Journal of Information Technology Management

Print ISSN: 2008-5893

Online ISSN: 2423-5059

The Role Position of Teachers in the Professionalization of the Educational Process in a Smart Environment

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Abstract

The aim of the study is to develop a set of organizational and pedagogical conditions for integrated training of working teachers and students of pedagogical institutions of higher education to perform labor functions, highlighting the role of teachers in the professionalization of the educational process in a Smart Environment.

The article considers the main directions of transformation of the role position of future teachers in the professionalization of the educational process.

The article has presented structurally functional model development of role positions of teachers in the formation of professional competencies of students. The development of the role position of the teacher has considered in relation to his professional and personal development and self-awareness as a subject of the educational process under the influence of a Smart Environment. The mechanism of realization of such model has offered by the integrative program which provides integration of formal and informal education and formation on such basis of new competences and development of components of a role position of the future teacher.

Keywords: Role position of teachers, Professionalization, Educational process, Smart environment.

DOI: 10.22059/jitm.2021.82612 Document Type: Research Paper

Introduction

The current stage of development of society has characterized by dynamic changes in the educational process, a departure from stereotypes and patterns, which has reflected in the system of both general and vocational education. The pandemic has made new demands on the teacher of the new generation - to have digital competencies, to be flexible, to able to adapt the lesson to any conditions and formats, to be able to keep the audience's attention in any situation (Babenko, 2019; Bila et al., 2020). This necessitates the expansion of the role positions and functional responsibilities of educators, the development of the role position of teachers in higher education institutions. There is a transition from a traditional education system to a system of developmental, adaptive and individual education, based on the professionalization of the educational process (Kuznetsovet et al., 2020). Target settings are being transformed, forms and methods of general education are changing, which, in turn, creates the task of modernizing the training of future teachers for the new school. The need for the formation of critical thinking, a systematic understanding of the structures that govern our world, and not just individual technologies. The role position of the future teacher is an integral core, which focuses on a set of values, motivators and stimulators, influencing the organization of the process of joint activities with students. The changes caused by the fourth industrial revolution change the set of role positions of teachers. In the education system of the industrial stage of development of society, the teacher had the role of a translator of information (transmitter of knowledge) to his students. This was due to the peculiarities of the information space of mankind, limited access to information (knowledge) of the general population. In such a system, information and knowledge

(ie education, level of education) became a factor of selection, a kind of "sieve". In the age of informatization, the formation of the Smart Environment, which has characterized by unlimited access to information, the need for teachers to act as a "transmitter" of information is significantly reduced (Schereraet al., 2019; Hubanova et al., 2021). There is a demand for a teacher-organizer of active cognitive activity of students to master their key competencies and new literacy. After all, in today's world there is a demand for:

- critical thinking competencies (awareness and self-improvement);
- universal competencies of self-organization and interaction with others;
- new literacy, including basic knowledge necessary for active participation in various social relations (sectoral literacy);
- digital literacy (Bondarenko et al., 2018; Kummitha, 2020).

Thus, the concept of professionalism of the teacher has transformed, which will be determined, in addition to fundamental and in-depth knowledge of the subject, mastery of teaching methods, as well as the ability to build, based on subject content, an educational activities of students, to guide it (Beijaard, 1995). For this, the teacher needs to be a role model for his students, demonstrating the value of education - not only as a process, but also as a means to achieve goals.

The request for a teacher with pronounced leadership traits has updated. The range of a role positions that educators can find as a leader, in accordance with their talents and interests, is expanding (Perevozova et al., 2019). The modern teacher is the creator of the culture of his educational institution. The role positions of the teacher affect the nature of relations with all groups of stakeholders: an educational organizations and a government agencies, a parents, a students and more. Understanding the role positions of the teacher refers to specific professional tasks, his social status, an image, an expectations and an expectations of people with whom the teacher is in direct contact (especially students, parents and colleagues) (Beijaard et al., 2004). The role positions of teachers have determined through the structure of the individual, the system of meanings, a values and an institutions of the educational institution and society in general (Day et al., 2006).

Thus, the role position of the teacher has determined by the level of coincidence of expectations and reality. Moreover, with the dominance of internal or external influences and meanings, different role positions of teachers are possible.

The scientific problem of the research is the search and substantiation of the model of integrated training of teachers and students of pedagogical institutions of higher education in the conditions of active introduction of modern digital pedagogical technologies in the educational process in the Smart Environment.

The aim of the study is to develop a set of organizational and pedagogical conditions for integrated training of working teachers and students of pedagogical institutions of higher education to perform labor functions, highlighting the role of teachers in the professionalization of the educational process in the Smart Environment.

This study highlights the following issues:

• To identify the main directions of transformation of the role position of future teachers in the professionalization of the educational process;

To develop a set of organizational and pedagogical conditions and provide integrated training of working teachers and students of pedagogical institutions of higher education to perform labor functions, in accordance with requests for effective use of digital educational tools, related modern pedagogical technologies and online education opportunities in the Smart Environment.

Literature Review

The role positions of teachers change during their professional careers. This has influenced by the transformation of the teacher's own beliefs as a result of gaining experience, knowledge, life wisdom and maturity, which has associated with personal qualities. These changes are gradual. There are three stages in the process of personal growth under the influence of professional development: (1) awareness, (2) comparison with alternatives and (3) identifying actions that are consistent alternatives (Yung, 2001). In the professional development of teachers, most researchers have identified three key roles: an expert in their subject, a pedagogical expert and a didactic expert (Beijaard et al., 2000). The role position of the teacher includes the ability to create a learning environment that would ensure the professionalization of the educational process with the optimal use of teaching methods and learning strategies (Radovan, 2011). However, the most researchers believe that the main role position of future teachers includes the design and management of the student's learning process (Poom-Valickis et al., 2012).

