

**DIRECTION OF FUTURE SPECIALISTS TO INNOVATIVE ACTIVITIES
IN THE INFORMATION EDUCATIONAL ENVIRONMENT**

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ABSTRACT

This article notes the qualitative changes in education and the high efficiency of promising innovations in the field, which is an innovative process, and, given the dynamic development of society, the need to prepare future specialists for professional activities, solving the problem of preparing for innovative activities is discussed.

KEYWORDS: *Content, Globalization, Skills, Technology, Formation, Innovative Style, Technology, Formation, Intellectualization, Vocational Education, Research Work, Communication Space.*

INTRODUCTION

The pace and level of modern development based on globalization are determined by the extent to which the problems of the intellectualization of society are solved. At the same time, the development and future of our country also depend on qualitative changes and high efficiency in the field of education, their compliance with the requirements of world education and the extent to which they find their place in practical life. These aspects are directly related to the process of preparing future teachers for professional activities, which poses important tasks for a modern teacher, such as the effective use of innovative teaching methods, techniques and technologies. This is due to the impossibility of implementing innovative education using old methods and technologies. When developing and implementing innovative methods and technologies, interactive innovative activity is necessary. Therefore, the development of technology for the formation of an "Interactive Dialogue Space", which optimizes the preparation of future specialists of professional education for innovative activities in the Information Educational Environment (IEE), is extremely important for dissertation research.

Therefore, we also considered this issue during our study. To do this, we first studied the traditional learning process in preparing a future specialist (FS) for professional activity and analyzed them based on continuous logical questions such as why the source, and why, with what and how to train the source. Evaluation work in the educational process and various theoretical works on their implementation were also studied.

The results of our research in this area show that work in this area should be based on modern research, taking into account the advanced views of specialists and scientists, integrating materials relevant to the sources from the creative information environment into traditional educational content.

Thanks to analytical research and a systematic approach to it, a number of ideas have arisen on intellectualization, informatization, and innovations in education in the process under consideration. All this has a positive effect on improving the quality and efficiency of education. Since the purpose of our study was to prepare future professionals for innovation in IEE, we set

about solving the problem of interactivity, which is mainly suitable for innovation. For this, information and methodological supports were developed considering the ideas that arose. Infobases were allocated in the following sequence:

- When preparing FS for professional activities, pay more attention to their technical and creative work and their informational provision;
- Achievement of effective use of modern information technologies in preparing the FS for professional activities and in networks corresponding to its periphery;
- Achievement of improvement of work (activity) for the development of creative abilities of the FS on the basis of modern information technologies;
- Achievement of the formation of IEE for preparing the FS for innovative professional activities, and so on.

At the same time, the intellectual potential of the FS, awareness of the achievements of modern science and technology, the more their general literacy, the higher their professional skills and competencies, the more effective their involvement in intellectual and creative activities and scientific and technical activities, technical literacy.

With this in mind, we considered it necessary to pay more attention to the following methodological grounds when preparing the FS for professional activities:

- Propaedeutic materials in secondary schools, academic lyceums and vocational colleges and the media surrounding them, the widespread penetration of modern computers (including intellectual means) into various spheres of life, the availability of local computer game rooms, didactics in preparing the FS for professional activities in computer science will be one of the factors and it is necessary to develop a mechanism for their targeted use;
- It is necessary to take into account that the content and purpose of studying subjects related to the curricula of higher educational institutions in the field of informatics are integrated with the goals and objectives of innovative methods for improving professional activities, and it will be necessary to achieve their enrichment and mutual complementation;
- Achievement of the rational use of professional computer games, intellectual training systems and computer simulators in the preparation of the FS for professional activities;
- Within the innovative activities of the FS, the use of universal didactic tools, including multimedia technologies, will require constant attention to improve the efficiency of classes and enrich the material and technical base of the university;
- The use of advanced interactive methods and technologies, such as "Interactive Dialogue Space", "Technology of Roadmaps for the Training of Future Specialists", "Systemic Approach", "System Analysis", the induction method should always be taken into account when preparing the FS for innovation, etc.

