Functional Components and Roles of the University Teacher in Distance Education

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ABSTRACT

The aim of the article is to define the roles and functions of a university teacher in the distance learning (DL) system essential both for massive online education and blending training. The changes in the activity of university teachers are necessary if they want to remain competent and meet the new requirements of work in the environment of information and communication technologies. The article identifies specific features of the university teacher's activity in the DL system compared with the so called "traditional teacher" and presents the authors' dynamics of gradual complication of the role of the DL teacher starting with the simplest one - operator of didactic tools to sophisticated ones, such as the expert, the author of the course. In the course of research the functional-role model of activities of DL university teacher was developed and these functions and roles were described. Development of the functional-role model reveals the essence of the main functional components of pedagogical activity of the DL university teacher such as project of the learning process, support and development of students, managerial, control and diagnostic, information and informative, motivational, organizational-activity, consulting, communicative and reflexive functions.

Keywords: Distance Education, Distance Learning, Distance Learning Teacher, Functional-role Model, Information and Communication Technologies, Online Educational Learning Environments
JEL Classifications: A19

1. INTRODUCTION

Online educational learning environment requires changes in the actions of university teachers. These changes make university teachers to get or perfect new functions that they may consider as complication of their teaching activity. The issue of the investigation is as follows: What exact pedagogical skills/competencies does a university teacher need to get or perfect in his or her pedagogical practice (e.g., competence of planning the teaching process; supporting and motivating students; interpreting the learning content; organizing work groups; competencies in designing teaching material and appraising the educational process and so on) to cope with challenges of modern education? Similar issues have been the subject of study of such researchers as Alvarez et al. (2009), Virgil and Varvel (2007), Berge (1995) and others.

As it is known the basis of the educational process in distance education is the intensive purposeful and controlled independent work of a student. The student does not just "assign" ready knowledge proposed by the teacher, but is actively involved in the search for knowledge, information, masters the methods of cognitive activity. Accordingly, the role of the teacher is not limited to the transmission and interpretation of knowledge. He manages cognitive activity and stimulates creativity of the student. Moreover, the lack of direct communication with students, personal contact only reinforces the need for the ability of the teacher to organize the educational process and manage it from a "distance." According to Akhmatova that changing technology training should be aimed at re-orientation of activity of the teacher from information one (the teacher is the main source of information) to the organizational leadership of independent educational, research and professional and practical activities of students (Akhmatova and Gurje, 2001). This implies improvement

in the level of activity not only of students, but also of teachers, as well as consideration of learning as a process of interpersonal interaction and communication in the "teacher - student, student - student" system organized to achieve their shared objectives.

2. METHODS

To achieve the objectives there were used complex methods of research: Theoretical methods involved the study and analysis of scientific, pedagogical, psychological, methodological literature on the problem studied; the investigation and generalization of Russian and foreign teaching experience; systematic analysis of objects of pedagogical activity, their modeling, design, generalization of the results of analysis; empirical - observation, testing and questioning of students and teachers, interviews; diagnostic and formative experiment, statistical processing of the results.

The analysis of the literature devoted to the problems of pedagogical activity in general shows that different authors identify its various functional components (Zimnaya, 2006; Kuzmina, 2002; Mitina, 1994; Steinmetz, 2012) (Table 1).

In the distance learning (DL) system the teacher has new features, new roles, which were absent in the traditional system. The study of the experience of various institutions that implement the technologies of DL, suggests that the range of activities of the DL teacher is very broad, and it allows to speak about a number of specific functions performed by them in the learning process considered in different ways by different researchers (Khursheed, 2001; Liyanagunawardena et al., 2014; Lameras et al., 2011).