The digitalization of the educational process has contributed to the development of a Smart-education, which includes modern approaches to learning in the traditional sense with elements of distance learning using information and telecommunications technologies and Internet infrastructure (Klochan et al., 2021; Krishnan, 2020).

The concept of a Smart-education provides for the comprehensive development of educational services. It is based on the creation of the Smart Environment, which has characterized by a significant transformation of the content of the educational process, its methods and tools.

There are the following principles of implementation of the concept of the Smart-education:

• flexibility of learning in an interactive educational environment with the use of high-tech

devices, Internet resources, means of professional activity;
• social and information association of students and teachers within the integrated information environment of learning, implemented by meansinformation and communication technologies (Tsvetkova & Kiryukhin, 2019);
• joint mobility and availability of content consumption, use of content by all higher education institutions, using a common information repository;
• personalization and adaptation of learning, with the construction of an individual educational trajectory, based on the personal qualities of students.

The smart-education integrates new concepts of digital pedagogy: Open educational resources; Mass open online courses; Educational platforms; Electronic textbooks; Electronic libraries; Open licenses; Mobile learning and mobile educational services; Cloud educational systems and Web 3.0 Internet services; Digital video communication; Global media; Automated management systems for educational organizations; Electronic portfolios and personal electronic offices of participants in the learning process (Brevik et al., 2019; Chen, 2019).

To form a quality educational environment it is necessary:

• structure and systematize information: creation of databases, cataloging, storage and distribution of files, "cloud" services, etc .;
• implementation of e-learning and mobile learning tools: use of various Internet resources, smart-textbooks, as interactive versions of traditional textbooks that can be constantly updated in real time;
• control and evaluation of educational results: formation of an electronic portfolio of the learner during the whole period of lifelong learning; the set of portfolios of students of one teacher becomes an element of the portfolio of the teacher, the collection of all portfolios - the calling card of the educational institution.

The ability to form an individual educational trajectory of the student is the main feature of the concept of smart education. This creates a virtual social environment. To ensure the compliance of the created educational context in the virtual social environment with the real problems of the industry, the role of the teacher becomes especially important. He is the main motivator of educational activities, while creating a platform for the most relevant knowledge and he becomes an active participant in the development of the discipline.

Such a process should not be local, but distributed, involving the largest number of teachers in the creation of new knowledge, forming a kind of virtual community. Under such conditions, the joint work of students and teachers in the virtual community will help to establish a process of continuous development and improvement of discipline. An e-learning system, "storage" of information, an intelligent search system, a system for monitoring the results of the educational process, etc. are being formed.

Thus, the formation of the Smart Environment creates new demands on the education system. The deep penetration of gadgets and the Internet into everyday life, the growing popularity of the concept of lifelong learning, the actualization of blended learning - these are just some of the factors that transform the traditional model of interaction between teacher and student. Online learning not only provides new educational formats, but also changes the role of teachers. A renewed society needs teachers who are ready to implement new role positions (Zlatković et al., 2012; Bondarenko et al., 2020).

As a result, the analysis of the development of the role position of the future teacher in the educational process of higher education institutions, conducted on the basis of the study of literature sources, surveys of students, teachers and employers can identify the following key issues (Khan & Markauskaite, 2017; Oliveira et al., 2019; Bila et al., 2019):

• lack of practical interest in the problem of forming in students - future teachers an understanding of the importance of developing role positions;
• fragmentary approaches and blur "Areas of responsibility" for the development of the role position of the future teacher, the weakness of vertical and horizontal links between the elements of the educational process of training in terms of goals, content, technology and its subjects (teachers, mentors, managers);
• separation of the educational process from practice and modern requirements of the educational environment;
• limited opportunities for practical implementation of the role positions of future teachers due to the separation of the theoretical basis of education from the practical;
• insufficient level of formed competencies for the use of modern educational technologies and interactive forms of teaching and education in the training of future teachers;
• insufficient level of opportunities to assess the level of development of the role position of the future teacher;
• dogmatic educational process in higher education institutions, lack of flexibility and mobility in the organization of the process of development of the role position of the future teacher, lagging behind the demands of the educational environment and society as a whole;
• the dominance of the traditional role of the teacher - translator of knowledge in higher education institutions, the low level of experience of future teachers on interactive methods of organizing the educational process;
• insufficiency of scientific-methodical and practical-organizational support of the process of development of the role position of the future teacher.

According to the results of the survey of teachers of higher education institutions, the main problems of the development of the role position of future teachers in the conditions Smart Environment (Fig. 1):