Now it will be possible to develop an innovative program and corresponding innovative educational software based on the results of an analytical study of the traditional educational process, creative information environment, advanced ideas of experts and scientists. As a didactic basis in the development of innovative programs, the following were used:

- Determination of the information efficiency and methodological support;
- Analysis of the results of the work of educational and innovative software and didactic software and, if necessary, making adjustments to the structure of the program and methodological system, if necessary;

- to acquaint the teaching staff of universities with the IEE-based training system and the working communication programs of the computer system created on their basis, etc.

On the basis of this innovative program, the development of innovative training software was achieved to prepare the FS for innovative activities. Its implementation looks like this:

- Use of training programs (preliminary examination);
- Analysis of the results of the practical application of educational software;
- Commissioning of educational software in practice;
- Preparation of guidelines, instructions, etc. for the implementation of training programs.

The next part of our research in this area will be based on an interactive learning complex. This is due to the fact that an interactive learning complex can become a solid didactic basis for the implementation of the main functional tasks of the "Central Control Center of the IEE" and, consequently, the optimal management of learning using the "Interactive Dialogue Space" technology.

Considering that all components of the interactive learning complex work through computers and software (audio and video equipment, electronic whiteboard, interactive whiteboard, projector, webcam, etc.), feedback is possible, i.e. the connection between the curriculum and didactic software will also be able to establish computer connections using local and global networks.

Another component of the formation of the "Interactive Dialogue Space" is the "Block of various control measures in the field of means of teaching". The main operational functions of this block are:

- Control questions to determine the content of theoretical material;
- Questions on the management of the choice of the procedure for the implementation of activities;
- Questions to control the implementation of training tasks;
- Questions to check the answers of students (peripheral consumers - users, participants of regional IEE);
- Issues related to the evaluation of the results of the student's educational activities, etc.

The results of our research and experience in this area show that such innovative and integrative activities are impossible without the development of an ergonomic system for preparing future vocational education teachers for innovative activities.

Ergonomic systems - systems designed for "Human-Computer Communication" and "Assistance in managing events and processes using the Human-Computer system". Of these, the systems "computer-teacher-operator", "teacher-computer-student" are of great importance as a universal didactic tool in finding the best options for managing the educational process, improving student learning. It is used in intelligent fields based on computers, computer networks and other computing devices.

The rapid development and improvement of informatization of education creates ample opportunities for finding effective solutions to the problems of preparing future teachers for various professions. This is manifested in the creation of ergonomic systems in the search for the optimal variant of the educational process, which should solve a number of important issues. One of these issues is the creation of an information management system, which requires scientific and methodological substantiation of the organizational and functional structure of the ergonomic system.

Based on the results of our research in this area, we considered it appropriate to formulate it in the

following sequence:

1. A set of general professional resources. At the same time, the following are suitable for the preparation of such types of resources: educational standards; electronic educational literature; questionnaires; test questions; instructions and guidelines for working with computers; video projectors and instructions for working with them; interactive whiteboard and instructions for working with it; work programs of the teacher-manager; expert and educational programs; consulting software; the main catalog of the IEE and the teaching staff of specialists trained in it (Jizzakh Polytechnic Institute); information resources, etc.;
2. Environment of professional communication. At the same time, it is necessary to prepare for use the following components related to the formation of an ergonomic system: The functional function of the general directory in the IEE and related information resources; preparation of an information and reference system for the use of an educational information and control system; preparation of the initial information system; systematization, coding and registration of their employment; generalization; professional teleconferences; thematic (on a specific topic) chat; e-library; didactic portfolio, etc.;
3. Information technology environment of the educational process. The following systems will be prepared for practical use: intelligent learning systems; methods, techniques and technologies of the technological approach to interactive learning complexes; developments for interactive lessons; educational and methodological support; information management database; law, rules, criteria, principles and control of work on the software and didactic complex, etc.
4. Intelligent interface and intelligent learning adaptation. At the same time, it is necessary to fully ensure the practical possibilities of the following components to optimize the practical operation of the ergonomic system: the informative part of the Internet and its software; opportunities for direct and feedback; the possibility of holding a teleforum and teleconferences (as well as in the regional IEE simultaneously with the main IEE); telemedia books; educational strategy materials; opportunities for educational monitoring, etc.
5. Educational-program-didactic software environment. At the same time, more attention will be paid to the educational, program and managerial activities of this study and the following components will be facilitated for practical use: special educational and didactic support; multimedia educational technologies; automated learning systems; software for simulation models; educational and software didactic complex, etc.
6. Information management system. Pay close attention to the following components: control unit; technology of "Interactive Dialogue Space" and the strategy of actions for its implementation; criteria and requests for required information; the results of processing the initial information by the system for making the necessary decisions; educational-software-didactic complex; various checks in the field of methodological support; computer test management; knowledge testing and software testing; functional characteristics of the main IEE or regional IEE; system resources of regional IEE, etc.;
7. Conditions for the introduction of ergonomic systems in educational practice. It prepares a didactic and organizational basis for the practical aspects of the following components: a didactic basis for the use of ergonomic systems; components of the ergonomic system and their didactic possibilities; electronic educational and methodical complex; various measuring devices that allow the exchange of information between the main IEE and regional IEE; The results of the performance of the operational functions of the main and regional IEE; conclusions and recommendations based on the results; innovative readiness of the student; the role and place of the head of the ergonomic system (researcher) in the optimal management of learning, etc.

Thus, the informational approach to FS training for innovative activity and the organizational and functional structure of the corresponding interactive training complexes are of a similar nature when processing training data. Their similarities are manifested in the following areas:

- Information flow in the form of primary data and their processing. In this case, the environment data of the preliminary and first stages of this research work;
- Information systems on the "Didactic Portfolio" (reference data, didactic materials, a set of creative information) and supplemented, enriched and improved educational complex for FS training for innovative professional activities;
- The technology of "interactive communicative space", the technology and strategies for its implementation, as well as the process of data processing in the performance of their functional functions by interactive learning complexes, etc.

It follows from this that the formation of ergonomic systems for FS training for innovative activity and their widespread use in practice will ensure the optimization of our activities in this area. That is why we started to develop an ergonomic system to solve this problem and determined its appearance, as shown in Figure 3. The ergonomic system presented in Figure 3 shows that the preparation of the FS for innovation depends on the process of functioning of the control system and its relationship with its subsystems (as well as its elements), as well as the relationship of subsystems of teachers (guards) and students.

This requires regular contact of the teacher (researcher) and students with the object of study (learning activity of students) and other parts of systems and elements of parts associated with it (system resources of the main IEE and regional IEE). At the same time, the considered ergonomic system can also be a reliable assistant in performing the functions of preparing the FS for innovative activities. They are clearly visible in the following areas:

- Expanding the scope of the information approach to the preparation of the FS for innovation;
- Expansion of the scope of work with exhaustive and large volumes of information;
- When the ergonomic system is formed as an open system (the information approach in the process of preparing the FS for innovation allows you to add or remove information depending on the process);
- Creation of a wide range of opportunities for direct and reverse communication in the technology of "Interactive Dialogue Space" and its implementation in practice (one-way communication, two-way communication and two-way group communication);
- Regular accounting of the results of educational activities of students (self-monitoring) and the development on their basis of criteria for determining professional development;
- When there is a full opportunity to conduct operational communication with the main IEE and regional IEE, and so on.

Thus, the above-mentioned ergonomic system shows that interactive training complexes and the stages of their implementation in preparing the FS for innovative activity are anthropocentric. This requires the teacher (researcher) to be in constant contact with the innovative-integrative learning process and other relevant environment (system resources of the main IEE and regional IEE).

The use of interactive learning complexes in the implementation of the process of innovative and integrative education is carried out in the following sequence: didactic foundations of intellectual education; intelligent learning systems; components of the technological approach; interactive learning components; intelligent interface; adaptation of intellectual education; introduction of an interactive training complex into educational practice.