Foreign researchers indicate, for example, such a role of the DL teacher as "filter" (determines the topics of computer conferences, edits students' talks), "expert" (an expert on any issue, answers the questions), "promoter" (organizes and promotes discussion in computer conferencing) (Benque, 1999). Other authors emphasize the role of DL teachers as "shaper" (image of the idea or concept),

Table 1: Functional components of pedagogical activity

Author	The functions of teaching activities
Zimnaya	• Goal-setting • Organizational-structural • Design • Organizational, communication, research
Kuzmina	• Design • Constructive • Organizational • Communicative • Gnostic
Mitina	• Setting teaching goals and objectives • The choice of means and methods of solving tasks • Analysis and evaluation of pedagogical activity
Shteynmets	• Constructive • Research • Communicative • Reflective

Source: Gromova et al. (2012). A distance learning teacher: A tutorial. Samara: Publishing house "As Guard"

"grower" (of independently thinking people), and "guide" (Shchennikov, 2002).

Understanding the role as a set of specific socially expected actions, on the basis of theoretical and practical analysis we identify the following role of the DL teacher: Operator of didactic tools, teacher, and ragogist (a teacher for adults), consultant, mentor, examiner, colleague, partner, organizer, manager, moderator (leading electronic conference), the author of the course, a marketer, a member of the DL system team of an educational institution, a member of the professional community, etc.

Figure 1 shows the dynamics of gradual complication of the role of the teacher in the DL system, starting with the most simple - operator of didactic tools to sophisticated, such as the expert, the author of the course.

We are going to give a description of some of these roles of a DL teacher. As a consultant, he spends group counseling sessions, advises listeners individually, if necessary, on different questions of studying of the course, helps students in their professional self-determination. As the organizer of educational process DL lecturer forms the individual schedule of the teaching process (classes, consultations) on a training course that he works with a group; organizes group (communicative) - on training.

As a teacher, and ragogist he conducts individual introductory and final classes with students, ensures correct and efficient use of appropriate teaching and methodological support of the training course (educational-methodical complex, audio and video materials). As an expert, a DL teacher carries out the certification of the listeners (intermediate tests, final exam); as a marketer, if desired, he can set and form groups of listeners on the terms of commissions paying, etc.

In the functional-role model of the DL teacher's activities (Figure 2) based on the selected roles, as well as the analysis of the features of the DL system, learning activities of students and the process of the teacher there is a number of major and several additional (providing) functions that DL university teachers implement in their professional activities.