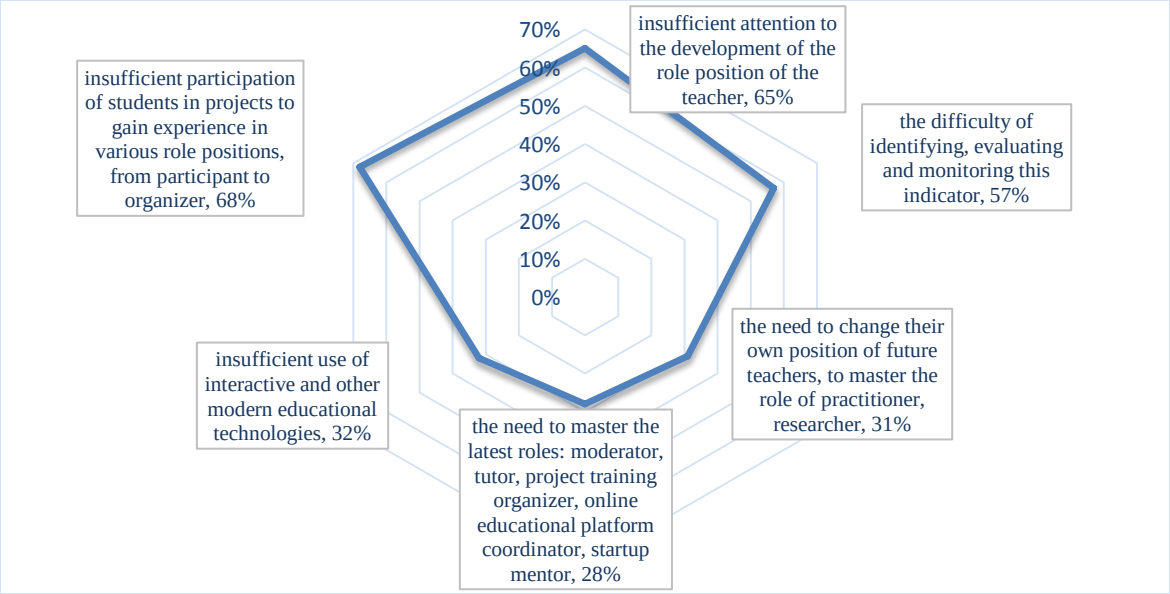

Figure 1. The main problems of development of the role position of teachers in the Smart Environment

- 65% of respondents consider the main problem to be insufficient attention to the development of the role position of the teacher, as it is not normatively fixed as a result of education, although the role position of the teacher is an element of professional and cultural competencies;
- 57% of respondents believe that the reason for insufficient attention to the development of the role position of teachers is the difficulty of identifying, evaluating and monitoring this indicator;
- 31% indicate the need to change their own position of future teachers, to master the role of practitioner, researcher;
- 28% of respondents indicate the need to master the latest roles: moderator, tutor, organizer of project training, coordinator of the online educational platform, mentor of startups and more.
- 32% of respondents point to the insufficient use of interactive and other modern educational technologies;
- 68% note the lack of student participation in projects to gain experience in various role positions, from participant to organizer.

The development of the role position of the teacher is the purpose of the educational process during the training of future professionals. To achieve the planned result in the institution of higher education it is necessary to create appropriate conditions, to organize the educational process to ensure the development of the role position of the future teacher. In this sense, the development should be considered as a process of quantitative and qualitative changes in personality in the transition from one stage to another.

An indicator of a teacher's professionalism is the ability to integrate the following main areas of activity: an educational, a self-organizing and an organizational in an integrated role position. It is the formation of such an indicator and its dynamic development should be aimed at activities in higher education

Methdology

The methodological basis of the study are the leading provisions and ideas:

- the system-synergetic approach that allows to consider the development of the role position of future teachers as a system of interconnected components in terms of complementarity digitalization of the educational process and the development of the Smart-education and the structure of competencies as an educational result;
- the personal approach that actualizes the development and self-development of social and personal qualities of the future teacher, the formation of experience, the need for self-organization, self-determination and self-development (García-Sanz & Morillas, 2011; Muñoz & Cubo, 2019). The personal approach aims at professional education on the formation of individual experience of the future teacher, with the identification of the main components of the development of the role position during the process of formal and non-formal education;
- the activity approach - reflects the process of personality development in the dynamics of social and pedagogical interaction with other participants, with the fixation of manifestations of different role positions of the future teacher. The activity approach has implemented by the principles of reflexivity, interactivity and self-actualization (Aldosemani, 2019; Borthwick & Hansen, 2017). The principle of reflexivity in relation to values is a reflection of the meaning of pedagogical activity. When designing the educational process aimed at developing the role position of future teachers, this principle makes specific demands on pedagogical methods for elements of self-knowledge, self-determination and self-realization (Graziano et al., 2017; Harris et al., 2009). The principle of interactivity involves interactive interaction during the development of the role position of future teachers, based on mutual understanding, emotional perception of the participants. The principle of self-actualization substantiates the development of the role position of future teachers from the standpoint of qualitative changes in values to future professional activities, awareness of personal potential in choosing a role position;
- the situational approach, which is the basis for the choice of methods and pedagogical techniques, with an emphasis on the personal-semantic sphere of the future teacher, the mechanisms of formation of personal experience (a reflection, an emotional experiences). The essence of the situational approach to the development of the role position of future teachers has expressed in the possibilities of self-realization and self-improvement of professional qualities.
- A descriptive design of a quantitative type of survey was used in the study (Buendía et al., 1998; Hernández-Pina & Maquilón, 2010). The sample consisted of 800 participants in the educational process: teachers, administration and students of Ukrainian universities. The final data obtained by the sample contained 200 of them, which exceeds the minimum required for

the study, as it must be representative at the level of 95% confidence. The sample was probabilistic by groups, and multistage conglomerates were also used, which made it possible to analyze individual groups.

Results and Descussion

The quality of teachers' work in the professionalization of the educational process

The professional development of a specialist has realized on the basis of a competency approach, which ensures the formation of a high level of professionalism as a priority tool for competitiveness in the labor market. Competence has defined as:

- the ability of a person to perform activities, perform certain tasks or work in a qualified manner;
- the availability of an appropriate set of knowledge, skills, attitudes that allow to act effectively, or perform functions that contribute to the achievement of certain standards in the professional field or type of activity.

