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PEDAGOGICAL MODEL OF ORGANIZATION OF DISTANCE TEACHING AND LEARNING IN THE CONDITIONS OF NETWORK TECHNOLOGY OF STUDENTS' EDUCATIONAL AND CREATIVE ACTIVITY MANAGEMENT

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ABSTRACT:

Theoretical and methodical bases of management concepts, information and digital technologies implementation into the educational environment in the conditions of distance teaching and learning are analyzed.

*The **purpose** of the paper is to develop a comprehensive pedagogical model of distance teaching and learning organization in the conditions of implementation of network technology of students' educational and creative activity management.*

*The research **methodology** was determined by a set of methodological approaches (systemic, activity, competence, personality-developing) and was based on a pedagogical experiment which included ascertaining, forming and control stages.*

*The **results** are as follows: it is well-proven that the only Internet platform for creation of educational SMART-environment in the higher education institution should be basic for organization of distance teaching and learning. It allows automation of teaching and learning processes, which is provided for a network contact of students and teachers in the interactive mode. Pedagogical model of distance teaching and learning organization in the conditions of network technology of student's educational and creative activity management is offered. It consists of the pedagogical system components, diagnostic SMART-complex and methods of pedagogical influence. Technological stages and content of distance teaching and learning organization are justified in educational SMART-environment. Methods, forms and facilities of realization of the studied*

phenomenon are substantiated in the system of didactics educational complexes. It has been defined that the basic link of distance teaching and learning organization is a telecommunication environment, which includes: informatively-digital, educational-methodical and didactics contents. Experimental work performances have proved the substantial increase of high-quality indexes of the agrarian sphere students' professional training (success, motivation, creative activity, productivity) in the conditions of implementation of network technology of students' educational and creative activity management.

The **conclusion** is that the realization of this pedagogical model in the system of distance teaching and learning allows to intensify considerably students' creative activity, to promote a level of their internal motivation, to deepen the level of independence and individualization of studies, that in a result is determined by the high level of future specialists' professionally-creative competence development.

KEY WORDS:

Distance Teaching and Learning, Network Technology, Students' Educational and Creative Activity Management, Educational SMART-Environment, Digital Pedagogics.

INTRODUCTION

Nowadays distance teaching and learning are gaining momentum through the objective processes of communication development; it is one of the powerful mechanisms to meet the needs of people in sound education. The use of Internet technologies during the organization of distance teaching and learning provides prompt and comprehensive access of applicants to the data bank on scientific, educational and methodological issues; allows students to participate in many scientific, educational and training activities, which contributes to the level of general education and culture.

Distance teaching and learning, built on a technological basis on the Internet, contribute to the improvement of pedagogical foundations, information and legal support of pedagogical processes and society as a whole.

The problem of organization of distance teaching and learning in the conditions of Covid-19 epidemic has once again proved the need to implement elements of digital pedagogy in the higher

education system of Ukraine. The President of the National Academy of Pedagogical Sciences of Ukraine V. Kremen notes that civilizational changes necessitate human preparation for new, often fundamentally different technologies. First of all, we mean informatization and computerization. It is the state of science, education and related technologies that will determine the prospects for further development of education, science and production in Ukraine (Kremen, 2011, p. 9).

Information technologies that defined the image and essence of the twentieth century today are inferior to SMART-technologies, which open a new progressive way in the organization of distance teaching and learning. As noted in the latest principles of the National Strategy for the development of education in Ukraine "education of the future should be based on a combination of information and digital technologies and individual technologies of personal development within a general electronic platform" (Hrynova, 2010).

This technological process should organically combine distance teaching and

learning with modern elements of digital pedagogy (SMART-educational complexes, information and communication technologies, electronic resources and means of activation of students' cognitive activity).

THEORETICAL FRAMEWORK

Distance teaching (DT) is an independent form of study that uses mainly information technologies, which are the leading means of organization of the learning process. DT contributes collaboration of teachers and students at a distance that reflects all the inherent components of the pedagogical process (goals, content, methods, organizational forms, teaching aids) and is implemented by specific means of Internet technologies, which provide interactivity (Morze, 2001).

