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**СУЩНОСТЬ И СТРУКТУРА ПОДГОТОВКИ ПРЕПОДАВАТЕЛЯ
ОБРАЗОВАТЕЛЬНОЙ ОРГАНИЗАЦИИ ВЫСШЕГО ОБРАЗОВАНИЯ К РЕШЕНИЮ
ИННОВАЦИОННЫХ ОБРАЗОВАТЕЛЬНЫХ ЗАДАЧ**

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Аннотация. В статье рассматривается проблема отбора педагогического дидактического инструментария профессорско-преподавательского состава вуза для решения актуальных инновационных задач профессиональной деятельности. Ориентация образовательного процесса на инновационную направленность предъявляет требования личностной и профессиональной компетентности преподавателей вузов. На основе принципа идентификации должностных обязанностей, требований профессиональных стандартов и федеральных государственных образовательных стандартов высшего образования в рамках анализа специфики методической деятельности преподавателя вуза определяется структура компонентов готовности преподавателя вуза к применению дидактического инструмента – средств электронного обучения, включающая ценностно-мотивационный компонент, когнитивный компонент, методико-операциональный компонент, оценочно-рефлексивный компонент. Сущность и специфика методической деятельности преподавателя, а также методологические подходы (пространственный, андрагогический, матричный, средовой, продуктный, деятельностный, компетентностный), используемые для анализа, позволяют определить содержание компонентов готовности преподавателей к применению средств электронного обучения в профессиональной деятельности. Анализ изменений методической деятельности в контексте решения инновационных задач позволил выделить уровни готовности преподавателя вуза к применению средств электронного обучения (базовый уровень, продвинутый уровень, творческий уровень), а также структуру видов готовности (мотивационная готовность, методическая готовность, технологическая готовность, экспертная готовность).

Ключевые слова: электронное обучение, средство электронного обучения, открытое образование, информационная образовательная среда вуза, готовность преподавателя вуза.

**THE ESSENCE AND STRUCTURE OF THE UNIVERSITY TEACHER READINESS TO
INNOVATIVE EDUCATIONAL PROBLEMS SOLVING**

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Abstract. *The article discusses the problem of university teacher didactic pedagogical tools selecting for solving current professional activity innovative problems. The educational process Orientation towards the innovative focus demands the university teachers personal and professional competence (based on the job responsibilities and the professional standards and federal state higher education standards requirements identify the structure of the university teacher readiness components to new didactic tool use (e-learning tools), including a value-motivational component, cognitive component, methodical-operational component, evaluative-reflective component. It is determined in the framework of the university teacher methodical activities specifics analysis). The teacher methodical activities nature and specificity, as well as the methodical approaches (spatial, andragogic, matrix, environmental, productive, active, competency) used for analysis, allow us to determine the university teacher readiness to e-learning tools use components content in professional activities. The methodical activities changes analysis in the solving innovative problems context made it possible to identify the university teacher readiness to e-learning tools use levels (basic level, advanced level, creative level), as well as the readiness types structure (motivational readiness, methodical readiness, technological readiness, expert readiness).*

Keywords: *e-learning, e-learning tool, open education, information educational environment of the university, university teacher readiness.*

The education system reforming tasks of post-industrial society required changes in the means and methods of university educational process teaching and organizing that are adequate to globalization, integration, and digitalization processes. This changes, based on the principles of state policy in the education digitalization field, has led to the education new type emergence – open, which is founded on free unlimited access to educational resources. Open education can be implemented in a new information and educational environment that integrates electronic information resources, information and communication technologies. E-learning as a new form of education is fixed in the fundamental regulatory act - the Federal Law "On Education in the Russian Federation" No. 273 dated December 29, 2012. The e-learning contributes potential development to increase in the students professional training quality, to increase the educational institution competitive advantages by attracting new pedagogical and human resources to implement educational programs; brand recognition of an educational organization in the information space. The starting condition for successful open education is the university teacher readiness to e-learning tools use in professional activities. The main e-learning tools user in the open education implementation is the teacher, who assumes the function of students managing process adaptation to the electronic information and educational environment.

Thus, the formation of the university teacher readiness to e-learning tools use in professional activities as productive pedagogical characteristic is a significant scientific problem.

