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MODERN INTERACTIVE METHODS OF DISTANCE LEARNING AND THEIR ROLE IN SPECIALIST PROFESSIONAL COMPETENCE FORMATION

Introduction

E-learning is an innovative technology directed to the professionalization and mobility increasing of those who study and at the modern stage of information-communication technologies development it can be viewed as the technological basis for education fundamentalization [12].

This concept has long been used in professional environment. Most frequently the term «e-learning» is used to denote learning in which information telecommunication technologies are used [1, 15, 11]. It is emphasized that the term "e-learning" is often used as the synonym to the concepts: distant learning, computer learning, net-learning, virtual learning, multi-media learning, mobile learning [16].

Today, in modern, extreme, quarantine conditions, the interactive distant methods of learning based on the purposeful and controlled intensive independent work of students. Zhytomyr Ivan Franko State University is not an exception. Constant attention is paid to the improving of educational services quality and the introduction of modern innovative methods into traditional and interactive learning using interactive methods, different audio-visual programs (Skype, video conferences on the Zoom platform as well as Viber, You Tube, Telegram, Instagram and others.) In modern times the role and place of distant learning forms and the use of modern information innovative technologies increased. The distant form of learning was put into effect by order of the Ministry of Education and Science of Ukraine in connection with quarantine introduction all over the Ukraine. That is why distant learning is one of the modern education new realities in difficult circumstances.

The aim of our research is to establish the influence of distant learning on innovative activity and formation of specialists personal and professional competencies.

Methods of the research: sociological survey.
Results and discussion

Today there is a need for creative, gifted, intellectually developed citizens. The 21-st century is the epoch of changes which demands generating and realization of new ideas and educational project of new millennium-innovative transformations from educational establishments.

In the 21-st century the education changed into one of the main sources of strategic resources of human capital and knowledge which determines the general level of society development. The education which teaches to live successfully in modern world is of great value.

The present day society needs professionally competent youth which can quickly adapt to unstable conditions, which is capable of risking, independent choice of activity spheres, success-oriented behavior, self-organization. The life success of the person is the result of the strategy and tactics. It is created on the basis of value system, motivation sphere and the formed ideal of the future.

So, the creation of conditions for personality development as unique individuality capable of creative self-realization is the task of the teacher at classes.

With civilization development demands to education quality change constantly and the innovations in the education sphere are one of the most important means of ensuring this quality.

Innovation (lat. innovatio- renewal, change) – newness, change, renewal, new approach, the creation of the new quality, the use of known for new aims. In pédagogies the notion "innovation" is used in the following meaning: the form of innovative activity organization, the totality of new professional actions of the teacher directed to the solving of actual education problems and teaching from the standpoint of personality oriented education; changes in educational practice; the complex process of creation, distribution and implementation of new practical means in the sphere of technique, technology, pédagogies, scientific research, the result of innovative process [3].

Innovation as the process means partial or total change of the system state and accordant human activity. Innovation as the result presupposes the process of creation new which has the specific name «novation».

V.F. Palamarchuk considers novation as the result of person’s or collective’s research which opens new in science or practice, innovation- as the result of creation, formation and implementation of new ideas. The implementation of the new ideas is the sign which differs innovation from novation [8].

Innovativeness as the pedagogical principal provides conditions for personality development, exercises its right to the individual, creative contribution to personal initiative, to freedom of self-development. Innovativeness is considered not only as the readiness for perceptions, the production and the use of new but first of all its openness.
In present-day conditions among perspective pedagogical innovations the researchers single out technologies for problem-module and module-rating learning, technology for students individual work organization, information technologies complex, technologies for teaching and control of knowledge, skills and abilities, test technologies to control levels of students learning achievements, case technologies and others [4, 14].

Innovative technologies give possibilities both for teachers and students to improve traditional forms and methods and use new ones such as trainings, round tables, brain stormings, press conferences, discussions professions presentation, etc. It should be noted that orientation to new approaches demands changes in views of the teacher on traditional approaches to the teaching and choosing strategies for integrated research; transition to methodological literature based on the principle of creative research for the answers to difficult, not ordinary questions, on alternative approaches, on stimulating the independent work.