Currently, the fact of the existence of a stable dependence of professional success of specialists and the quality of their training (Tsvetkova & Kiryukhin, 2019):

- improvement of the standardized educational process by modern tools of the organization of educational process;
- improvement of non-standardized educational process through creation of special laboratories, realization of dual education;
- formation of a favorable professional environment in educational and interpersonal interaction;
- formation of cognitive interest in the profession, practical approach.

To form a professionally-oriented educational environment and professionalization of the educational process, it is necessary to improve the quality of work of teachers of higher education institutions.

The evaluation of the quality of professional activity of a teacher has carried out through the study of the main areas of work: teaching, scientific, methodological work, cooperation and support of educational and scientific activities of students.

The influence of each of the directions of the teacher's work on the formation of professional competencies of the student is presented in Figure 2.

The professional competences of students are directly influenced by teaching activities and cooperation and support of educational and scientific activities of students.

The importance of communication and organizational component of teacher-student interaction has actualized. The level (quality) of teaching activity increases, when the teacher is an active scientist and has the skills of methodological support of the educational process. In addition, it is important to have modern tools of the Smart-education, ie of particular importance in building effective interaction in the educational environment is the technological (IT) component.

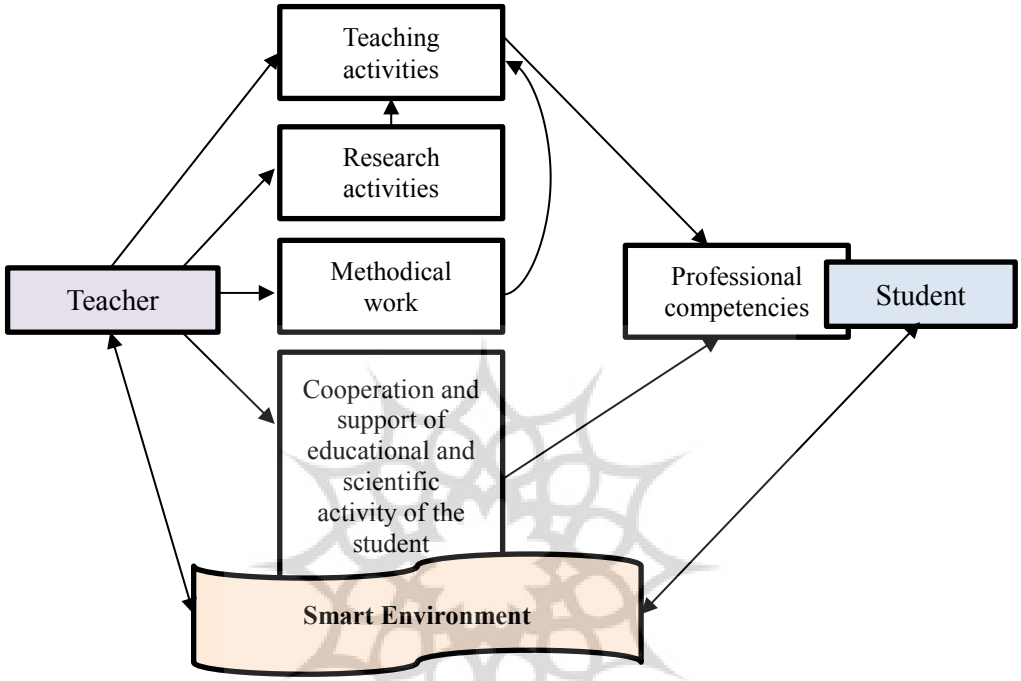

Figure 2. The scheme of formation of professional competencies of the student under the influence of the teacher

The professional competence of the teacher in the conditions Smart Environment should include digital competence and consist of three main dimensions:

- the General digital competence covers subject disciplines and defines the general knowledge and skills possessed by teachers and students in order to function as teachers in the Smart Environment;
- the Didactic digital competence captures the digital specificity of each discipline;
- the Professionally oriented digital competence, which describes the characteristic digital features of the teaching profession, digital technology, digital literacy in relevant types of work, such as scheduling, grading, communication with parents and other groups, etc.

Thus, in his professional activity the teacher plays a key role in the formation of professional competencies of the student - the future specialist.

This reflects the transition from the traditionalist-conservative paradigm (ZUN-paradigm: knowledge, skills, abilities) to the personal, cognitive and functionalist paradigms of the educational process.

The formation of a graduate of a higher education institution of a certain range of competencies become indicators of the quality of development of the educational program.

Transformation of the role position of teachers in the higher education institutions in the Smart Environment

In terms of digitalization of the educational process and the formation of the Smart Environment, the teacher will have to perform a range of roles (Fig. 3):

