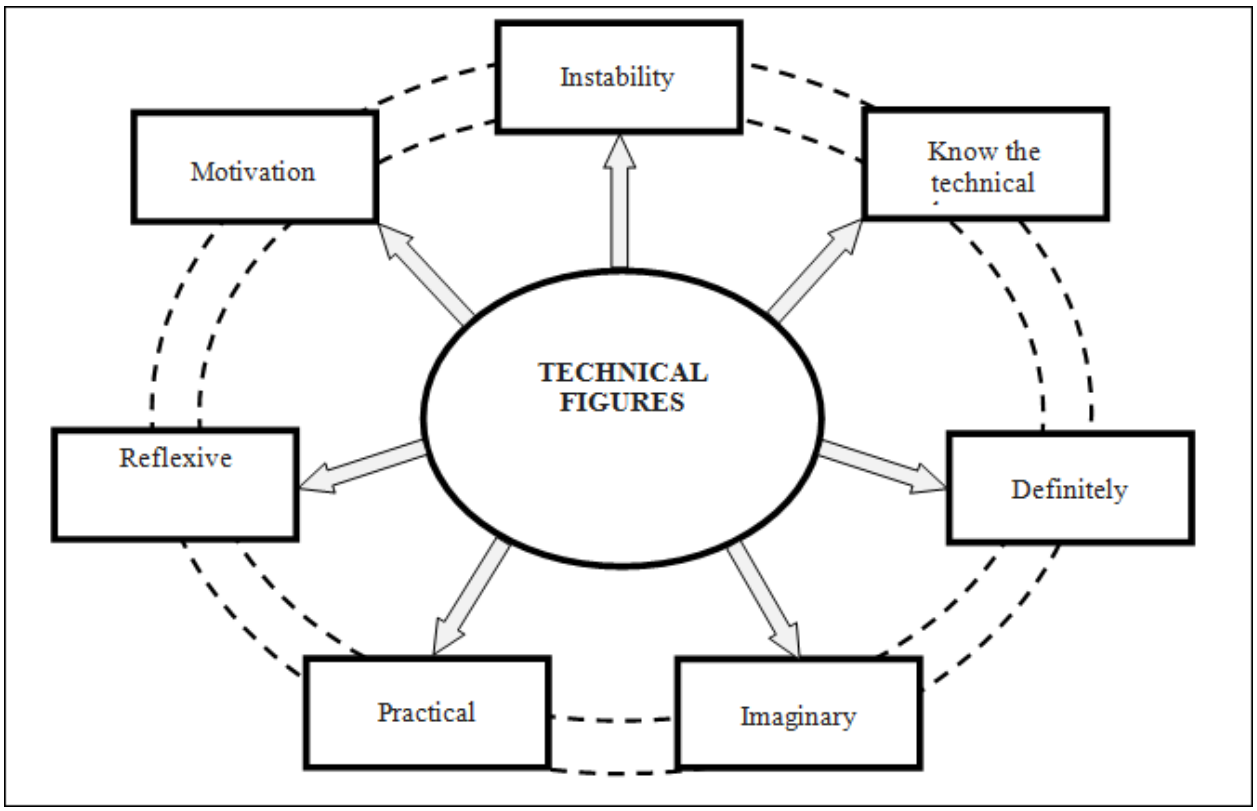
From the point of view above, we must first of all say that we need to expand the scope of technical thinking, which has been studied for many years by students in the process of integrating technology into teaching and learning. The use of a wide range of computer techniques and devices for the limited use of technology to support the education system requires direct technical thinking.

Technical thinking is a complex of intellectual processes and their results, which provide the solution of technical and technological activity issues (engineering, technology, which is the repair and maintenance of devices and others). An analysis of sources of technical thinking has helped us to identify the following features: technical thinking can be seen in technical issues solving and understanding; It has a technical thinking structure, which includes conceptual, imaginative, practical (TV Kudryavtsev), technical knowledge of language, and speed (MV Mukhina) components; technical thinking implies the existence of a system of knowledge and skills appropriate to the ongoing activities; technical thinking is the operational part of the technical ability.

Technical thinking is also shaped by thinking processes like analytical thinking (analysis, synthesis, generalization, comparison, abstracting, classification, etc.). Its uniqueness is that the above-mentioned operations in technical activities are carried out in technical materials.

We have summarized the results of T.V. Kudryavtsev, M.M. Mukhina and S.Planida and took into account the cardinal changes in the recent years in the world of technology, the seven-component structure of the technical thinking as an integral system of technical teachers (motivation, efficiency, knowledge, conceptual, imaginative, practical, reflexive), the interconnection of its components, and the role of each of them when implementing intellectual processes with technical objects (Figure 1).

Based on this, teachers have identified the following components of technical thinking, formed in students. They are motivational, fast, technically proficient, conceptual, imaginative, practical and reflexive. The essence and function of these components in the technical thinking are the motivational component of technical thinking that defines the need for technical activity and needs of the person, as well as the need for knowledge and skills acquisition in technical activities and motivation to learn in the field of technology.



Picture 3. The structure of technical thinking in students

Integration of technologies requires the rational use of the technical thought structure in students, including the consideration of issues related to education and training, development of learning objectives, selection of teaching methods, feedback and evaluation, evaluation strategies. A comprehensive study of technology integration creates a basis for teachers to further the educational process in the audience.

Convenience - is understood as correcting or routing the work quickly and in a timely manner, problem solving, and other capabilities.

Knowledge of the technical language is related to the adaptation of schemes and drawings to the existing details and devices.

The conceptual component - the technical concepts - conditional definitions in schemes, special concepts, conditional graphic-symbolic characters in various schemes and drawings.

An illustrative component - an ability to visualize complex systems of images and to create them.

The practical component - the experimental investigation of the results.

Reflexive component - refers to the idea of self-observation, self-awareness, understanding of the individual's actions and their rules, understanding of internal psychological acts and situations by the subject.

V. CONCLUSION

In the process of training, the following types of software are used at the department:

- training programs that are intended for use by both teachers in the process of conducting classes, and students (listeners) in self-preparation;
- controlling packages that allow checking the results of training and self-study;
- tools of a universal nature, which are an essential tool for the activities of a modern teacher.

Conclusions from the conducted research and prospects of further developments in this direction. This approach makes it possible to talk about improving the level of students' training, harmoniously combining and adapting pedagogical technologies to the peculiarities of the educational institution and the specificity of the professional activity of future teachers of vocational education, and the implementation of a competence approach in teaching[14].

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