Defining the essence of a productive pedagogical characteristic, scientists apply the principles of methodological approaches: competency-based, personality-oriented, systemic, activity-oriented, environmental, technological, cultural, algorithmic, integrative-developmental, contextual, matrix, etc. The qualification of using electronic information and educational environment, providing fixing the

course of the educational process, conducting types of classes using e-learning tools and evaluating learning outcomes; interacting between participants in the educational process using information and communication technologies teachers is specially described in federal education documents. The procedure of educational activities for the main educational programs of higher education organizing and implementing – undergraduate, specialist, bachelor, master's programs (The Order of the Ministry of Education and Science of Russia dated December 19, 2013 No. 1367) involves regular university teachers training in the field of information technologies in education.

Thus, the urgent contradiction between the needs of an innovative educational organization for teachers who own e-learning tools and the lack of continuing education programs developed with the specifics and characteristics of their professional activities in an open education needs to be resolved. For this contradiction resolving, it was necessary to develop the university teacher readiness for e-learning tools use structure at the first stage; the didactic system model, implemented in the teachers training course at the second stage.

Researchers come to the conclusion that "the university teachers methodical activity is a decisive factor in implementation the educational process any restructuring and the effective achievement of any learning goal" [1]. Type of activity is a generalized characteristic of the functional orientation of university teacher's professional work [2]. The distinction between activity types is these objects, directly determined by the activity purpose. The university teacher methodical activity specificity lies in the combination of several types: educational-methodical, scientific-methodical, organizational-methodical. Each type of methodical activity is expressed by different job responsibilities at the corresponding university teachers levels.

In the traditional classification, educational-methodical activities include: "lecture materials, practical and laboratory tasks preparation; basic methods application of the of subject students' knowledge pedagogical diagnosis; the assessment funds formation for the students intermediate and final certification (examination tickets, tests, cases, etc.); differentiated tasks for students independent work; writing textbooks, workshops, task collections, designing students individual trajectories, taking into account students' social and psychological characteristics".

In modern conditions of Federal State Educational Standards of Higher Education implementation and the educational process modernization in accordance with the Law "Education in Russian Federation" provisions, the educational and methodical activities goals are: training areas / specialties curriculum design and development, taking into account the requirements of relevant federal state educational standards of higher education (including educational process schedules); subject and traineeship programs updating; new teaching methods development; assessment tools funds designing for intermediate and final certification.

When implementing e-learning its tools should appear in university teacher arsenal as didactic tools [3]. It requires the teacher to master and apply new didactic techniques in order to implement the e-learning information technology platforms in the professional activity [4]. It is necessary to provide methodical support and the educational process organization, taking into account the e-learning regulatory and operational requirements, the online learning organization.

The purpose of modern scientific and methodical activity is the educational process, the content and teaching methodical foundations modernization, new relevant foundations improving, patterns, methods, forms and means of educational process technological aspects search for. The fundamental basis of scientific and methodological activity is the modern professional and pedagogical experience study and integration, the professional activities experience in application [5]. Scientific and methodical activities include the following main types of work: the scientific and methodical work on modern relevant educational problems implementation as part of the created working groups and collectives; requirements development for the professional qualities of a bachelor / specialist / master / graduate student preparation; of a criteria base development for the educational activities quality assessing; organization of requirements and format for students final certification activities; conducting scientific and methodical seminars and conferences on pressing issues of modern education; regulatory

documentation development for the types regulation of methodical activities; creation measures implementation of innovative educational programs; development and preparation for scientific and methodical works publication (textbooks, articles, reports, reviews); peer review of scientific and methodical materials; participation in the work of scientific and methodical councils, scientific and methodical commissions; development of innovative educational technologies. The university teacher scientific- methodical activity in the context of introducing e-learning tools into the educational process involves the development of new methods, technologies, didactic materials, e-learning principles, their integration with existing educational and methodical complexes and educational programs. The objects of university teacher scientific- methodical activities are new means of e-learning and information and communication technologies. In this regard, such types of scientific- methodical activities are updated as: participation in scientific- methodical conferences and seminars; passing professional development; the study of advanced pedagogical experience and innovative technologies.

The purpose of modern organizational-methodical activities is the organization of events to ensure the planning and management of methodical work, the educational process effectiveness implementation and monitoring and its methodical support in the framework of educational organization general methodical documentation. Organizational-methodical activities include the following main types of work: organizing the activities of methodical commissions, methodical councils, planning their activities; organization of scientific and methodological seminars, conferences, competitions; coordination of the educational organization methodical work; participation in activities on the methodical audit of the educational organization structural units; organization and participation in continuing education activities of the educational organization teachers; organization of methodical business trips and foreign internships; work as a part of methodical groups and methodical commissions; preparation of materials for methodical activities.