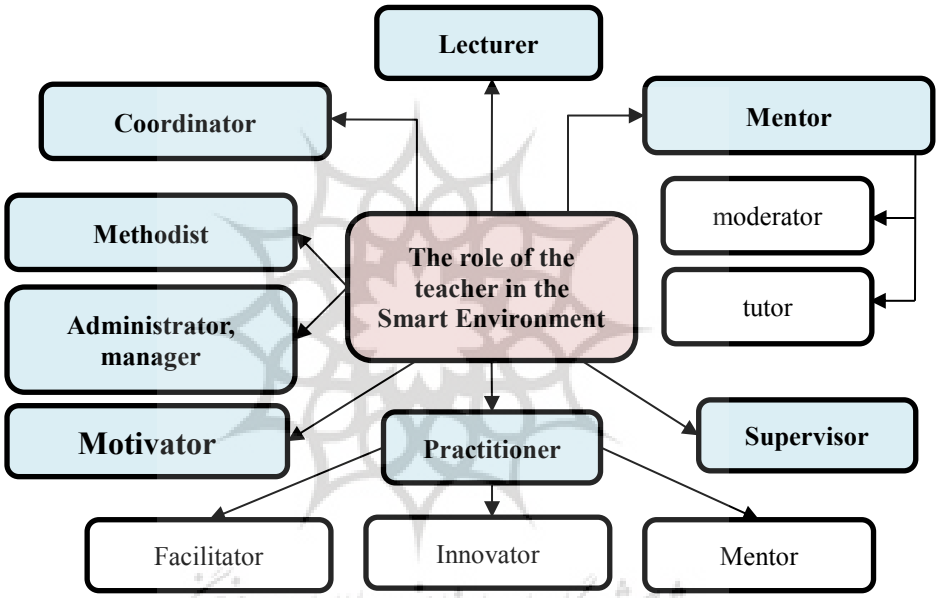

Figure 3. The role positions of teachers in the Smart Environment

Depending on the form of training, in the Smart Environment performs the following role positions:

The coordinating teacher

There is a growing demand for such a role position in online learning on digital platforms.

In online learning, much of the material is given to self-study, which allows you to choose a convenient schedule and pace of work, as well as the sequence of presentation of the material. As a result, the teacher has assigned the role of coordinator, whose task is to accompany the process, tracking student progress and adjusting the course, according to the requests of a particular audience. Greater responsibility for mastering the material has transferred to the student, while

the teacher helps to move in the right direction, focusing on problematic issues.

In such circumstances, an independence in online learning is becoming an important factor in the field of corporate education, where the trend of transition to a remote format has long been observed. According to a LinkedIn survey, 60% of employees in various fields said that personal choice is an important criterion for the attractiveness of online courses (100 Essential E-Learning Statistics, 2021).

The teacher-mentor.

This role position of the teacher is typical for blended learning, or blending learning (combination of online and offline formats). In the Smart Environment, this type of training is quite common, even teachers themselves improve their skills using omnichannel methods - this was confirmed by 62% of respondents TeachUp.

With a mixed learning model, the students work out the material on their own, and the teacher needs to focus on a deeper study of the topics. Therefore, the individual approach has actualized here, the teacher acts as a competent mentor, whose main task is to understand the requests and features of the student to offer him a personal trajectory of learning the material. The digital technologies allow to remove the supervisory function from the teacher. The technologies have already been developed that identify the student by the image from the camera, make it possible to track the facts of prompts or write-offs.

There are the following types of mentors in the organization of the educational process:

• a moderator - a leader, mentor, who organizes the reasonable behavior of the participants, using special technologies that help organize the process of free communication and exchange of ideas, judgments, during which the student independently reaches ideas, realizing their inner potential;
• a tutor - a mentor who creates conditions for the continuous development of a person learning as a subject of their own learning activities, forming an understanding of why learning (goals), how learning activities (methods and means) and has the ability to implement it;

A teacher-practitioner.

It is a researcher who conducts scientific research, has scientific interest, plans research activities, realizes his own responsibility to society for the results of research work, strives for professional and personal growth. The following roles are typical for a teacher-practitioner:

• an innovator – a generator and an implementer of the latest ideas in a particular field of knowledge, which is the main educational specialization, has the appropriate entrepreneurial skills and competencies that are key to the successful implementation of a specialist trained by

an educational institution in the labor market;

- a mentor - creates conditions for a personal and a professional growth of the subject of the educational process through the effects of reflection;
- a facilitator - creates psychological and pedagogical conditions conducive to self-development of the individual during the learning process and meaningful acquisition of knowledge on the basics of professional activity.
- In this perspective, the main focus of the teacher - on practical skills, on creating curricula, based on competent foundations.

The priority is the convergence of education and current market demands, the introduction of practice-oriented learning based on research and design learning technologies. In practice-oriented learning, the role of the teacher changes: he himself becomes a practitioner. Often these are experts who are practitioners in the real sector of the economy, so they give students real cases. Of course, in the methodological sense, this type of teacher is not very effective, but for the organization of the practical part of the educational process, their involvement brings high results.

A teacher-lecturer.

A good speaker who likes to work with students is capable of such a role. He is able to provide career guidance, to increase motivation, to inspire.

A teacher - methodist - studies and develops teaching methods, organizes and coordinates the methodological work of the team, plans and conducts work to improve the skills of teachers, organizes the documentation process, has the skills to work with general education programs.

A teacher-administrator, a manager - head of a management, formulates a strategy and determines the main directions of the development of the educational organization, the rules of conduct of the subjects of the educational process, the coordinates the main educational functions and their performers.

A teacher-supervisor - monitors and evaluates the quality and effectiveness of the educational process, creates psychologically comfortable conditions for the activities of subjects of professional activity.

A teacher-motivator - inspires, encourages students to be effective, motivating them to perform the necessary actions and tasks related to the learning process.