The role of new educational technologies on the basis of present day understanding of the learning process demands the analysis of educational situation, projection of its development, the export of the project (model), making programs for project realization, the control and correction of the educational practice and the results expertise [5]. The part of educational innovations in modern educational establishments quite often depends on higher school teacher subjectivity formation. That's why personal unpreparedness of the teachers to learning process becomes the main obstacle for innovative educational technologies implementation. L. Podimova and L. Slushtynin consider in details the notion " personal preparedness of teacher to innovation and find it systemic and creative factor in professional-technological factor of the teacher [13].

Educational innovation is the result of search for original non-standard decisions of different pedagogical problems. The product of creative search may be new learning technologies, original educational ideas, forms and methods of education, non-standard approaches in management.

The product of innovation as the creative activity is the increase of teachers pedagogical skills, the level of their culture, thinking and outlook. The creative search also influences the personality of the student: they work more actively, they begin to test their own innovative possibilities.

Innovation in education is necessary for solving those problems which were solved in different ways; as the result of creative search for original non-standard decisions to solve different pedagogical problems, as systemic new forms which appear on the basis of different initiatives; as the products of innovative educational activity which are characterized by the processes of formation, distribution and use of new means in the sphere of pedagogics and scientific research.

The innovation differs much from pedagogical experience which is characterized by all knowledge, abilities and skills obtained in the process of
practical teaching activity; is the part of aggregate teacher's culture which is the basis, the result and the practical pedagogical activity. The innovation reflects present knowledge, abilities and skills and individual features of the personality.

The educational innovation is characterized by newness in the sphere of psychological-pedagogical, social-economic and scientific-productive research directed to quality improvements in educational process. The improvement of educational process quality is in improvement of educational systems, the educational process parts, educational technologies, scientific-methodological workouts and normative law documents.

The learning innovative technology is the choice of teacher-student operative activity which produces essential improvements in students' motivation to learning process and thus changes in learning interest, the learning becomes vital value [10].

Pedagogical innovation is a new phenomenon in modern pedagogics beginning from middle of the 20-th century and is being elaborated now. Among pedagogical innovations a significant place is occupied by active forms of learning and non-standard approaches to problems in the learning process. The problem of learning process activization, the formation of students knowledge in special subjects is the acute problem. To solve this task teachers direct their activity to elaborating and the use of such forms, methods and means of teaching which can rise students cognitive interest activity and creativity in getting knowledge and skills and their use in practice.

Our students who work in the system of distant education improve their professional self-development in free time. During communication in Zoom program we considered modern challenges for specialists in ecology and environmental activity. Debatable questions which appear during the lecture provoke intensive discussion and response. That's why distant education can be considered as the space for self-actualisation of future specialist personality.

The use of these technologies for audio-visual communication removes the question of live contact absence in teacher-student relations. According to the results of students survey the absence of contact with teacher in distant form learning provoked certain psychological discomfort.

According to sociological survey of ecology students (fig.1) the question "Are you satisfied with possibilities of information interaction with teachers and students who study in distant form?" got the following answers: 68% or students admitted that they are fully satisfied, 28% – partially satisfied, 4% – not satisfied from a sample of 124 respondents.
The question "Did you have problems in the process of electronic lectures and classes?" got following answers: 58% of students admitted there were no problems during lectures and practical classes were organized well (fig.2). Also the students admitted other problems they had in learning process. They are: hardships in learning material through Internet (21%), the absence of time to prepare for classes (11%).

So, the quality of distant education is not inferior in quality than full time education and is getting better due to work of well-known professors and teachers of the biological faculty and the chair of ecology and geography, the use of the
best educational and methodical publications and elaborated tests in different subjects.

On-line learning has some substantial advantages. It is students' motivation due to the use of different forms of learning in the educational process and also the feedback from teachers thus approaching to the effect of live learning [7].

