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The Institute of Vocational Education and Training of NAES of Ukraine
tel/fax (044) 259-45-53, 252-71-75

E-mail: jrnls@ivet.edu.ua

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The Journal justifies relevant issues in the modernization of professional and professional pre-university education. These are the following: the theoretical and practical aspects in the development of entrepreneurial, communicative, information-and-communicative competencies of educational entities; the improvement of digital, managerial and communicative culture of teachers and their pedagogical skills; the regulatory and organizational-pedagogical aspects in the introduction of distance learning and dual education.

It is intended for researchers, academic and teaching staff from professional, pre-tertiary professional and higher education institutions, training centres of enterprises, institutes for graduate teacher education, educational (research)-methodical centres of vocational education, doctoral students.

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ROAD MAP FOR EMPLOYERS ON THE INTRODUCTION OF A DUAL FORM OF EDUCATION

Natalia Kulalaieva

Doctor of Education, Assistant Professor, Deputy Director of the Institute of VET of the NAES of Ukraine, http://orcid.org/0000-0002-8613-1495, e-mail: culture2016@ukr.net

Abstract.

Relevance. Given the reforms in professional (vocational) education in Ukraine today, one can observe how the issues which significantly affect the quality of training future specialists in professional (vocational) education schools are becoming more and more acute. Once one has found ways to solve them, it will become possible to introduce a dual form of education in these institutions. However, the success of this process depends entirely on the participation of social partners, namely, representatives of the enterprises where future skilled workers obtain professional training in the form of dual education. In view of this, it is essential to develop a road map for employers to introduce a dual form of education.

Objective: the article aims to consider the stages, relevant measures and procedures of the road map for employers to introduce a dual form of education, which will encourage business entities to participate in this process.

Methods include theoretical (analysis and synthesis – to identify relevant measures and procedures at each stage of the road map; generalization – to formulate conclusions; modelling – to determine the logic of creating the stages of the road map) and empirical (praximetric (study and analysis of the experience in professional training of future skilled workers under a dual form of education, regulations – to identify the responsibilities and functions of professional (vocational) education (P(V)E) applicants, teachers and representatives of enterprises who are the actors in the educational process under a dual form of education); interrogatory-diagnostic (conversations with teachers and employers – to determine the features of organizing professional training of P(V)E applicants in the workplace under a dual form of education).

Results: the article presents the author's road map for employers to implement a dual form of education. It is based on the Deming circle and contains the main measures and procedures to be implemented at each of the four stages (plan, do, check and adjust), as well as their possible performers.

Conclusions. The use of this road map by employers will provide them with the opportunity to consider its organizational and methodological features and qualitatively manage this process during the introduction of practical training for P(V)E applicants under a dual form of education.

Keywords: *professional (vocational) education schools, dual form of education, social partners, future qualified workers, road map for employers.*

Introduction. Given the reforms in professional (vocational) education in Ukraine today, one can observe how the issues which significantly affect the quality of training future specialists in professional (vocational) education schools (P(V)E schools) are becoming more and more acute (Yershova, 2020; Radkevych, 2015). The current government policy in the field of education does not contribute to creating effective educational legislation. The inconsistency of existing qualifications with the needs of the economy and the labour market leads to the underemployment of specialists, which makes it impossible to improve the productivity of their work. The lack of many professional standards hinders the development of educational standards and programmes for training skilled workers under the requirements of modern production. Inefficient multilevel management of professional education does not fully provide multi-channel funding for P(V)E schools and their improvement. Outdated approaches to teacher training, as well as its detachment from production, harm the implementation of innovative pedagogical activities. Underdeveloped public-private partnership in the field of professional

(vocational) education does not allow one to involve employers in professional training of future specialists (in the development of professional/educational standards and programmes; the provision of industrial training and evaluation of its results; the improvement of mentoring in P(V)E schools). Once one has found ways to solve the above-mentioned issues, it will become possible to introduce a dual form of education in these institutions (Strilets, 2019). However, the success of this process depends entirely on the participation of social partners, namely, representatives of the enterprises where future skilled workers obtain professional training in the form of dual education (Stoichyk, 2018). In view of this, it is essential to develop the road map for employers to introduce a dual form of education.