In the conditions of quarantine 2020 the newest roles of the teacher were actualized: the moderator, the tutor, the organizer of project training, the coordinator of the educational online

platform, the mentor of startups, the gamemaster, etc. According to the characteristics of the roles, there is a transformation of both the teacher in the modern educational process and his roles: from a translator of a new knowledge to a source-designer, which creates appropriate conditions for the subject of an educational process (pupil, student) to share experiences, abilities, to develop communication and organizational skills, to plan research activities, to make decisions and be responsible for them, to introduce innovative tools in their activities. Approaches to the structure and philosophy of the educational process are changing, there is a demand for the organization of distance learning, course training and retraining of teachers. As a result, in the practice of an education there were positions of the tutor, the moderator, the coordinator, the coach.

Modeling the role position of teachers in the professionalization of the educational process

The development of the role position of the teacher has considered in relation to his professional and personal development and self-awareness as a subject of the educational process under the influence of the Smart Environment.

The structural and the functional model of development of role positions of teachers in the formation of professional competencies of students includes a set of interconnected structural elements, the interaction of which provides targeted management of this process in the professionalization of the educational process in higher education, taking into account the role positions of teachers. This model includes the following blocks: the conceptual-methodological, the organizational-managerial, the content-procedural, the control-monitoring (Fig. 4).

The structure of the development of the role position of teachers includes the core (a personal qualities, their target transformation in the dynamics, according to the selected goals) and components of variable nature (modules), as a manifestation of the role: a tutor, a moderator, a facilitator, a motivator, a researcher.

The main conditions for the development of the role position of the future teachers are the integration of formal and non-formal education: the contacts, the connections, the interaction. As a result of such integration programs, the projects, the forms of cooperation have formed. The elements of infrastructure are clubs, organizations, volunteer movements.

The development of the role position of the future teacher contains content and procedural content to ensure targeted qualitative changes in the personality of the future teacher, the ability to implement the necessary pedagogical roles (a strategic level - core, a tactical level - modules).

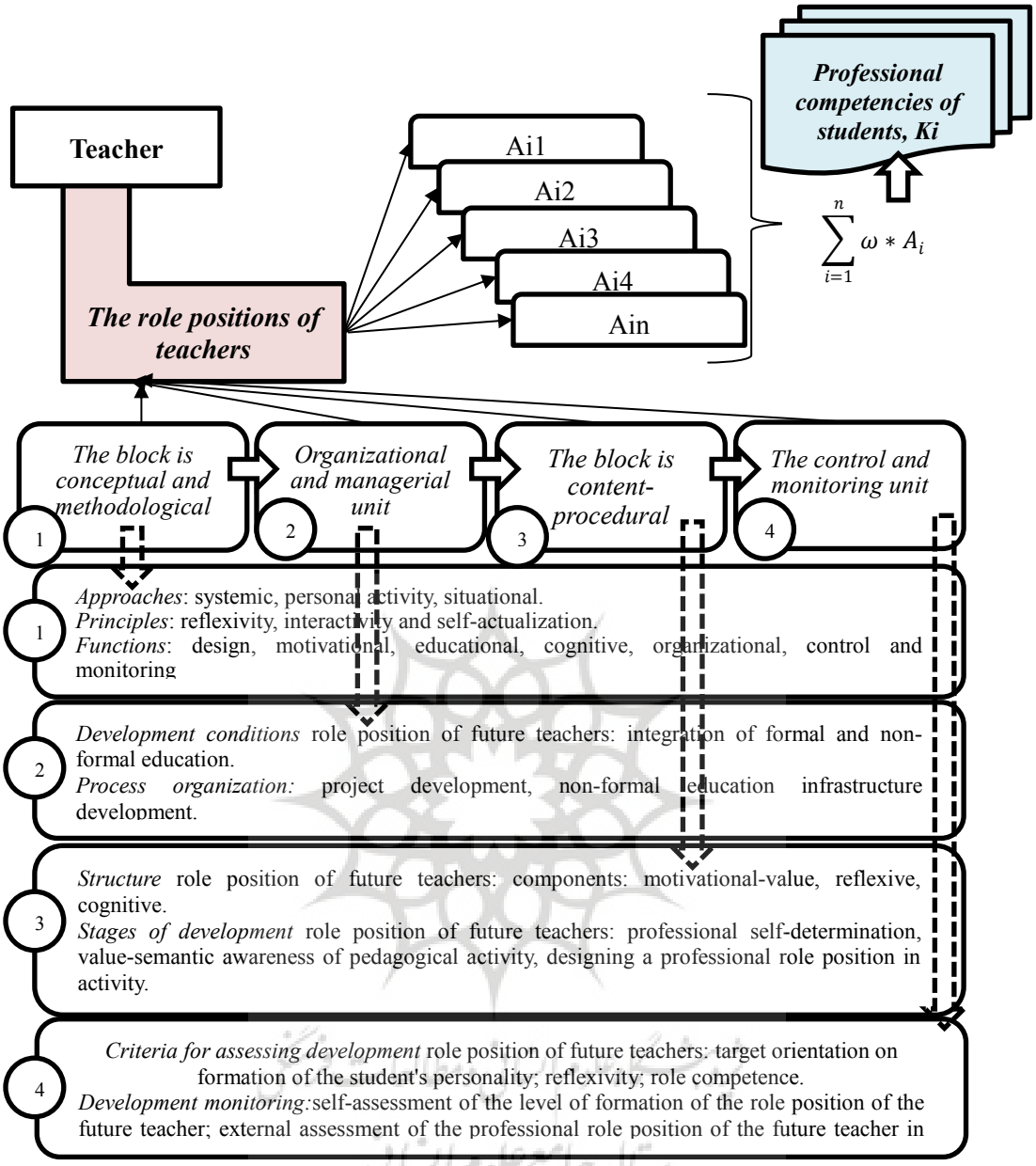

Figure 4. Structurally functional model of development of the role position of teachers in the formation of professional competencies of students

The control mechanisms: a design, a reflexivity.