A list of the major functions performed by a DL teacher includes: Managerial, control and diagnostics, project, information-informative, organizational activity, motivational, consulting, communicative, supportive and reflexive functions. Let us consider briefly some of the abovementioned functions.
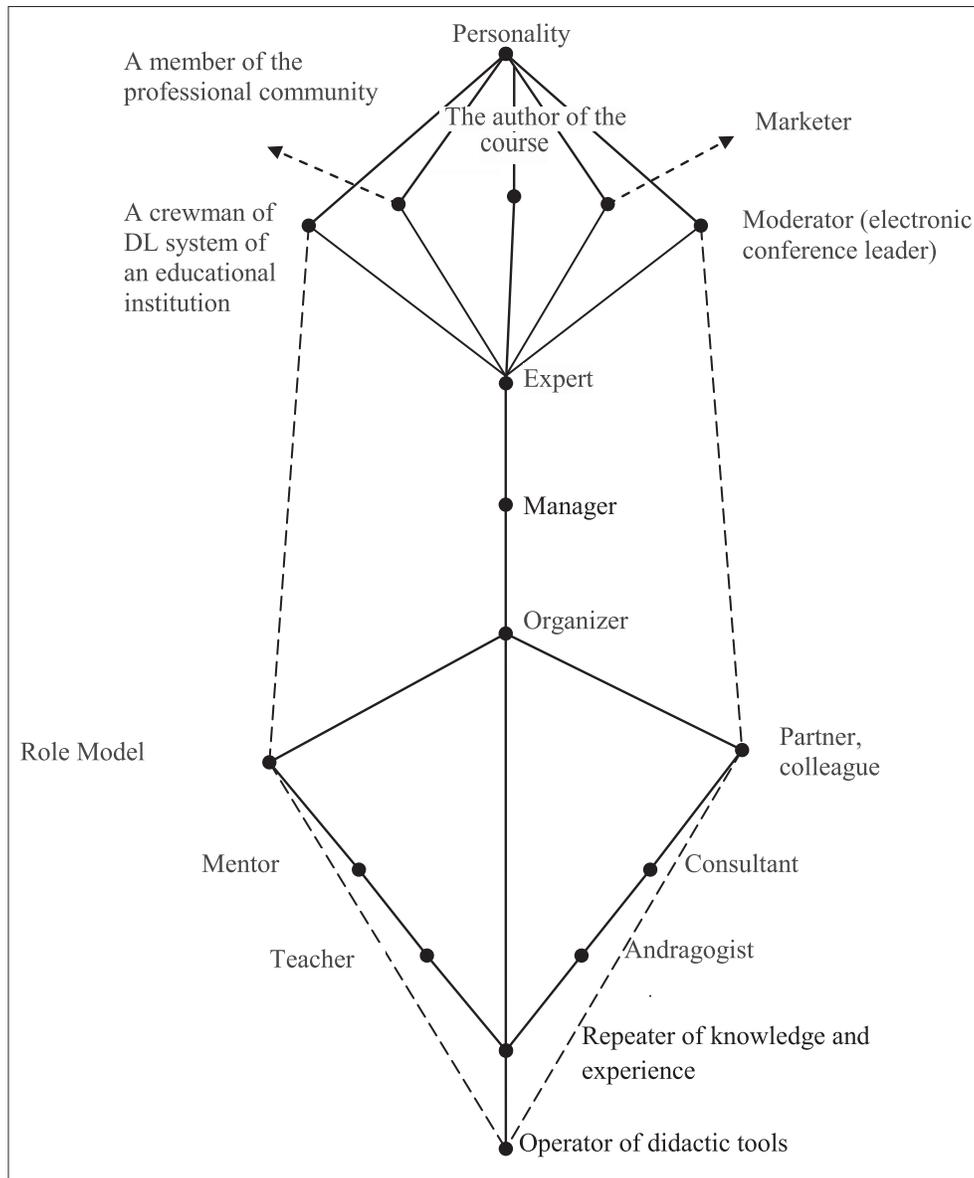
2.1. Managerial Function

DL teacher acts as a manager, who coordinates the process of individual and group scheduling, affects the behavior of students to solve problems and achieve goals and organizes resources in the most effective way: Time, material, human and others. Unlike traditional activities of the teacher of high school, activity of the DL teacher is much more associated with targeted development of cognitive independence of the students. This circumstance requires the development of management functions, which includes the following specific actions:

Figure 1: Dynamics of gradual complication of the role of the distance learning teacher

Source: Gromova et al. (2012). A distance learning teacher: A tutorial. Samara: Publishing house "As Guard"

- Defining the purpose of one's own activities and the activities of the students;
- Monitoring the activity of the students;
- Assessing the progress of cognitive activity of students to the planned one;
- Evaluating the results of the teacher - learner interaction and the learning process in general;
- Development of solutions for change of the students;
- Implementation of the decisions on changes and stimulation of cognitive activity of the students;
- Adjustment in its activity, and also activity of students by implementing the necessary regulatory action, capable of changing the situation, to eliminate unwanted deviation from the direction of education.

2.2. Control-diagnostic Function
To select appropriate strategies in designing and implementing educational process for a DL teacher it is important to identify the differences that exist among students in a particular group, and to form a "group portrait." When changing from one cycle to another, teacher diagnoses the dynamics of changes in learning from the point of view of acquired knowledge and skills, motivation, and changing dynamics in the process of learning goals and needs, in order to make adjustments to the projects of each educational event, timely diagnosing difficulties and constraints in training in order to provide timely support for every student.

The task of assessment of learning outcomes is the part of the diagnostic function. A DL teacher performs evaluation of students' skills, manifested in various forms of activity focusing not on the quantitative evaluation but on providing the learners with intensive and detailed feedback in the form of written or oral comments at different stages and levels of the learning process. The main purpose of the controlling activity of the teacher is to help students realize the gap between the desired and the existing state of knowledge, skills and abilities at the moment of evaluation.