The scholars distinguish three basic technologies in DT: 1) case technology at which teaching methodical materials are clearly structured and completed in the special set (case), then they are sent to the student for independent studies with periodic consultations of teachers in created for these aims remote (regional) training centers or points; 2) TV technology based on the use of television lectures with consultations with teachers; 3) network technology, which is based on the use of the Internet, both to provide students with teaching materials and for interactive cooperation between a teacher and a student (Albegova, 2009; Dotsenko, 2020; Morze, 2001).

Distance teaching, in terms of scientific approach, provides the following benefits: 1) reduce the cost of learning; 2) increase the productivity of the educational process, while attracting a large number of applicants to study; 3) increase the level of independence and individualization of education; 4) improve the quality of the educational process through the use of modern technical means of teaching, electronic information sources; 5) modernize the pedagogical system, creating educational SMART-environment according

to modern principles of digital pedagogy (Albegova, 2009; Buidina, 2020; Hrynova, 2010; Dotsenko, 2020; Klochko, & Nahaev, 2019; Klochko, et al., 2018).

The experience of Great Britain should be mentioned, where an important direction in the development of vocational education is the application of the tutorial system which uses the Internet platform "Moodle" (Modular Object-Oriented Dynamic Learning Environment) –modular object-oriented dynamic learning environment, providing access to course materials and offering discussion forums, chats and educational web conferences with tutors (Lushchyk, 2017).

Due to modern information sources, various Internet networks and electronic portals (Moodle, Google Meet, Zoom, Viber, Telegram, Skype, E-mail, etc.) are used nowadays to organize DT in the educational space. However, they all have different means of data transmission and limit the participants of network communication in existence of certain integrated system of educational process management. Under these conditions, the system of higher education should effectively combine information and digital technologies with elements of distance teaching based on the pedagogical model of students' educational and creative activity network management.

Scientific researches of the authors on implementation of technological bases of pedagogical processes prove possibility on these grounds to develop network technology of distance teaching with the use of digital contents. This project will create a reliable system for managing students' educational and creative activity in the context of distance study using the appropriate on-line network content in an interactive mode. Some methodological and methodical bases of this technology have been worked out in the relevant monographic studies (Hrynova, 2010; Klochko, & Nahaev, 2019; Nahaev, 2001; Nahaev, 2012; Dmytrenko, & Kolbina, 2017).

The purpose of the paper is to analyze the existing didactic approaches to the organization of distance teaching and learning in the system of technological support of pedagogical processes based on the development of a comprehensive model of students' educational and creative activity network management.

METHODOLOGY

The research was based on a pedagogical experiment, which had a classical technological formulation with the selection of control and experimental groups and included ascertaining, forming and control stages. The experimental groups studied according to the pedagogical model of students' educational and creative activity network management, and the control groups studied according to the traditional system of teaching.

Analyzing the conditions of the experiment, it should be noted that in each experimental group the students studied both at state order and on a contract basis. In terms of classroom and independent work, the curriculum for experimental and control groups was identical.

The content of the curriculum of the experimental groups differed in the higher level of independence, individualization, the volume of research work. At the same time, the students of experimental groups independently chose didactic forms of educational and creative activity from the list proposed in the educational program on the principle of "self-service in the cafeteria". The research was conducted on the example of professionally-oriented disciplines at the bachelor's and master's educational levels of applicants for economic specialties of Petro Vasylenko Kharkiv National Technical University of Agriculture and V.V. Dokuchayev Kharkiv National Agrarian University.

Monitoring the quality of learning was carried out according to the methods of multilevel evaluation by various diagnostic methods, which included: testing, oral and written interviews, solving situational

problems, business games, analysis of student responses to the proposed pedagogical innovations, etc. The checking system included current, intermediate and final control measures.

RESULTS

Effective organization of distance teaching is a complex pedagogical problem, which is interpreted by many factors: 1) the Internet environment of transmission and exchange of educational information; 2) reliable technical means of teaching; 3) technological model of distance education management based on the only Internet platform; 4) digitalization of communication network, which should unite all participants in the learning process; 5) didactic methods of teaching and knowledge control.