The development of the role position of the future teachers includes the following stages: a professional self-determination; an awareness of the meanings and values of the pedagogical interaction; designing a role position in professional activities. Thus for the decision of professional tasks value-semantic and motivational aspects of a choice of strategy of display of a role position of behavior in an actual situation of interaction, with use of the got professional knowledge and abilities have applied. The organization of the process includes a project

development, a development of non-formal education infrastructure.

In the course of the experimental research, the structural and functional model of the development of the role position of the future teachers in the higher education institutions of Ukraine was tested. To this end, a study of the impact of the program of integration of formal and non-formal education on the development of the role position of future teachers in higher education institutions. The effectiveness of the development of the role position of a working teachers (teachers of higher education institutions) and a future teachers (students) was evaluated according to the relevant criteria. The experiment was attended by 30 teachers and 170 full-time students in the field of training " the Pedagogical training".

The empirical data were obtained using methods: questionnaires, testing, interviews, observations during formal education (lectures, workshops, seminars) and non-formal education. Fisher's test was used to process the obtained data.

As a result of the questionnaire on the importance of integrating formal and non-formal education for development role position of future teachers obtained data, which have presented in Figure 5.

The survey showed that almost half (47%) of teachers do not understand the importance of non-formal education in the educational process anddevelopment role position of the future teachers. The greatest difficulties for the integration of non-formal and formal education, the majority of respondents (55%) identify organizational and managerial aspects.

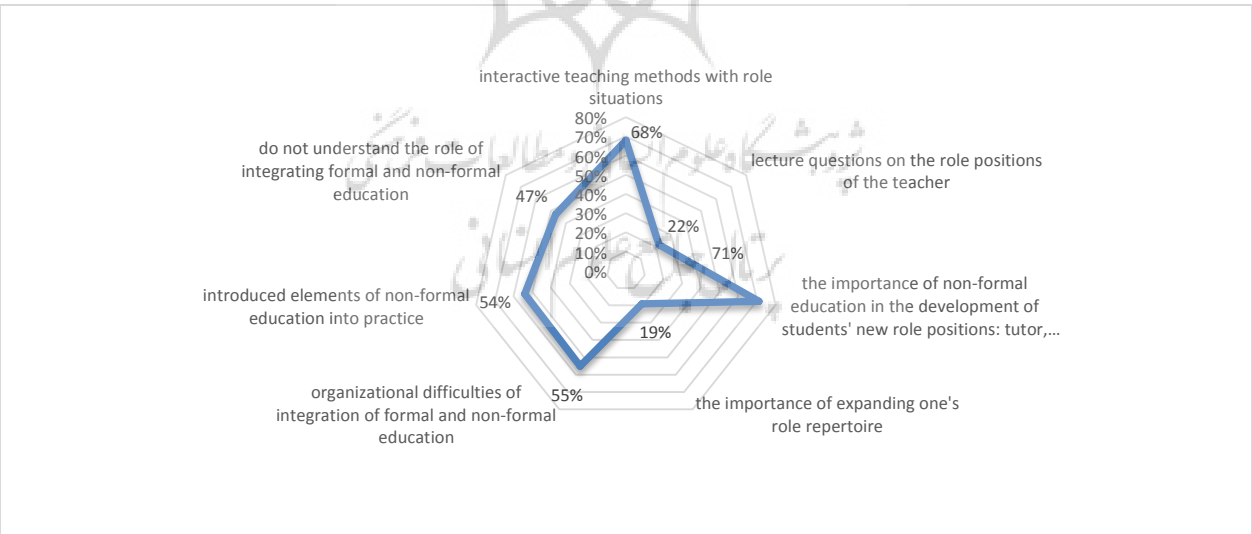

Figure 5. The impact of the integration of formal and non-formal education on development role position of future teachers

At the same time, 71% of respondents determine the importance of non-formal education in the development of students, future teachers, new role positions: the tutor, the moderator, the facilitator. 22% of teachers pay attention to the development of role positions of the future teacher in their lectures, but only 19% of respondents consider the importance of expanding their own role spectrum. Thus, the previous study showed a rather ambiguous attitude to the development of role positions of future teachers in higher education institutions. The following methods were used to assess the level of development of the role position of future teachers according to the selected criteria: the observation, the questionnaires, the individual interviews, the testing. The diagnosis was made according to the selected criteria of the following components of the development of the role position of the future teacher: the target orientation on the formation of the student's personality; the reflexivity; the role competence. The results have presented in table 1.

Table 1. Assessment of the level of development of the role position of the future teacher

Levels	Criteria,%			
	targeted focus on the formation of the student's personality	reflexivity	role competence	Average value
Low level	39.0	37.2	39.8	38.7
Average	48.7	36.2	37.6	40.8
High level	12.3	26.6	22.6	20.5

The results showed a fairly low level of development of the role position of the future teachers target orientation on the formation of the student's personality (39% of students), the reflexivity is characteristic of 37.2%, the role competence was noted in 38.9% of students.

The study revealed a lack of motivation of students to the professional activities of teachers. This indicates a lack of holistic understanding of students about the teaching profession. That is, the future teachers are not aware of the opportunities and ways to meet their professional needs. The survey showed no need for self-realization, self-affirmation and self-development as a teacher. This indicates the immaturity of the role position of the participants in the experiment.