Figure 2: Function-role model of distance learning teacher's activities
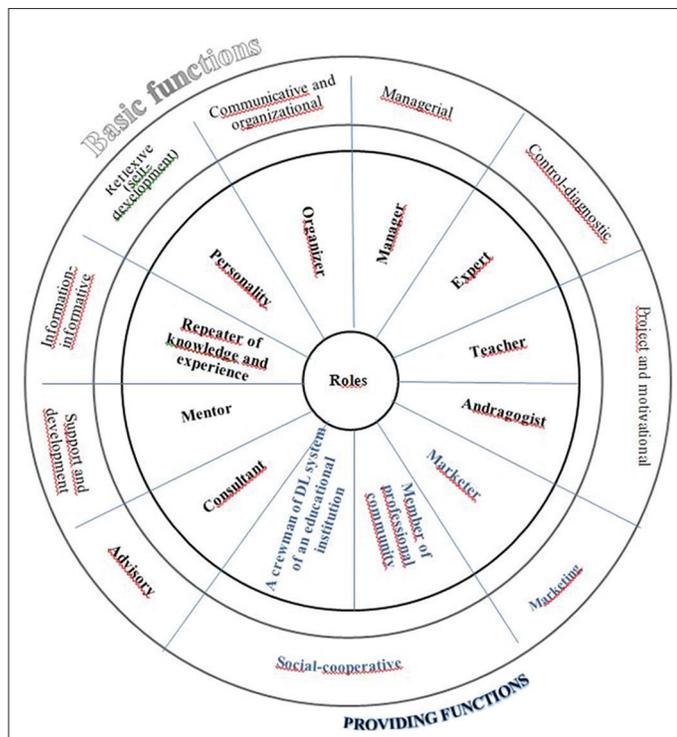
2.3. Project Function

Project function includes the activities of goal-setting and project development program/module/classes describing a set of objectives, contents, methods and means of activity, as well as a phased process of activities deployed in time. The project allows you to associate your activities as a teacher and students' activities with the desired results to be achieved. The teacher creates the objectives of the educational program applied to real educational group through the synthesis of the goals of different parties (students, developers of OP, educational organizations etc.). Elaborating projects of training, the DL teacher provides methodological content of the target, content, activity, motivation and reflective lines of the project.

Through specific training sessions the teacher implements situational designing, adapting the ready project to the context of the "here and now" needs. Clarification of the variable part of the projects of the training sessions is due to activity of students, influencing the content of the learning objectives and how to achieve them. Students themselves are participants of situational design.

2.4. Motivational Function

Successful achievement of the learning objectives depends on the level of students' motivation. Methods of external motivation can be used by the teacher only in a very limited range in combination with other approaches to motivation. The methods suggest that the behavior of the learner is largely motivated by external rewards or punishments in the form of estimates for practical work or exam. The prevailing approach to motivation should be based on the assumption that students are motivated by the sense of achievement of results, a feeling of recognition and self-esteem, satisfaction generated by the successful implementation of

educational and professional goals. The task of the DL teacher includes: Identification of the motives and needs, involvement of students in the process of goal setting, positive reinforcement of students, the formation and maintenance of students' motivation through assistance in realization of the personality-significant achievements during the whole learning process based on the formation of adequate self-appraisal.

Emotional state of students may either contribute or hinder learning. One of the conditions contributing to the formation of an internal motivation is the need of creation of psychologically comfortable, friendly environment to support such emotional and psychological condition of each student in the process of social interaction in a group (both in personal and virtual forms of communication), which would contribute to the refusal of protective reactions but openness to change. At the same time it is important for the teacher to maintain a certain productive level of tension, related to the creative tension.

2.5. Information-informative Function ("Knowledge Management")

The DL teacher is to provide the mastering of the new activity by students, helping to shape the "knowledge environment." This complex of knowledge (in the broad sense of this word) that make up this environment consists of different types of knowledge, as formalized in the form of theories and concepts) and informal (practical knowledge and experience, as reflected in the activities of the participants of the educational process, and the knowledge generated by the "here and now" needs in the process of interaction).