When organizing DT, the only information environment of a higher education institution should be created, which provides automation of the main processes of activity – an appropriate Internet resource for on-line network contact in the interactive mode of applicants and teachers. Educational systems of different countries use various Internet platforms ("Unicraft", "Spring of Learn", "Webtutor", "Moodle", "Mitapolis Lm", etc.), which vary in functional possibilities, terms of organization of on-line learning and availability of their use. The most widespread in educational space is Internet platform "Moodle", which is used by many higher education institutions.

Nowadays some higher education institutions are improving this electronic resource, forming more advanced models. However, in our opinion, the problem is the lack of the only Internet platform at the level of the Ministry of Education and Science of Ukraine, which should provide all higher education institutions with common information educational standards.

The materials of such Internet platform create an appropriate educational SMART-environment, which can serve as both information and tool base for distance teaching and learning (lessons are planned

on the materials of information forums, surveys, annotated references, methodological developments and methods regarding a particular lesson).

The educational SMART-environment of students' educational and creative activity network management in the system of distance teaching and learning should contain the block of electronic educational and methodical complex. A teacher is given an opportunity to use this block to form and develop digital content of the discipline on the basis of intelligent algorithms (Data Mining), modeling the learning process, using electronic resources of the discipline, creating didactic search modules and on-line counseling.

Realization of this approach allows to apply the mechanisms of management integration (combination, penetration, convergence, formation of relationships) and systematization of data of various disciplines, which, in turn, provides an environment of integrated management system of students' educational and creative activity (Klochko, et al., 2018, p. 39).

It is important to build an effective didactic system for organizing the management of students' educational and creative activity on the basis of technologicalization of pedagogical processes. For this purpose it is necessary to significantly increase the level of methodological support, informatization and digitization of all elements of the pedagogical system. This direction needs appropriate pedagogical planning of educational resources on a distance basis in terms of managing students' educational and creative activity.

Designing a pedagogical model of the organization of DT in the conditions of students' educational and creative activity network management should be conducted taking into account the system approach covering all elements of pedagogical system: 1) the purposes of learning (they should be adjusted according to the content of education in the form of models of

educational and creative activity results); 2) the content of education (focus on the development of creativity and competence of future specialists); 3) the team of teachers (they must be ready to organize DT); 4) the team of students (they must be prepared for self-management of educational and creative activity); 5) principles of teaching (they are being improved in the context of systematic dialectical development of patterns of implementation of digital technologies); 6) methods and forms of teaching (they must be adequate to modern educational information and digital technologies); 7) teaching aids (didactic, technical) are formed on the basis of the problematic nature of learning and are determined by the development of scientific and technological progress in the field of pedagogy; 8) didactic processes (they should organically connect all the above elements in order to form the professional and creative competence of future specialists).

One of the major tasks of realization of this pedagogical problem is the formation of students and teachers skills to work in a SMART-environment under conditions of remote access, as well as achieving a high level of independence and individualization of students' educational and creative activity. At the same time, the measure of self-management of students' educational activity is closely related to the completeness of the teacher's data on the content, structure, technology and means of teaching and control.

Taking into account our experience, it is necessary to design an interactive network pedagogical technology that would implement the management concept of distance teaching on a three-level basis: Level 1 – management of students' educational and creative activity in the system "teacher-applicant"; Level 2 – management of students' educational and creative activity in the system "applicant-applicant"; Level 3 – network management of students' educational and creative activity in the system "educational SMART-complex-

applicant". Thus, the pedagogical model of organization of DT will be realized in the systems: direct management, mutual management and self-management of students' educational and creative activity. The main directions of solving this problem are in the sphere of modernization of the pedagogical system of higher education institutions and planning of the following theoretical and methodological, informational, administrative, technical and technological measures: planning and organization of educational network SMART-environment on the basis of the only Internet resource for the network contact of on-line in the interactive mode; creation of network electronic base of information resources (on the basis of electronic repository of library funds); formation of the electronic distance teaching complexes on the basis of electronic textbooks, manuals, recommendations for independent work of students in the network system; creation of diagnostic SMART-complexes based on the design of an electronic database of distance control (electronic journals of attendance at classes, accounting of independent and individual work, test control of knowledge (current, intermediate, final); development of normative and legal base of organization of distance teaching in the conditions of digitalization of pedagogical processes.