Electronic learning includes all types of educational technologies using electronic means of teaching. They are:
- multimedia teaching;
- technologies of electronic learning (TEL);
- computer- based instructions (CBI);
- computer- aggregated instructions (CAI);
- Internet- based teaching (IBT);
- Web based teaching;
- on-line education, virtual learning education (VLE) (they are also called learning platforms);
- mobile learning and digital educational projects [6, 9].

At present distant learning is one of the key directors of educational system of Ukraine renewal. The scientific-theoretical understanding of distant forms of learning is in progress now, new terms are being introduced into scientific circulation, the appropriate methodological support is being elaborated, experimental approbation of new educational technologies is taking place.

In distant learning different methods of learning information presentation can be used – from traditional printed editions to the most modern computer technologies (radio, TV, audio-, video-, broadcasting, audio-, videoconferences, E-learning, on-line learning, Internet conferences, Internet broadcasting).

Distant learning has some advantages in comparison with traditional learning: modern educational technologies, information sources availability, individualization of learning, convenient consultation system, democratic relations between students and teachers, convenient time-table and place of work [2].

The quality of higher school graduates training, the criteria of which is the professional competence - is one of the main tasks of professional education. Amazing different needs of market economy the need for intellectual, cultural, physical and moral development and self-realization of personality as well as needs of certain enterprises, organizations and society in highly qualified specialists, in accumulation and application of scientific-technical and cultural potential. The training of young specialists for social production, for conscious working activity in new conditions - is one of the main tasks of the educational establishment. Labour market today demands high professionalism, based on the maximum use of inner potential, professional mobility. The training of future specialists depends much on solving the problems of professional awareness of the students. Modern human lives in conditions of
society with high level of information and the task of educational system is to teach him to live in such environment, to create conditions for non-stop education.

The formation of professional self-awareness helps young specialists to become a competitive personality in market conditions which is oriented to high quality of the work results.

Professional self-awareness – is one of the main components of professional self-determination, thus it has important meaning for professional development of the future specialists. The training of future specialists demands the formation of psychological preparedness, the obtaining of professional knowledge, abilities and skills which are the parts of specialist model. He must be prepared for active, creative, professional and social activity to be able to get new knowledge independently and control his results to make own professional decisions, to be capable to different kinds of professional activities, to solve professional tasks with competence and responsibility.

It is impossible to reach high level of professional knowledge if the student does not realize the perspectives of certain subjects applications and their role in formation of professional knowledge and abilities.

One of the possible ways to form professional self-awareness is the activation of students' personal position. In specialist formation it's important that students get complex of knowledge, abilities and skills on the basis of the interdisciplinary links as an important factor of learning activity increase.

One of the criteria which characterizes the readiness of the specialist for professional activity is the ability to work creatively and independently.

The main task in training highly qualified specialists is the development of students ability to solve problems in certain speciality creatively. The important element of this process is the self-education which depends on independence as the personality feature. The formation of independent skills in students must provide the educational establishments with effective management of students independent work which includes organization and control.

One of the important things in getting the success in learning activity based on the motivation directed to learning-cognitive work. This activity is observed when students recognize the aim of learning, plan and organize their activity, can control it, display interest to professional knowledge, put questions and know how to find answers. Activity is the display of students' attitude to learning-cognitive activity which is characterized by the desire to reach the aim within definite period of time.

Through distant learning students can reach non-traditional sources of information, raise the effectiveness of the independent work, reach absolutely new possibilities for creative self-expression, to fix different professional skills, and the teachers get the possibility to put into practice absolutely new forms and methods of teaching using conceptual mathematical modeling of phenomena and processes.
The development of distant learning will go on and improve with the development of Internet technologies and methods of distant learning.

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**Abstract**

Modern interactive methods of distance learning and their role in specialist professional competence formation are considered. In modern conditions the role and place of distant learning forms and the use of modern information innovative technologies keep on growing. In electronic learning different methods of educational information provide can be used: from traditional printed editions to the most modern computer technologies ( radio, TV, audio and video broadcasting, audio conferences, e-learning, Internet conferences, Internet broadcasting ). Today distant learning is one of the key directions in renewal of all links in educational system of Ukraine.

**Keywords**: e-learning innovation, specialist, interactive methods, professional competence.