Sources. It is worth noting the existence of regulations on the introduction of dual education. The Concept of Training Specialists under a Dual Form of Education (Kabinet ministriv Ukrayiny, 2018) identifies the real interests of employers and outlines their possible actions during the training of specialists under a dual form of education. The Regulations on a Dual Form of Professional (Vocational) Education define the grounds, conditions and procedure for obtaining professional (vocational) education under a dual form in P(V)E schools (Ministerstvo osvity i nauky Ukrainy, 2019). They highlight the features of organizing practical training of P(V)E applicants under a dual form of education. One should also pay special attention to "The Guidelines for Mentoring Introduction", which contain selection criteria for the candidacy of a mentor. They are as follows: work experience in the area of specialization no less than three years and no less than one year at the enterprise; knowledge about qualification requirements of the profession under mentoring; knowledge about the requirements of regulations on labour protection, organizational-administrative documents defining the employee's rights and job responsibilities and the provisions of the collective agreement; relevant experience and qualification level of safe practices in accordance with the requirements of labour protection rules; knowledge about the specifics of production activities at the enterprise; willingness to use the latest technologies, as well as new methods of work and information; the necessary organizational and pedagogical skills and abilities; ability to use various teaching methods for sharing knowledge, skills and abilities; ability to control the performance of tasks assigned to the employee; relevant professionally important qualities, including discipline, responsibility, sociability; no registered cases of violating labour and production discipline and applying disciplinary sanctions during the last year (Ministerstvo socialnoi polityky Ukrainy, 2017).

The article aims to consider the stages, relevant measures and procedures of the road map for employers to introduce a dual form of education, which will encourage business entities to participate in this process.

Research methods include theoretical (analysis and synthesis – to identify relevant measures and procedures at each stage of the road map; generalization – to formulate conclusions; modelling – to determine the logic of creating the stages of the road map) and empirical (praximetric (study and analysis of the experience in professional training of future skilled workers under a dual form of education, regulations – to identify the responsibilities and functions of P(V)E applicants, teachers and representatives of enterprises who are the actors in the educational process under a dual form of education); interrogatory-diagnostic (conversations with teachers and employers – to determine the features of organizing professional training of P(V)E applicants in the workplace under a dual form of education).

Results and Discussion. The employees of the professional training technologies laboratory at the Institute of VET of the NAES of Ukraine are to develop the roadmap for employers to introduce a dual form of education within the research, titled "Methodological Principles of Introducing Dual Education Elements in Professional Training of Future Skilled Workers in Construction, Engineering, Service and Catering" between 2019 and 2021 (see Fig. 1).