Each of the noted directions requires systematic and targeted research. On the example of educational process of Petro Vasylenko Kharkiv National Technical University of Agriculture and V.V. Dokuchayev Kharkiv National Agrarian University we will analyze a possibility of implementing digital educational content for distance teaching and learning in terms of network pedagogical technology of students' educational and creative activity management in 2016-2020.

The basis of the technology is the appropriate electronic capsule of Internet resource for network contact of teachers and students in an interactive mode. For this

purpose the universities use Internet platform "Moodle" and "Google Meet" as an electronic capsule for implementation of pedagogical processes. The general pattern of this pedagogical model can be presented in **Figure 1**.

Recently much attention has been paid to the development and implementation of electronic textbooks, which contain an electronic capsule of various multimedia formats and provide interactive cooperation of multimedia modules of educational material. Electronic textbooks use a system of multimedia dialogue with the reflection of the processing of educational information based on the application of mechanism of navigation and active hyperlinks. The hypertext of electronic textbooks presented in electronic form and provided with an extensive system of communications allows the applicant to instantly move from one of its fragments to another accordingly to thematic sections of the discipline.

An essential technological aspect of distance training of future specialists is the development of technological cards ("Syllabus") of distance learning courses, which are technological memo card of independent study of the discipline and allow students to plan personal strategy of self-management based on the principles of self-didactics. Such a technological card is given to students at the first lecture. It contains a bank of necessary information, methodical recommendations for independent study of the course in the form of educational targets, ways of solving them and distance forms of control.

Each distance learning course based on "Syllabus" contains the following didactic elements: theme and purpose of the training course; key concepts; knowledge and skills necessary for the study of material; theoretical material; glossary; practical tasks and laboratory exercises; structural and logical scheme of interrelations of studying of separate thematic components; literary sources; questions for self-control; tasks for modular control.