As in DL system the main sources of information for the student are books, Internet, multimedia, the teacher is not so much a media of theoretical knowledge as the knowledge about the activity itself. However, with expert information in a particular field of knowledge and practice (for example in management or marketing), he does not broadcast this experience as the only correct one. Being in the position of "equal" partner he is able to discuss and understand the different views of students on management activities. Possessing not only theoretical knowledge, but also knowledge of business practice, understanding of professional subculture, knowledge of professional vocabulary allows the teacher to "speak the same language with the students, facilitates the removal of protective barriers and adoption him by his students "as equal."

The task of the DL teacher is to help students in the transformation of the theoretical knowledge and skills in a real professional activity, not the result but the learning process through the use of studied theories by the students for solving practical problems in this field.

Basically, the teacher acts not as a transmitter but as "a grower" of knowledge: He helps students to systematize knowledge, to form their holistic understanding of the studied area of activities through understanding the elements of the activities and their interrelations, to facilitate the emergence of new knowledge, problematizing existing knowledge and experience of the students, helping to transfer the knowledge from the implicit to the explicit form.

When you move through the stages of the learning process and independence growth of students the emphasis in the implementation of the teacher of information-informative function is increasingly shifting from the problems of transmitting of knowledge to the task of "cultivation" of knowledge, and teacher's type of activity varies from monologue to dialogue, from lectures to a discussion of how "to pave the way."

2.6. Organizational Function
The acquisition of knowledge is in the process of common activity of teacher and students, students with each other. Organizing area of individual and group activity, the teacher introduces the norms of group interaction, manages group dynamics, providing and receiving feedback. Joint activity in this area is implemented through communication of various intensity and complexity: From simple (monologue) communication to complex, polylogue one.

The DL teacher uses one-way form of communication in a very limited way. To ensure the involvement of students, their active position in the educational process and achieve a deeper learning outcomes teacher organizes multilateral communication of students with him and to each other using a person-oriented approach. The DL teacher facilitates group interaction on the basis of dialogue and discussion providing a high intensity of interactions. This stimulates an "open" communication and ensures the development of a personal relationship of the student to work with the content of academic subject. The most commonly used active methods are: Discussions in small groups, "case study," role-playing games.

2.7. The Advisory Function
Some peculiarities of studying in the DL system, such as the existence of differences among the trainees, each of which has its own objectives for professional development, using a variety of technologies in the learning process, knowledge environment with excessive amounts of information - all these sometimes necessitate the provision of individual consulting assistance of a DL teacher to the learner in order to help him as much as possible to manage his own learning effectively. Individual counseling is carried out by the teacher face to face, in writing or by e-mail. He contributes to self-determination of students, helps each of them to form their own individual route in the framework of the program, which will most fully meet their needs, abilities, preferred learning styles, resources, and constraints. The teacher advises the student during the whole learning process in both contents and methods of training, helping the learner to solve problems of both professional and educational activity. Performing the mentoring function, the teacher acts as a sample showing successful behavioral patterns.

The peculiarity of the communicative activity of the DL teacher is to use a wide variety of forms and means of communication: Full-time (on the tutorials and Sunday school), virtual (Internet conference group), by e-mail and phone, detailed comments to the written works of students).

The teacher organizes the physical space of activities, which made possible these complex forms of communication (operation of the round table, working in small groups, inter-group discussions) and communication tools (posters, flip charts, computer projectors, slide, video projectors).

In addition to providing a space for direct interaction between students the DL teacher organizes virtual space, performing the task of structuring communication, involving students in co-operation, supporting discussions etc. The combination of a wide variety of forms, means and subjects of communication allows the teacher to form interactive learning environment. The role of the learner in the learning process varies from the passive role of perceiving communication at the initial stage to active participants and even the organizer of communication at the final stage.

2.8. Function of Support and Development
These features represent a system of interrelated activities, events, providing qualified assistance to the student during the whole learning process. Creation of conditions for further self-determination of learners, support motivation for further professional and personal development, focus on the changing needs of learners require both continuous teacher self-development and development of his activities. Professional and student environment as sources of continuous updating of knowledge become resources for such development.