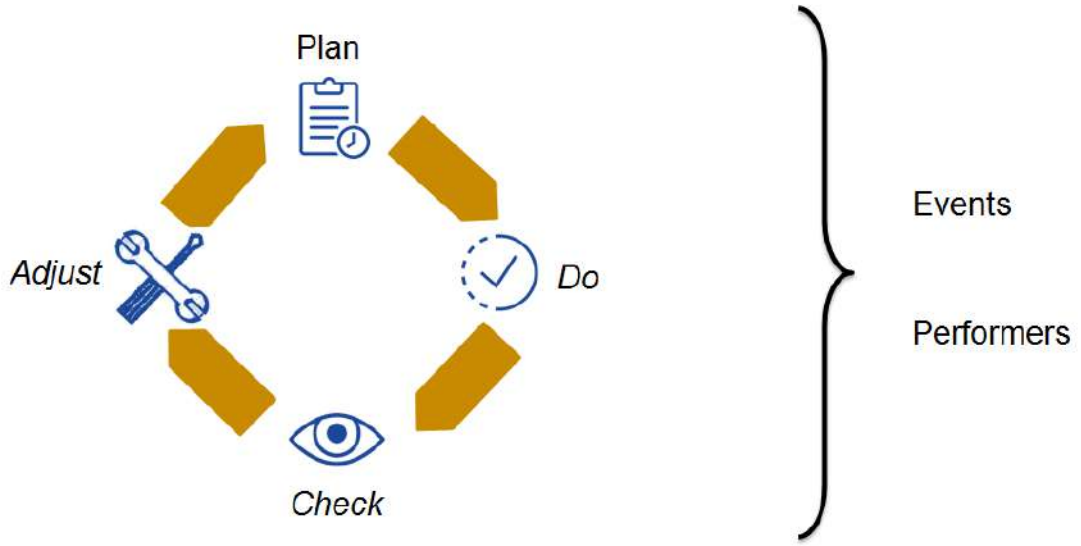

Fig. 1. A schematic structure of the road map for employers to introduce a dual form of education

It is based on the Deming circle and contains the main measures and procedures to be implemented at each of the four stages (plan, do, check and adjust), as well as their possible performers (Kulalaieva ta Homeniuk, 2020). This road map reflects the algorithm of actions performed by business entities directly involved in practical training of future skilled workers in the workplace in the context of managing this process and achieving successful results from the introduction of dual education.

At the planning stage, the management and HR staff of business entities are responsible for monitoring activities, facilities and staffing of the enterprise to identify available places for practical training of P(V)E applicants under a dual form of education. They also develop the procedure and criteria for selecting P(V)E applicants for practical training in the workplace under a dual form of education. Furthermore, they are responsible for creating, if necessary, training and production units (sites) at the enterprise / P(V)E schools under the requirements of curricula.

The employees of the public relations department should inform employment centres and P(V)E schools about their opportunities to provide jobs and/or training and production units (their planned number) for practical training of P(V)E applicants under a dual form of education, publish the procedure and criteria for selecting P(V)E applicants for completion of such training with the prevention of discrimination.

The management and HR staff of business entities should consider the proposals of P(V)E schools to provide jobs or training and production units for practical training of P(V)E applicants under a dual form of education. Besides, they need to conclude relevant agreements on the cooperation with P(V)E schools and (tripartite) agreements on the implementation of dual education. Subsequently, the head or deputy head of the economic entity and the heads of units (departments) appoint coordinators (if necessary) and mentors who will be responsible for the implementation of dual education.

At the same time, coordinators from business entities, HR staff and mentors, together with the representatives of P(V)E schools, perform some other important actions. Indeed, they develop and approve curricula and syllabi based on which the educational process is organized under a dual form of education (according to professional standards and requirements for future specialists' competencies). Also, they coordinate the content of theoretical and practical parts of curricula and develop mechanisms for coordinating professional training of P(V)E applicants under a dual form at the enterprise. Finally, they specify the schedules of practical training within professional training of P(V)E applicants under a dual form of education and approve the form of their diaries.

At the doing stage, coordinators from business entities, HR staff and mentors, together with the representatives of P(V)E schools, participate in meetings of methodological associations and pedagogical councils on the issues of providing dual education. Besides, they create the necessary conditions and opportunities to provide jobs and/or training and production sites of the enterprise's production units for practical training of P(V)E applicants under a dual form of education.

HR staff address the issues of working conditions, professional development, introduction and determination of allowances, surcharges, bonuses, rewards and other types of material and moral incentives for employees of business entities, who provide

training to P(V)E applicants under a dual form of education in the workplace (Drozich, 2018). At this stage, it is important to anticipate and provide jobs for internships of teachers from P(V)E schools who are responsible for professional training of future specialists under a dual form of education in production units of business entities.

The management, HR staff and coordinators from business entities select P(V)E applicants for training under a dual form of education, decide on their distribution to jobs or training and production sites of production units following the concluded contracts for obtaining professional (vocational) education under a dual form of education and the requirements of professional (vocational) education curricula/standards. It is important to note that P(V)E applicants may be included in the staff list of business entities after obtaining professional education under a dual form of education in the case of fixed-term employment contracts. Besides, an order is issued on the distribution of P(V)E applicants to jobs and/or training and production sites of business entities' production units under the requirements of curricula and assignment of mentors from among the qualified employees of business entities to them.