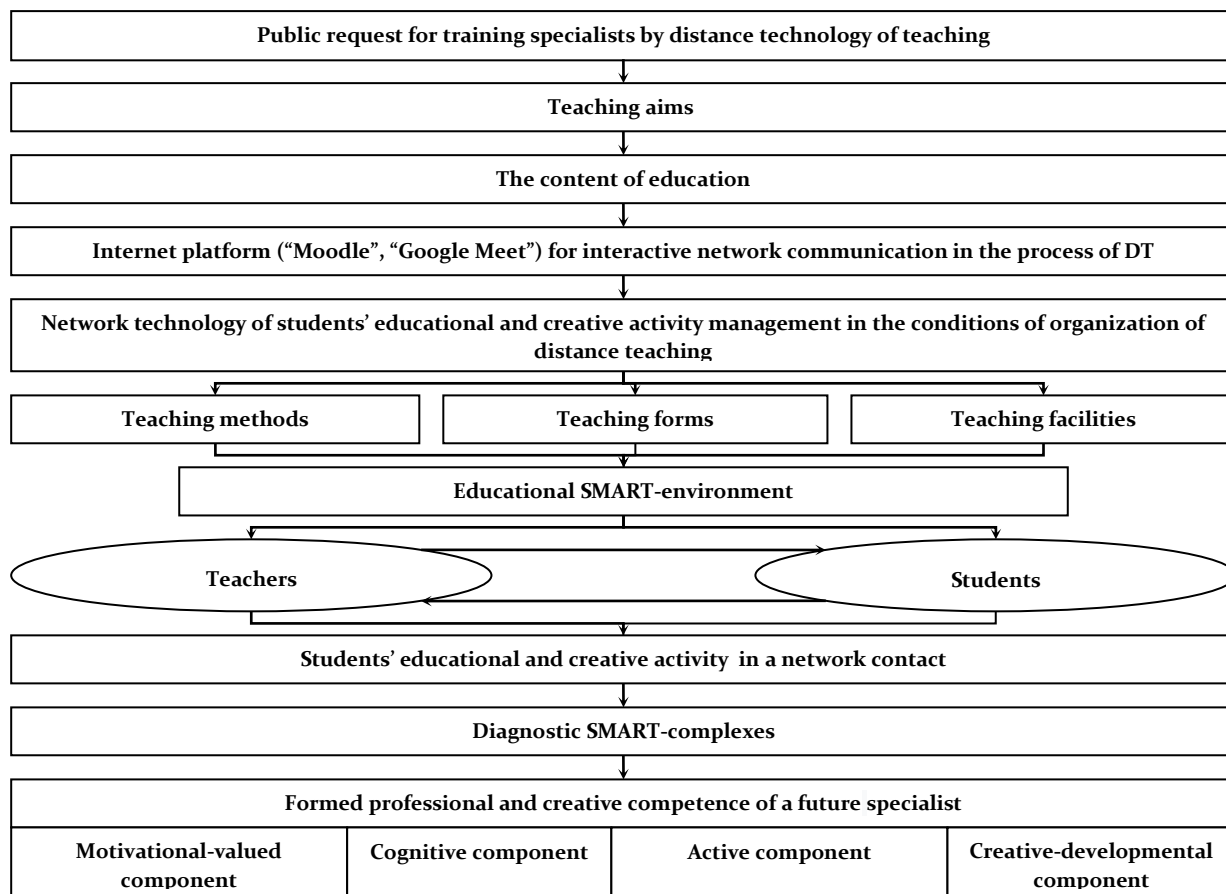


Fig. 1. Pedagogical model of organization of distance teaching and learning in the conditions of network technology of students' educational and creative activity management

At each stage of studying the discipline, students have the opportunity to plan an individual learning strategy for self-control of knowledge (depending on the level of training, possibilities regarding the rate of mastering of material individual learning goals, etc.). Practice has shown that this approach can significantly intensify the process of distance teaching and learning, improve its quality and productivity (Nahaev, 2012; Dmytrenko, 2016).

To implement an effective management system of educational and creative activity it is necessary to ensure a high level of decentralization of pedagogical influence, to create a structure of didactic process at which students will be able to supplement the information subsystem with elements of self-planning, self-organization, self-motivation and self-control.

The organizational components of the pedagogical model of students' educational and creative activity network management are as follows: 1) organization of teacher's

work on the development and implementation of pedagogical technology; 2) co-management in order to establish effective interactive communication in the systems "teacher-student" and "student-student"; 3) self-management of students' educational and creative activity during independent and individual work; 4) control and self-control of educational results.

In order to increase the efficiency of network management in the conditions of DT, ensure high quality and productivity of implementation of the results into the educational process, we have established a scientific center of didactics of management education as a center of scientific and pedagogical innovations, which allows at the level of scientific experiments to substantiate the theoretical and methodological principles of improving the organizational and technological measures of distance teaching and learning. The pedagogical experiments conducted by the scientific center of didactics in 2016-2020

showed an increase in the efficiency of the process of training specialists in terms of combining the traditional system of education with distance management technology of students' educational and creative activity.

At the experimental stage of the research, criterion indicators reflecting the ability of applicants to self-management of educational and creative activity in the conditions of distance teaching and learning on the personality-development component were determined by experts. Such criteria indicators of the quality of training of future specialists were as follows: success, levels of independence and individualization of educational activity, motivation and creative activity of students. The level of independent and individual work of students was determined by the coefficients of self-determination (CS) and individualization (CI).

The level of independence (coefficient of self-determination) characterizes possibility of a future specialist to undertake responsibility, independently to solve educational tasks and make independent decisions:

$$CS_{eca} = \frac{K_{sf}}{K_{sp}}, (1)$$

where: K_{sf} is an amount of the actually performed independently educational and creative tasks; K_{sp} is an amount of independent tasks on the course program.

The level of individualization (coefficient of individualization) is determined by possibility of students to perform individual educational projects which take into account the specific of professional activity of future specialists:

$$CI_{eca} = \frac{K_{if}}{K_{ip}}, (2)$$

where: K_{if} is an amount of actually proposed and performed individual creative projects; K_{ip} is a maximum possible amount of individual creative tasks (on the course program).

The motivation of students to distance teaching and learning by pedagogical technology of network management of students' educational and creative activity was determined by the coefficient of motivation (CM) as correlation of level of positive motives of applicants (aims, interests, internal motives) to the general level of positive and negative motives of applicants according to the proposed model:

$$CM = \frac{M_p}{M_p + M_n}, (3)$$

where: M_p is positive motives of applicants; M_n is negative motives of applicants.