With the introduction of e-learning in the educational process there are changes related to the content of organizational-methodical activities: quality analysis of own methodical activity is necessary; redistribution of hours and forms of contact work with students; the use of cognitive and metacognitive forms of activating students' independent work; introduction of innovative assessment tools for the students current and intermediate certification in a non-contact form; implementation of educational e-learning technologies in the educational process. Thus, the specificity of the university teacher methodical activities involved in the implementation of open education in the conditions of the information and educational environment is the use of e-learning tools (table 1).

Table 1

The specifics of the university teacher methodical activities,
due to the e-learning tools introduction

| Open education - e-learning tools | | |
|---|--|--------------------------------------|
| Types of university teacher methodical activities | | |
| Educational- methodical activity | Scientific-methodical activity | Organizational-methodical activities |
| New Learning Tools | New methods, technologies and principles of e-learning | New training forms |
| Teacher readiness for using e-learning tools | | |

The components in the structure of the university teacher's readiness to use e-learning tools in professional activities were determined as a result of content analysis and the university teacher methodical activities types identification, teacher's job responsibilities on the basis of a unified qualification guide for the positions of managers, specialists and employees (order of the Ministry of Health and Social Development of Russia No. 1n of January 11, 2011) and the professional standard "Professional education, continuing education and further professional education teacher"(September 8, 2015 No. 608 n), as well as taking into account the requirements of federal higher education standards and the requirements of the Education Law No. 273.

There are results of a Samara University teachers survey are presented (sample of 480 people). University teacher methodical activity areas related to the use of e-learning tools in the educational process cause considerable difficulties for more than 72% of the surveyed teachers: 45% of teachers have a moral and valuable barrier to the information technologies development; 61% of respondents said that they had difficulties the e-learning methodical foundations mastering; 80% of respondents find it difficult to design and apply electronic training courses; 88% of respondents never analyzed the effectiveness of e-learning tools. At the same time, 56% of the surveyed university teachers recognize the need to introduce e-learning tools in the educational process as part of the information and educational environment design and creation. Thus, the result of the introduction of e-learning tools in the educational process requires changes in all types of methodical activities and the university teacher readiness to use e-learning tools. The university teacher readiness to use e-learning tools is an integrative characteristic of a person, reflecting the e-learning methodical and methodical foundations systemic knowledge level, the ability to use innovative methods, technologies and e-learning tools, evaluate learning outcomes in electronic content format, and analyze electronic educational resources.

When developing the university teacher readiness model for e-learning tools use, we were based on the identification principle. The principle allowed us to correlate the types of methodical activities with their qualifications, skills and abilities which are necessary for e-learning tools introducing into the university information and educational environment. That makes it possible to determine the university teacher readiness structure in the form of components: value-motivational, cognitive, methodical and operational, assessment and reflective (table 2).

With the e-learning introduction in the university educational process, technical and organizational issues are brought to the forefront, and the teacher motivation goes to the background [6]. Along with this, modern students are more motivated and competent in the field of electronic communication and the various gadgets use; they do not have a psychological and technical barrier regarding the e-learning use in an educational environment. When administering the educational process, leaders should decide on the rejection of innovative changes by the teacher and stimulating teachers to form sustainable motivation for the e-learning systems use [7]. Among the economic barriers on the part of the teaching staff, one can single out the electronic technologies laboriousness, the need for training in information technology basics. As tools for the formation of a motivational component in the methodical activities of a university teacher, researchers [8] distinguish: material incentives; motivations associated with self-affirmation and personal self-realization; the desire to intensify the independent students work. It is the value system that determines the priorities of the teacher's methodical activity, and the university's legal acts that provide a set of value orientations as norms, regulate the forms of methodical and educational programs support, the criteria for their evaluation [9].

The significance of the value-motivational component in the structure of the university teacher's readiness to e-learning tools use is determined not only by its significance for the teacher, but also by the content side of the methodical support modernization. That is due to the interest in e-learning literature and the need to develop methodical abilities for using e-learning tools in the training courses implementation.