Coordinators from business entities and mentors develop (if necessary) a schedule of movements of P(V)E applicants between workplaces and/or training and production sites of business entities' production units. They, together with the employees of the labour protection service, conduct safety briefings with them, provide them with special clothes, shoes and other personal protective equipment under the requirements of safety, health protection and labour protection regulations.

The checking stage also includes several measures and procedures. The employees of the labour protection service, coordinators from business entities and mentors control the compliance with the labour protection requirements established by law. Besides, coordinators from business entities and mentors control the observance of the internal labour regulations rules of business entities by P(V)E applicants; their distribution and timely relocation and rotation on shop floors, in departments and other structural units; the current entries in the diaries of P(V)E applicants on their implementation of the schedules of the educational process, as well as the acquisition of professional and key competencies defined by professional (vocational) education curricula/standards; the evaluation of learning outcomes. They, together with the representatives of P(V)E schools, systematically control the results of practical training of P(V)E applicants at workplaces and/or training and production areas of business entities' production units under a dual form of education, assess competencies of P(V)E applicants and award them with professional (full or partial) qualification after graduation and defence of the report on the results of their training under a dual form of education. They, together with HR staff, ensure pay-for-performance following the established remuneration systems and concluded contracts on the acquisition of professional (vocational) education under a dual form of education. Finally, they, together with the management of business entities, carry out systematic monitoring of learning outcomes of P(V)E applicants under a dual form of education.

The adjustment stage implies the revision of professional standards, curricula, structure and content of syllabi by the representatives of business entities involved in the implementation of a dual form of education. This stage also involves specifying the schedules of practical training within professional training for P(V)E applicants based on the results of its monitoring.

Conclusions. The use of this road map by employers will provide them with the opportunity to consider its organizational and methodological features and qualitatively manage this process during the introduction of practical training for P(V)E applicants under a dual form of education. However, they need to consider the following aspects: preparing for certification of jobs in the workplace under a dual form of education; organizing trips to production facilities for P(V)E applicants and ensure their integration with syllabi; involving experienced enterprise employees in teaching in P(V)E schools s; strengthening the compliance of practical training at the enterprise with the requirements of educational standards/curricula and modern production; enhancing psycho-pedagogical training of enterprise mentors and developing the system of their selection criteria.

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Дорожня карта для роботодавців з упровадження дуальної форми здобуття освіти

Наталя Кулалаєва

доктор педагогічних наук, доцент, заступник директора з наукової роботи Інституту професійно-технічної освіти НАПН України

Реферат.

Актуальність. На тлі реформування професійної освіти, що сьогодні відбувається в Україні, все більше загострюються проблеми, котрі суттєво впливають на якість підготовки майбутніх фахівців у закладах професійної (професійно-технічної) освіти. Наблизитися до їхнього розв'язання дає можливість упровадження дуальної форми навчання в означених закладах. Однак, успішність цього процесу цілком залежить від участі в ньому соціальних партнерів – представників підприємств, на базі яких здійснюється професійне навчання майбутніх кваліфікованих робітників в умовах дуальної форми здобуття освіти. З огляду на це, постала необхідність у розробленні дорожньої карти для роботодавців з упровадження дуальної форми здобуття освіти.

Мета: розгляд етапів, відповідних їм заходів і процедур дорожньої карти для роботодавців з упровадження дуальної форми здобуття освіти, що сприятиме заохоченню представників суб'єктів господарювання до участі в цьому процесі.

Методи: теоретичні (аналіз, синтез – для виокремлення відповідних заходів і процедур на кожному етапі дорожньої карти; узагальнення – для формулювання висновків дослідження; моделювання – для визначення логіки побудови етапів дорожньої карти); емпіричні (праксиметричні (вивчення та аналіз досвіду професійної підготовки майбутніх кваліфікованих робітників в умовах дуальної форми навчання, нормативних документів – для виявлення обов'язків і функцій здобувачів, педагогічних працівників і представників підприємств, які є

суб'єктами освітнього процесу в умовах дуальної форми навчання); опитувально-діагностичні (бесіди з педагогічними працівниками та роботодавцями – для визначення особливостей організації професійного навчання здобувачів професійної (професійно-технічної) освіти на виробництві в умовах дуальної форми навчання).