The creative activity of students was assessed by the coefficient of creative activity (CCA), which is determined by amount and content of acts of positive student activity based on current control (participation in scientific conferences and seminars, preparation of research tasks, creative projects, providing reasonable proposals for solving production problems, etc.) as relation of amount of his individual acts of creative activity to the highest level of creative activity in the academic group:

$$CCA = \frac{CA_f}{CA_{max}}, (4)$$

where: CA_f is actual student creative activity; CA_{max} is student creative activity according to maximum criteria.

The coefficient of creative activity varies from 0 to 1,0. The following quantitative assessment of the levels of creative activity was determined: elementary ($CCA = 0-0.3$), average ($CCA = 0.3-0.6$), sufficient ($CCA = 0.6-0.9$), high ($CCA = 0.9-1.0$).

We'll follow the effectiveness of the implementation of the method of students' educational and creative activity network management (Table 1).

As it is evident from the analysis of the quantitative indicators, the average coefficient of self-determination according to the network management technology of students' educational and creative activity (CS) is 0.74, that is 21.3% higher than the

same indicator according to the traditional teaching methods (0.61). The average value of the coefficient of individualization (CI) has also increased significantly - from 0.54 to 0.7 (29.6%). At the same time, the coefficient of motivation has increased by 16.6%. Particularly the increase in students' creative activity is noticeable according to the network management technology of students' educational and creative activity (32.7%), that is connected, in our opinion,

with the organization of creative educational environment.

The practice of implementing this methodological model proved that the level of students' creative activity depends on the ability of applicants to choose individual organizational forms and teaching methods (preparation of individual research tasks, testing, compiling thematic crossword puzzles, solving situational problems, modeling professional situations, etc.).

Table 1. Analysis of the efficiency of introduction of network technology of students' educational and creative activity management in the conditions of organization of the distance teaching and learning, 2016-2020

Educational disciplines (educationally-qualifying level)	Average success is on a 100- point scale		Coefficient of self- determina- tion (CS)		Coefficient of individu- alization (CI)		Coefficient of motivation (CM)		Coefficient of creative activity (CCA)	
	MECA	TST	MECA	TST	MECA	TST	MECA	TST	MECA	TST
"Management" (bachelor)	89,4	79,7	0,78	0,65	0,74	0,58	0,77	0,67	0,74	0,56
"Jurisprudence" (bachelor)	91,0	82,2	0,76	0,63	0,72	0,56	0,72	0,61	0,78	0,61
"Management of Personnel" (bachelor)	89,0	78,0	0,81	0,64	0,76	0,55	0,80	0,66	0,74	0,59
"Administrative Law" (bachelor)	88,8	80,6	0,75	0,61	0,69	0,53	0,76	0,62	0,82	0,66
"Conflictology" (master's degree)	92,6	84,0	0,69	0,56	0,66	0,51	0,78	0,68	0,84	0,62
"Public Administration" (master's degree)	86,4	77,8	0,73	0,60	0,68	0,54	0,81	0,75	0,72	0,54
"Management Psychology" (master's degree)	91,8	82,4	0,71	0,58	0,67	0,52	0,78	0,64	0,76	0,51
On the average	89,86	80,67	0,74	0,61	0,70	0,54	0,77	0,66	0,77	0,58
Efficiency of implementation of model, %	11,4		21,3		29,6		16,6		32,7	
	22,32									

Thus the level of students' creative activity substantially influences on forming the component of creative self-development in the structure of professional competence of future specialists. According to all didactic criteria, a positive effect from the implementation of this pedagogical model was noted. In order to determine the dynamic differences in the results of educational and students' creative activities of experimental and control groups, they were grouped by components of professional and creative competence of future specialists in the agrarian sector (**Figure 2**).

The grouping was based on the method of distribution of students according to the variability of the formation of professional and creative competence of future specialists within the motivational-value, cognitive, activity and creative-developmental components. The analysis of the diagram shows a significant increase in the quantity of students in the experimental groups, which are at the level of the component of creative development in the structure of professional and creative competence (21.8% vs. 11.3%). 42.1% of students in the experimental groups and only 28.9% of students in the control groups

achieved the level of professional and creative competence.