Teacher cognitive needs are determined by a system of value-motivational attitudes, requests for educational and methodical support modernization. The cognitive component of the university

teacher's readiness to use e-learning tools integrates indicators that characterize the level of information culture. The development of the cognitive component is necessary not only for the e-learning tools competent development, but also for the didactic system adequate choice (methods, technologies, assessment methods) in the design of electronic courses, for the effective development of innovative developments in the field of e-learning. In the context of educational programs developing based on a competency approach, the level of university teacher intellectual development, its subject preparation and broad horizons play a decisive role [10].

The methodical-operational component of the university teacher readiness to use e-learning tools has a practice-oriented focus. This component provides the skills development: to adapt the didactic material of the training course to the e-learning requirements; design electronic training courses taking into account the didactic requirements for the structure and content, correlating them with the teaching tasks and the specifics of the audience; carry out functional modeling of electronic training courses and carry out the technological substantiation of their choice; organize contact, independent and individual work of students using e-learning tools.

In the conditions of the university educational information environment development, the teacher organizes various forms of contact and independent work with students based on the principles and strategies of e-learning tools using. Therefore, the teacher should be able to adapt educational material to optimize forms of e-learning and for the effective organization of the educational process. He should be able to develop flexible trajectories of contact work, methods for the variable presentation of material, methods for identifying students, an objective assessment of learning outcomes and the electronic course development monitoring [11]. This range of skills is explained by the fact that the activity of a university teacher in the e-learning tools application and implementation is the process of solving countless pedagogical tasks, which must be provided with an integrative set of methodical and technological abilities of a teacher for using e-learning tools [12; 13]. The essence and content of the methodical-operational component is that the teacher sets innovative pedagogical goals and tasks associated with a high level of operational skills, and then transforms them into tasks that stimulate student activity. Thus, the methodical-operational component of the university teacher readiness to use e-learning tools implies its technological readiness to solve pedagogical problems in e-learning.

Table 2

The selecting components logic in the structure of the university teacher readiness to e-learning use in professional activities

| Types of methodical activities | Educational-methodical activity | Scientific-methodical activity | Organizational-methodical activities | |
|---|--|---|---|--|
| <p>The content of the methodical activity in accordance with the educational standards and the Education Law in Russian Federation requirements</p> | <p>Development of new learning tools</p> <p>Modernization of methodical and educational process support, taking into account the regulatory and operational requirements of e-learning and the information and educational environment</p> | <p>The new didactic techniques use to implement e-learning and information technology platforms in their teaching activities</p> <p>Modernization of the content and methodical foundations</p> <p>Search for new relevant foundations, patterns, methods, forms and means of the educational process technological aspects</p> | <p>Organization of online, individual and electronic learning</p> <p>Redistribution of hours and forms of contact work with students</p> <p>Activation of students' independent work forms</p> <p>Making adjustments to the learning process, taking into account the assessment of its results in a non-contact form</p> <p>Development of innovative educational technologies</p> | <p>Designing intermediate and final certification funds assessment tools</p> <p>Monitoring and evaluating the educational process effectiveness</p> <p>Organization and participation in continuing education activities</p> |
| The duties of the | Carries out educational | Carries out the planning, organization | Develops a quality system | Organizes work on the |

| | | | | |
|---|--|---|---|---|
| <p>teaching staff in accordance with the qualification characteristics and professional standards</p> | <p>and educational-methodical work on the taught discipline</p> <p>Organizes and plans methodical, technical support for training sessions</p> <p>Takes part in the preparation of textbooks, training and teaching aids</p> | <p>and control of educational and methodical work</p> <p>Takes part in the scientific and methodical work of the department (faculty) as part of the methodical commission</p> <p>Develops methodical support for supervised disciplines</p> <p>Must know the methods and ways of using educational technologies, including distance learning; requirements for working on personal computers, other electronic-digital devices, including those designed to transmit information</p> | <p>for training specialists</p> <p>Defines educational methods and teaching aids in order to ensure the high quality of the educational process</p> <p>Carries out the choice of training modern technical means during training sessions and provides the possibility of their use</p> | <p>creation of educational process scientific, methodical and educational-methodical support</p> <p>Organizes and conducts educational and methodical inter-department meetings, seminars, scientific and scientific-methodical meetings and conferences</p> <p>Plans the department teachers advanced training</p> |
| <p>Components of readiness</p> | <p>Value-motivational component</p> | <p>Cognitive component</p> | <p>Methodical-operational component</p> | <p>Evaluative-reflective component</p> |
| <p>Types of readiness</p> | <p>Motivational</p> | <p>Methodical</p> | <p>Technological</p> | <p>Expert</p> |