2.9. Reflective Function
Types of educational objectives in DL include the goal of mastering new ways of activity by students. The task of the teacher is to organize reflective activity at each stage of training, to help the learner to become aware of both difficulties and positive experience and results. The experience received by students in their professional activities, or in the process of educational activity becomes the object of reflection. This reflection can focus on behavior, thinking, feelings and emotions, the process of interaction with others. The DL teacher does not only organize the reflection, but also assists the student in the development of reflective skills.

2.10. The Function of Self-development
Focus on the changing needs of students and the requirements of the stakeholders concerned require constant changes from the DL teacher. To meet these requirements the teacher has to be in the process of continuous self-development and development of his activities. To this end he needs to be "reflecting practitioner" who provides reflection of the process and content of his own activities, identifies problems in it, and then seeks to eliminate the shortage of knowledge and skills improving his own activities. Feedback from students and other stakeholders on the results of activity of the teacher is a stimulus for the development. Professional and student environment as a source of continuous updating of knowledge becomes the resources for such development.

Providing functions of the DL teacher accompanying his pedagogical activity include the following:

2.11. Socio-cooperative Function
In fulfilling this function the DL teacher acts in two roles: As a member of the team implementing the educational program and as a member of the professional community.

2.12. The DL Teacher as a Team Member

The technology of DL requires from a teacher to work with others. For example, he may participate in students' or DL teachers' Internet conferences. For the organization of the learning process the teacher interacts with the administrative and managerial personnel of the network, the team of the educational process.

2.13. The DL Teacher as a Member of the Professional Community

A community of DL teachers is, on the one hand, a powerful resource of explicit and implicit knowledge necessary to teachers for implementation and development of pedagogical activity. On the other hand, the professional community ensures the satisfaction of social needs of DL teachers. At the initial stage of a career teacher mainly takes from colleagues resources to develop his knowledge and skills and psychological support. Becoming an experienced DL teacher he is turning into a "giver" sharing his experience with other teachers at seminars, internet conferences, in the form of manuals and tutorials.

Standard activities based on common approaches are the basis of interaction of teachers with each other.

2.14. A Marketing Function

Consumer-oriented educational organization implementing DL technologies is embodied in the activity of DL teachers. Providing educational services to consumers a DL teacher acts as a marketer. This implies first of all from the teacher the realization of the priority needs of his customers - students and other stakeholders (teachers, administrators, and the course team) and flexible response to these needs. Mechanisms to ensure transparency of the entire system and adaptation of educational services to the changing needs of consumers should be implemented through the activities of the teacher.

It requires from the DL teacher:
- Creating mechanisms for feedback on various aspects of his activities;
- Awareness of satisfaction and loyalty of students as urgent task for himself;
- Managing relationships with internal and external customers, building a network of relationships.

Previously allocated functions of a DL teacher were grouped in the following basic ones (from the point of view of student-oriented, contextual and active approaches):
1. Organizational - he organizes training student activities;
2. Information - he cares about the students' learning of certain theoretical content presented in the materials of the courses;
3. Communicative - he provides communication between students themselves and with the DL teacher;
4. Educational - he activates the cognitive activity of students, promotes personal development of students.

It is logical to assume that such a range of roles and functions requires from the teacher certain knowledge and skills necessary for effective support of students in the process of DL.

For performing organizational function the DL teacher has to:

Know the features, principles, technologies, organization of educational process in the DL system; fundamentals of Informatics, necessary for the DL organization;

Be able to:
- Organize the communications between participants of the DL process (communication of students with the teacher, Dean's office, and other services, among themselves, providing schedules of educational process, educational and methodological materials);
- Organize student (including research) conferences (computer, video conferences);
- Keep control (original diagnosis, current, final check events); plan the nature and schedule of control works;
- Use the elements of network technologies (e-mail, computer conferencing and search in the Internet);
- Design the teaching, based on a holistic vision of the content and process of education, establish long-term and short-term training objectives, harmonize them with the students, correct them, if necessary;
- Use different forms of organization of educational process (introductory lectures, tutorials, Sunday schools, independent work of students, consultations); organize self-help groups;
- Use active learning methods.