At the same time, the quantity of students of experimental groups according to the set of activity and creative development components significantly exceeds the students of control groups (63.9%, against 40.2%). As a result of the experiment the hypothesis of the authors about more effective organization of distance teaching and learning in the conditions of implementation of network technology of students' educational and creative activity management is proved. The overall efficiency of the application of this pedagogical model is at the level of 22%.

Qualitative analysis of the obtained results proves that students of experimental groups at the level of formation of personality-developing component of professional competence are dominated by

skills of self-development. Assessing creative and professional qualities, teachers noted a much wider range of their development in students of experimental groups.

For instance, the planning activities of students in experimental groups were characterized by the ability to develop and adjust the individual strategy of self-management of educational and creative activity according to the achieved level of educational results. At the same time, the students of control groups, most often, were limited only to the choice of the purpose of the individual task and the direction of its implementation. According to numerous surveys of applicants, more than 77% of respondents indicated a desire to learn this technology, if there was a possibility of choice.

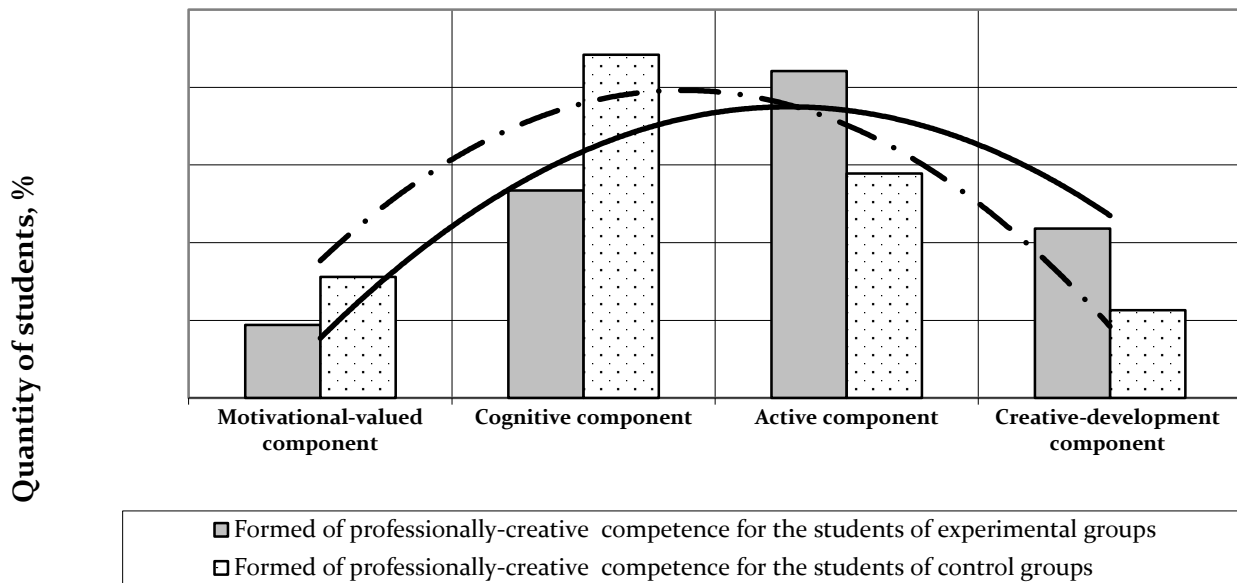


Fig. 2. A diagram of distribution of students according to the elements of professionally-creative competence

DISCUSSION

We consider that the results of the above research the following original ideas may be useful for specialists in the field of education: the design of network pedagogical technology to manage students' educational and creative activity for the organization of distance education.

This technology is based on the implementation of the educational SMART-environment into the educational process, which is determined by the electronic Internet platform with the formation of a network of interactive didactic connections based on the principles of digital pedagogy.

The basic mechanism of the offered pedagogical model is the system of three-level management didactics processes with the selection of interactive applications: “teacher–student”; “student–student”; “educational SMART-complex–student”. Thus the pedagogical model of organization of DT will be realized in control system, co-management and self-management of students’ educational and creative activity. The educational result of realization of the offered network pedagogical technology is forming of professionally-creative competence of future specialists on the basis of motivational-valued, cognitive, active and creatively-developing components.