The university teacher readiness to use e-learning tools involves not only the possession of special methodical knowledge and operational skills (designing e-learning tools), but also the presence of reflective and creative personal qualities: the ability to self-esteem and introspection; innovative approach to the educational process organization; value attitude in self-learning; desire to improve their skills and learn innovative pedagogical experience; critical thinking ability. The evaluative and reflective component of the university teacher readiness to use e-learning tools integrates the reflective abilities of the individual and the ability to evaluate innovative means of the education quality monitoring in e-learning.

The concept of reflection includes: introspection, self-esteem, understanding, assessment of the prerequisites of the course and the results of one's own activity [14]. Reflective processes are interpreted as: 1) analysis of self-awareness and self-assessment of one's own activity; 2) reflection as an understanding of the subjective communication meaning. Reflexive processes such as clarification, doubt, question, affirmation, assumption, expression of confidence, establishment of cause and effect relationships, analysis of results. The creative teacher of the university ponders, conducts self-esteem and self-analysis of the personality, exposes the surrounding reality to understanding, and conducts professional activity self-diagnosis.

Researchers consider reflexivity as an attitude towards oneself in terms of their creative capabilities, abilities, social significance, self-esteem, professional self-affirmation, the desire to increase self-esteem and social status [15]. Scientists distinguish integral reflective characteristics in the structure of the professional personality: individual style of activity; creative potential as a complex of person unique creative abilities, allowing to solve innovative, non-standard professional tasks. Analysis of scientific literature allows us to establish that the university teacher reflection can serve the basis for the creative potential growth, professional mastery, a mechanism for professional growth and professional development [16].

Modernization of educational standards new requirements for the assessment tools funds design of and an independent assessment of the education quality poses challenges for university teachers to form competency-based education results, but also to ensure an objective, independent assessment of the results and quality education control [17, 18].

The core of the teacher's activities in the e-learning tools implementation is innovative activity: the adoption of innovations, the choice e-learning tool, while this requires readiness to make innovative decisions, the ability to evaluate and correct decisions.

It is the evaluative-reflective component that becomes significant in the structure of the university teacher readiness to use e-learning tools. Higher school needs an innovative teacher, distinguished by the ability to creative activities, pedagogical innovations, capable of their professional knowledge, skills developing; ready for innovation in the organization of the educational process, able to analyze the results of e-learning innovative methods and technologies introduction (table 3).

Table 3

The structure of the university teacher readiness to e-learning use in professional activities

| Value-motivational component | Cognitive component |
|--|--|
| 1. Interest in e-learning literature | 1. Knowledge of the e-learning methodical foundations |
| 2. Interest in e-learning tools | 2. Knowledge of the requirements for the structure and didactic content of electronic training courses |
| 3. The need for learning e-learning tools | 3. Knowledge of the e-learning tools functions |
| 4. The belief that e-learning tools are the best | 4. Knowledge of the electronic courses |

| | |
|---|---|
| method of modern learning | methodical foundations designing |
| 5. The need for e-learning use in the training courses implementation | 5. Knowledge of ways to increase competency in e-learning |
| Methodical-operational component | Evaluative-reflective component |
| 1. The ability to apply e-learning innovative methods and technologies | 1. The ability to evaluate student learning outcomes using e-learning tools |
| 2. The ability to adapt the didactic material of the training course to the e-learning requirements | 2. The ability to evaluate the e-learning tools effectiveness |
| 3. The ability to design electronic training courses taking into account the didactic requirements for structure and content | 3. The ability to analyze the quality of the electronic training course |
| 4. The ability to apply and adapt e-learning innovative methods and technologies based on the technological justification of their choice | 4. The ability to self-assess the quality of their pedagogical activities, implemented using e-learning |
| 5. The ability to apply the e-learning basic methods in professional activities | 5. The ability to self-design the route of formation of readiness for the use of e-learning |

According to the components, we determined the criteria for assessing the university teacher readiness to use e-learning tools:

1) motivational readiness – a criterion for the value-motivational component formation of the university teacher readiness to use e-learning tools expressed by the following characteristics: the need to study e-learning tools; the belief that e-learning tools are the best method of modern learning; the need for the e-learning tools use in the training courses implementation;