There is also a lack of self-understanding of students as subjects of professional activity. A self-assessment of one's own academic and the professional success is often inadequate.

The pedagogical values have marked by immaturity, which in the future may cause underestimation of opportunities for implementation in the profession. In most cases, there is a low level of leadership, organizational and communication skills, which complicates the interaction and building relationships based on a dialogue, a cooperation, a partnership. The low level and even lack of reflection indicates the inability to work on themselves, improve and self-educate, design their activities and their professional future, see their opportunities. Thus, the results indicate the need for targeted activities to develop the role position of the future teacher.

To implement the process of developing the role position of current teachers, an assessment was made of the formation of role positions of teachers of the higher education institutions (Table 2).

Table 2. Assessment of the level of development of the role position of teachers of the higher education institutions in the Smart Environment

Levels	Criteria,%			
	targeted focus on the formation of the student's personality	reflexivity	role competence	Average value
Low level	24.0	22.4	9.8	18.7
Average	37.5	39.8	48.5	41.9
High level	38.5	37.8	41.7	39.3

As can be seen from table 2, there is an increase in respondents with a high level of development of the role position: fortargeting the formation of the student's personality by 50.8%; on the reflexive component by 11.2% on role competence by 19.1%. We have small changes in the average level. This is due to the transition of respondents from low to medium, and from medium to high. The comparative analysis of generalized averages for the three components is presented in Fig. 6. The figure 6 shows that the increase in respondents with a high and a medium level among teachers, compared with students, as well as a decrease in respondents with a low level, which indicates the overall positive dynamics of the process among teachers. Obviously, this is due, for the most part, to the motivational and value components. Thus, such results indicate a low level of readiness of students, compared to current teachers, to fulfill the role position and further self-realization in the profession. To address these issues, it is necessary to follow a holistic approach to the development of the Smart Environment in education plans and policies.

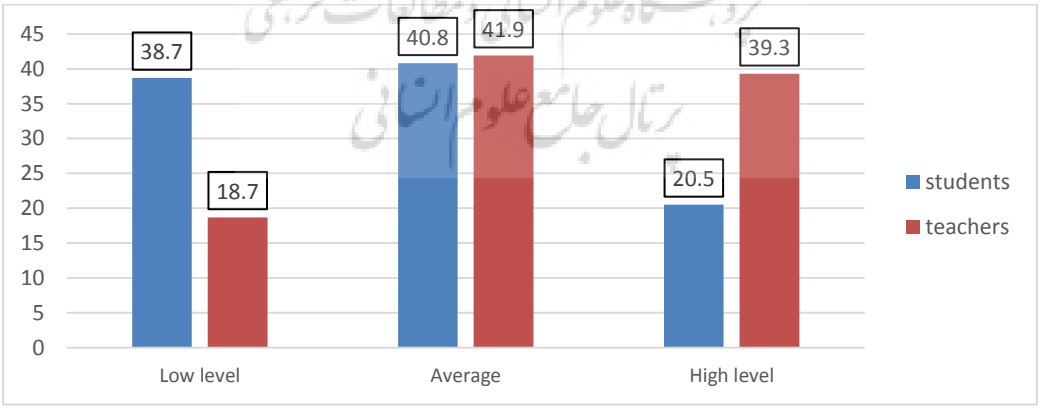

Figure 6. Development of the role position of students and teachers

This includes the involvement of stakeholders in the educational process, the active introduction of dual education, which will contribute to the professionalization of the educational process. Moreover, each professional competence requires a certain set of role positions of teachers. This increases the ability of the teachers, the administrators and other heads of the educational institutions to use and integrate ICT into education systems. An education leaders should be provided with opportunities for professional development, involve teachers and together demonstrate a shared commitment to ICT in education

Conclusion

The study found that the problem of developing the role positions of future teachers in the higher education is not given due attention. A set of organizational and pedagogical conditions for providing integrated training of working teachers and students of pedagogical institutions of the higher education to perform labor functions, with the allocation of the role of teachers in the professionalization of the educational process. In the conditions of the Smart Environment the newest roles of the teacher were actualized: the moderator, the tutor, the organizer of project training, the coordinator of the educational online platform, the mentor of startups, the game master, etc. There is a transformation of both the teacher in the modern educational process and his roles: from a translator of new knowledge to a design engineer. Approaches to the structure and philosophy of the modern lesson are changing, there is a demand for the organization of distance learning, course training and retraining of teachers. As a result, tutoring positions have appeared in the practice of education, moderator, coordinator, coach. A renewed society needs teachers who are ready to implement new role positions.

A preliminary assessment showed a low level of development of the role position of the future teacher on the selected components. The scientific novelty of the study is a structurally functional model of the development of role positions of the teachers in the formation of professional competencies of students. The development of the role position of the teacher is considered in relation to his professional and personal development and self-awareness as a subject of the educational process under the influence of the Smart Environment.

This model includes the following blocks: the conceptual-methodological, the organizational-managerial, the content-procedural, the control-monitoring. The mechanism for implementing such a model is an integrative program, which ensures the integration of formal and non-formal education and the formation on this basis of new competencies and the development of components of the role position of the future teacher. Approbation of the proposed mechanism showed its effectiveness and efficiency.

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Bibliographic information of this paper for citing:

Gumennykova, T., Sagan, O., Yakovleva, S., Kotliar, L. & Shchogoleva, T. (2021). The Role Position of Teachers in the Professionalization of the Educational Process in a Smart Environment. *Journal of Information Technology Management*, Special Issue, 101-122.