CONCLUSIONS

An essential aspect of the organization of distance teaching and learning is the introduction into the educational environment of management concepts and information and digital technologies. The main organization of distance teaching and learning should be the information environment of higher education institution for networking in the interactive mode of students and teachers. To implement this pedagogical problem it is necessary to ensure the construction of the only electronic resource of distance teaching and learning on the basis of technologicalization and digitalization of pedagogical processes.

According to our analysis, the implementation of distance teaching and learning into higher education provides great opportunities for further

development of traditional forms of education and raising them to a new level. The results of the pedagogical research have shown that the implementation of network technology management in distance teaching and learning allows to significantly enhance the cognitive and creative activities of students, deepen the level of independence and individualization of learning, increase their internal motivation, which is ultimately determined by the high level of professional competence of future specialists.

The conclusion of the experiment is the importance of the formation of self-didactic functions of students – self-motivation, self-planning, self-organization, self-control, self-analysis, which is the result of a high level of decentralization of pedagogical influence.

The obtained results allow to determine the ways of further scientific and pedagogical research in this direction: design of electronic Internet platforms for network interactive pedagogical communication during distance teaching and learning; development of interactive methodical systems on the basis of electronic SMART-complexes of educational and methodical maintenance of the organization of distance teaching and learning; implementation of network pedagogical technology of management of students’ educational and creative activity in the pedagogical model of the organization of distance teaching and learning.

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**ПЕДАГОГІЧНА МОДЕЛЬ ОРГАНІЗАЦІЇ ДИСТАНЦІЙНОГО
НАВЧАННЯ В УМОВАХ МЕРЕЖЕВОЇ ТЕХНОЛОГІЇ УПРАВЛІННЯ
НАВЧАЛЬНО-ТВОРЧОЮ ДІЯЛЬНІСТЮ СТУДЕНТІВ**

АНОТАЦІЯ / ABSTRACT (in Ukrainian):

Проаналізовано теоретичні та методичні основи впровадження в освітнє середовище управлінських концепцій та інформаційно-цифрових технологій в умовах дистанційного навчання. Мета статті полягає в розробці комплексної педагогічної моделі організації дистанційного навчання в умовах впровадження мережевої технології управління навчально-творчою діяльністю студентів. Методологія дослідження визначалася сукупністю методологічних підходів (системний, діяльнісний, компетентнісний, особистісно-розвивальний) і базувалася на педагогічному експерименті, що включав констатувальний, формувальний та контрольний етапи. У результаті дослідження доведено, що основною організації дистанційного навчання має бути єдина Інтернет платформа для створення освітнього SMART-середовища закладу вищої освіти, в якому забезпечується автоматизація педагогічних процесів для мережевого контакту в інтерактивному режимі здобувачів і педагогів. Запропонована педагогічна модель організації дистанційного навчання в умовах мережевої технології управління навчально-творчою діяльністю студентів, яка складається з компонентів педагогічної системи, діагностичного SMART-комплексу і методів педагогічного впливу. Обґрунтовано зміст та технологічні етапи організації дистанційного навчання в освітньому SMART-середовищі. Обґрунтовано методи, форми та засоби реалізації мережевої технології управління навчально-творчою діяльністю студентів в системі дидактичних навчальних комплексів. Визначено, що основною ланкою організації дистанційного навчання є телекомунікаційне середовище, яке включає: інформаційно-цифровий, навчально-методичний та дидактичний контент. Результати експериментальної роботи засвідчили суттєве підвищення якісних показників професійної підготовки кадрів аграрної сфери (успішність, умотивованість, творча активність, продуктивність) в умовах впровадження мережевої технології управління навчально-творчою діяльністю студентів. Висновки: реалізація даної педагогічної моделі в системі дистанційного навчання дозволяє значно активізувати творчу діяльність студентів, підвищити рівень їх внутрішньої мотивації, поглибити рівень самостійності та індивідуалізації навчання, що у підсумку

визначається високим рівнем сформованості професійно-творчої компетентності майбутніх фахівців.

КЛЮЧОВІ СЛОВА:

дистанційне навчання, мережева технологія, управління навчально-творчою діяльністю студентів, освітнє SMART-середовище, цифрова педагогіка.

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