2) methodical readiness – a criterion for the formation of the cognitive component of the university teacher readiness to e-learning tools use expressed in the following characteristics: knowledge of the methodical e-learning foundations; knowledge of the methodical foundations of designing electronic courses;

3) technological readiness – a criterion for the formation of the methodical-operational component of the university teacher's readiness to e-learning tools use, expressed by the following characteristics: the ability to adapt the didactic material of the training course to the e-learning requirements; the ability to design electronic training courses, taking into account the didactic requirements for structure and content; the ability to apply and adapt innovative methods and e-learning technologies based on the technological justification of their choice;

4) expert readiness – a criterion for the evaluative-reflective component formation of the university teacher readiness to e-learning tools use expressed by the following characteristics: the ability to evaluate student learning outcomes using e-learning tools; ability to evaluate the e-learning tools effectiveness; the ability to analyze the quality of the electronic training course; ability to self-esteem the quality of one's pedagogical activity, realized by e-learning means.

We conclude that the content of the methodical support for advanced training of university teachers in order to form a willingness to use e-learning tools involves its differentiation. The disadvantage of using competency-based and activity-based approaches is the lack of methods for directly measuring personal qualities that are part of competencies. It is necessary to compare the development indicators of structural components and evaluation criteria, as well as the application of the methodical approaches principles to the elements construction in a continuing education system.

Depending on the development of indicators in the components structure of the university teacher readiness to e-learning tools use, we have identified three levels: base, advanced and creative (table 4). The base level of university teacher's readiness to use e-learning tools implies: the availability of holistic knowledge about e-learning tools, their methodical foundations and functions. The base level is typical for assistants and senior teachers, their qualification characteristics involve conducting practical and seminar classes using e-learning tools: young teachers actively use information content in the educational process organization (the value-motivational component dominates).

The advanced level is characterized by a practice-oriented direction of the components developed in the structure of the university teacher readiness to use e-learning tools: the ability to adapt the didactic material of the training course to the e-learning format, design electronic training courses taking into account didactic requirements for structure and content, (cognitive and methodical-operational components). An advanced level is typical for teachers who hold the positions of associate professors and directly involved in the design training courses and educational process modeling.

The creative level of university teacher readiness to use e-learning tools indicates a pronounced need for the use of e-learning tools for the training courses implementation and suggests the ability to self-assess of their pedagogical activities quality, implemented using e-learning tools and to self-design a route for creating readiness for using e-learning tools. This level is characterized by the formed evaluative-reflective component, the presence of a high level of motivational and innovative activity.

Currently, continuing education courses in the system of continuing education are gradually becoming a necessary part of improving the teachers training in the continuing education system. A significant number of higher education organizations teachers lack preparation for the e-learning tools use; teachers do not always realize its insufficiency. Today, important innovative tasks of higher education programs modernization in the implementation of online and e-learning forms are solved with the use of continuing education programs for the educational organizations teaching staff. A pilot study conducted on the Samara University basis revealed an insufficient level of formation of components of the university teacher's readiness to use e-learning tools, which may impede the implementation of strategies for competitive educational programs, the innovative training forms implementation, and the education efficiency and quality improvement [18]. The information competence of a university teacher cannot be formed as a result of only the mechanical addition of knowledge and skills in the e-learning field. A coordinated system based on the principles methodical approaches, aimed at a product approach – e-learning tools (table 5) is needed.

The spatial approach considers the organization of the university teacher's preparation of e-learning tools use from the point of view of the spatial factor, and also defines a complete list of conditions under which the training is filled with personal semantic content, develops the necessary knowledge and skills, the ability to act in a dynamically changing world, taking into account the accumulated personal semantic means [19]. The spatial approach implies the opportunity to study the "process space" in the training university teachers' organization framework for the e-learning tools use. In such a concretized "process space", a more complete examination of such preparation essence becomes possible [20].

The andragogic approach is one of the pedagogical methodology approaches related to the solution of theoretical, practically oriented tasks based on an interconnected system of educational methods and means that ensure development when a set of procedures implementing. This totality includes planning the educational process and the preparation process from the predicted standards perspective, supporting the educational process, modeling the actions that are being formed, evaluating and self-evaluating the resulting indicators [21].

The matrix approach is a methodical approach used to study systems and processes in dynamically changing conditions. Based on the matrix approach, a system of interrelated parameters is developed. Increasing the level of parameters developed group interaction

effectiveness is the basis of this approach. A separate aspect is the principles for the development of interrelated indicators and the mechanisms of their interaction [22].