The sequence of practical use of these interactive training complexes emphasizes that ergonomic system must perform the following functional tasks:

- Collect information about the educational process and make it available for practical use;
- Systematize the collected data, taking into account the goals and objectives of the study and make them informative;
- Transfer of the collected data to the next stage of the action strategy for preparing the FS for innovative activities;
- Transfer of information from the prepared information about the goals and objectives of innovative-integrative education to the next stage of the ergonomic system;
- regulation of a set of functional actions in an ergonomic system and constant monitoring of information flows transmitted and processed with sufficient accuracy, and the performance of functional functions with its direct and feedback (one-way communication, two-way communication, two-way group communication);
- Ensuring that the ergonomic system consists of an open system and allows taking into account the fact that the flow of information on innovative-integrative education can increase or decrease at any time;
- Ensuring the inseparable connection of interactive educational complexes with the process of innovative and integrative learning, taking into account the balance between the teacher and the student and, on their basis, adjusting the ergonomic system, if necessary, etc.

Thus, an ergonomic system designed to prepare the FS for innovative activity allows creating the best option for preparing future specialists for professional activities and is a universal method that can be used to solve other similar technical, technological, economic and social problems.

With this in mind, in the next part of our study, we considered the implementation of an ergonomic system designed to prepare the FS for innovative activities based on interactive training complexes.

BIBLIOGRAPHY:

1. Turakulov O.X., Axmedov J.R. Axborotlashtirilgan ta'lim muhitida bo'lajak kasb ta'limi o'qituvchilarini innovasion faoliyatga tayyorlashni takomillashtirish// Monografiya. - T. : «Fan va texnologiya», 2019.
2. To'raqulov O.X. Axborotlashtirilgan ta'lim muhitida kichik mutaxassislar tayyorlashning ilmiy-metodik ta'minotni takomillashtirish. Ped. fanlari bo'yicha doktorlik (DSc) ... diss. avtor. -T.: 2017.
3. Axmedov J.R. Bo'lajak mutaxassislarni innovasion faoliyatga tayyorlash uchun "Interfaol muloqotlar maydoni" texnologiyasini ishlab chiqish// "ILIM ha'm JA'MIYET" ilmiy-uslubiy jurnal. 2019. №4.
4. Nasriddinov I.X., Xadjaboev A.R. Novaya informasionnaya texnologiya // O'rta maxsus, kasb-hunar ta'limi tizimining rahbar, pedagog va muxandis-pedagog kadrlarini malakasini oshirishning ilmiy-pedagogik muammolari: Respublika ilmiy-amaliy konferensiyasi materiallari. -T.: OO'MKHTTKMO va O'QTI, 2003.
5. Hamidov J.A., Bo'lajak kasb ta'limi o'qituvchilarini tayyorlashda o'qitishning zamonaviy didaktik vositalarini yaratish va qo'llash texnologiyasi // pedagogika fanlari bo'yicha fan doktori (DSc) diss... T.: 2017.

6. Nikitina Ye.A. Pedagogicheskie usloviya formirovaniya professional'noy mobil'nosti budushego pedagoga: Diss...kandidata ped. nauk: 13.00.01 / Ye.A.Nikitina. - Irkutsk, 2006.
7. Vooglayd Yu. Metodologicheskie problemi klassifitsirovaniya i strukturirovaniya innovatsiy / Yu. Vooglayd // Problemi innovatsiy i eksperimentatsiy: Tezisy seminarov «Innovatsiy i eksperiment». — Tallin, 1981.
8. Novye tsennosti obrazovaniya: tezaurus / pod red. N.B.Krilovoy. Vyp.1. M.: Innovator, ILI RAO, 1995.
9. Lapin N.I. Sistemno-deyatelnostnaya koncepsiya issledovaniyanovovvedeniy / N.I. Lapin // Dialektika i sistemnyy analiz / Pod red. D.M.Gvishiani. - M., 1986.