To complete the information function the DL teacher has to:

Know the content of the relevant courses (presented in the form of printed educational materials on CD, in the network); pedagogical requirements to the tests, the test materials;

Be able to:
- Provide timely assistance in the study of the course (advice, answers to questions);
- Keep track of learning the content of the course materials by the students;
- Check, comment, review of the final students' homework, make schemes of verification and accounting homework of the students;
- Know the methods of forming of individual tasks;
- Conduct reflexive analysis of educational activity of students and their activities, educational situations;
- Develop educational materials for DL.

To perform communicative functions a DL teacher has to:

Know: The psychology of communication; fundamentals of educational psychology, principles of andragogy;

Be able to:
- Create a positive emotional background in communication (including communication via the computer);
- Transmit information; express his thoughts in writing in a brief and informative way;
- Liaise regularly and constantly;
- Possess individual approach to the learner (the help in selection

of the most effective methods and pace of work, promotion); perceive the identity of the student comprehensively and adequately;
• Review his own activities, based on the opinion of students about the course, and consider this assessment in further work.

To perform educational functions a DL teacher has to:

Know about the motives of activity of the students, their abilities;

Be able to:
• Motivate students to joint activity;
• Master the ways of activation of cognitive activity of students;
• Help in organization of intellectual labour, skills of independent work;
• Influence and promote personal and creative growth and development of students (for more information refer to (Glukhov and Gromova, 2006; Gromova et al., 2012).

3. RESULTS

Thus in the course of studying and research the following results were achieved:
1. The specific features of the university teacher's activity in the DL system compared with the so called "traditional teacher" were identified.
2. The dynamics of gradual complication of the role of the teacher in the DL system was represented starting with the simplest one - operator of didactic tools to sophisticated ones, such as the expert, the author of the course.
3. The functional-role model of activities of DL university teacher was developed.
4. The roles and functions of the university teacher in the system of distance education were described.

Identifying and specifying the activities of the DL teacher showed that he is a person having multidimensional qualities and his preparation requires having several directions. From the viewpoint of role concept, the teacher acts as a carrier of many roles: Operator didactic tools, repeater of knowledge and experience, teacher, consultant, mentor, expert, colleague, partner, organizer, manager, moderator (leading e-conference), the author of courses, etc. Development of functional-role model of DL teacher's activities reveals the essence of the main functional components of pedagogical activity of the DL university teacher (project of the learning process, support and development of students, managerial, control and diagnostic, information and informative, motivational, organizational-activity, consulting, communicative, reflexive functions) to act professionally in the educational environment of information and communication technologies.

4. DISCUSSIONS

Without claiming to be a comprehensive solution, we believe, however, that this article contributes to the solution of the problem of university teacher training to work in the DL system.

What is the theoretical or practical significance of the outcomes? Theoretical positions, results and conclusions have practical significance and can be used in the activities of universities and other institutions of vocational and additional education in the following areas:
• The implementation of the author's technology of university teacher training to work in the system of distance education by providing refresher course on the program "teacher of DL;"
• Development of training materials for e-learning, training systems and complexes in different disciplines;
• The using of distance technology to enhance the educational activities of the university through its network of branches.

What problems remain unsolved or arise because of these findings? Complication of teachers' activities in the new online learning environment requires the need to develop guidelines and criteria connected with financial compensation for such activity which may become the subject of further research.

5. CONCLUSION

It should be noted in conclusion that by identifying the specific features of distance education and the activity of the DL teacher in it the multidimensional functional-role model of the teacher was developed. The model reveals the essence of the main functional components of pedagogical activity of the university teacher in DL.

The study does not exhaust all the possibilities of scientific development of the process of preparation of highly competitive university teachers for working in the system of DL.

We see continuation of further research of the problem in the developing a model of personal and professional competence of the DL teacher aimed at the establishing the professionally significant personal qualities of the teacher of DL, and presenting the technology of preparing university teachers to work in the DL systems.

6. ACKNOWLEDGMENTS

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