The environmental approach to preparation organizing of a university teacher readiness to use of e-learning is based on the content openness principle, the ability to perform actions based on one's own productive position in the proposed environment. The application of the environmental approach allows us to establish the influence of environmental conditions on work and the principles of functioning, development of the educational process, as well as to characterize the influence of the process itself on environmental conditions within the environment framework [23; 24].

Levels of components formation of a university teacher readiness to e-learning tools use

| University teacher readiness components to use e-learning tools | | Base | Advanced | Creative |
|---|--|--|---|--|
| | Value-motivational | Interest in e-learning literature; interest in e-learning tools | The need for learning e-learning tools | The belief that e-learning tools are the best method of modern learning; the need for e-learning tools in the implementation of training courses |
| Cognitive | Knowledge of the methodical foundations of e-learning; knowledge of the e-learning tools functions | Knowledge of the requirements for the structure and didactic content of electronic training courses | Knowledge of innovative methods and technologies of e-learning, advanced pedagogical experiences of their application; knowledge of ways to increase competency in e-learning | |
| Methodical-operational | Knowledge of the methodical foundations of designing electronic courses; ability to apply the basic methods of e-learning in professional activities | The ability to adapt the didactic material of the training course to the e-learning requirements | The ability to design electronic training courses, taking into account the didactic requirements for structure and content; the ability to apply and adapt innovative methods and technologies of e-learning based on the technological justification of their choice | |
| Evaluative-reflective | Ability to evaluate student learning outcomes using e-learning tools | Ability to analyze the quality of the electronic training course; ability to evaluate the e-learning tools effectiveness | The ability to self-esteem the quality of one's pedagogical activity, realized by means e-learning; the ability to self-design the route of formation of readiness for the use of e-learning | |

Methodical approaches to the organization of university teacher readiness
to use e-learning tools

| Approach | Purpose of application | Dominant principles | Tasks |
|---------------|---|---|---|
| Spatial | University specifics | Openness | The choice of forms of advanced training |
| Andragogic | Accounting for adult learning | Optimality Invaluable | The choice of teaching methods and technologies |
| Matrix | Accounting for functional relationships and interactions | Leading pedagogical action Systematic Integrity | Definition of the content of training |
| Environmental | Accounting for the opportunities and status of an educational institution | Optimality | Definition of the content of training |
| Product | Formation of practical skills | Practice orientation | Development of an electronic training course |
| Action | Accounting for the specifics of methodical activities | Mobility Differentiation | Training management, selection of teaching aids |
| Competency | Accounting for qualifications | Adaptability Identification | Developing a readiness framework for e-learning tools |

The product approach is based on a systematic representation in the formation and evaluation of the educational process results. An output characteristic based on the functioning of the educational process is the creation of a product. The expansion of practice-oriented tasks that require the student to be immersed in professional issues and involving the assessment of the results of immersion by the supervisor — the head of the educational process — is the basis of the product approach model.

An active approach involves the realization of the idea of the activity leading role in the process of the preparation organizing of university teachers for the e-learning tools use. Based on the activity of students in the process of activity, we can conclude about the ability to realize interaction with a certain aspect of the surrounding reality. The ideas of the activity approach intersect with the ideas of humanization, which actualizing the problem of the comprehensive development of personality [25]. Application of this approach allows to identify the structure and types of activities.

The competency-based approach is represented by a combination of organizational, pedagogical and theoretical methods, the purpose of which is to provide acceptable conditions for the formation of a professional training level called competency [26]. A competency-based approach determines the possibility of a training process systemic transformation. It is assumed that the educational process focuses on the end result – the formation of a certain level professional training [27].

Currently, despite the sufficiency of information and methodical support, there is a shortage of methodical support adapted to the e-learning tasks and a lack of the conceptual foundations of the information education methodical support, which allow, solving the

innovative information education problems at a qualitatively new level [28]. A particular problem is the lack of teaching staff with psychological, pedagogical and informational knowledge and skills [29]. The contradiction between the insufficient formation level of components of the university teacher readiness to e-learning tools use and the lack of a scientifically based system for improving their qualifications requires resolution. Teaching colleagues with experience in using and creating e-learning tools can be involved in a continuing education system based on the principles of co-creation.

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