Результати: створено дорожню карту для роботодавців з упровадження дуальної форми здобуття освіти, що побудована за принципом Деминга-Шухарта й містить основні заходи та процедури, котрі доцільно здійснювати на кожному з чотирьох етапів її реалізації (планування, виконання, контролю та коригування), а також їхніх можливих виконавців.

Висновки. Використання роботодавцями означеної дорожньої карти дасть їм можливість під час запровадження практичної підготовки здобувачів професійної (професійно-технічної) освіти за дуальною формою врахувати її організаційні та методичні особливості й якісно управляти цим процесом.

Ключові слова: *заклади професійної (професійно-технічної) освіти, дуальна форма навчання, соціальні партнери, майбутні кваліфіковані робітники, дорожня карта для роботодавців.*

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PEDAGOGICAL CONDITIONS FOR THE DEVELOPMENT OF ENTREPRENEURIAL COMPETENCE OF FUTURE MASTERS IN PHYSICAL CULTURE AND SPORTS

Andriy Moldovan

Deputy Dean for Educational and Organizational Work Yuri Fedkovych Chernivtsi National University, http://orcid.org/0000-0003-2992-8868, e-mail: a.moldovan@chnu.edu.ua

Abstract.

Relevance: high-quality training of Masters in Physical Culture and Sports for entrepreneurial activity is determined by the needs of society in creating a network of sports and recreation institutions accessible to the general population, whose activities are aimed at preserving people's health. The paper reveals the pedagogical conditions for the development of entrepreneurial competence of future Masters in Physical Culture and Sports (PCaS). The development of entrepreneurial competence of future Masters in Physical Culture and Sports is due to the creation of an appropriate educational and developmental environment in higher educational institutions, which integrates the processes of professional training in the field of Physical Culture and Sports and preparation for entrepreneurial activity.

Aim: to analyze the existing pedagogical conditions for the development of entrepreneurial competence in domestic higher educational institutions and, in particular, institutions for training specialists in Physical Culture and Sports (PCaS); to substantiate the expediency of implementing the pedagogical conditions proposed by the author of the paper.

Methods: to solve the given tasks, theoretical analysis, generalization of data from scientific and methodological literature have been used. We have also conducted an expert assessment of the circumstances that affect the level of professional training of future Masters in PCaS and the rating estimation of the pedagogical conditions for the development of entrepreneurial competence, which are often found in scientific research and methodological recommendations of domestic and foreign teachers.

Results: based on the results of an expert assessment of the circumstances that affect the level of professional training of future Masters in PCaS and a rating assessment of the pedagogical conditions for the development of entrepreneurial competence, the following pedagogical conditions for the development of entrepreneurial competence have been determined: involvement of Master's degree students in the development of business plans; practicing skills of creating business projects; stimulating positive motivation for the development of entrepreneurial competence of future Masters in PCaS in the process of professional training; introduction of the course 'Entrepreneurial activity in the field of Physical Culture and Sports' to the content of professional training of future Masters in Physical Culture and Sports; application of simulation-role learning technologies within the implementation of personalized education and trends of practice-oriented learning.

Conclusions: the main conditions for successful development of entrepreneurial competence (involvement of undergraduates in goal-setting and planning of joint and individual educational activities; use of forms of organization of creative and project activities; organization of interaction with successful business entities; creation of psychologically comfortable educational environment for acquaintance with modern sports enterprises and organizations) are determined; the most effective forms and means of forming entrepreneurial competence of future Masters in PCaS (development of business plans, creation of business projects and startups; use of business games; application of problem and project training; intensification of extracurricular activities of students on the basis of business centers, consulting centers, career centers) are substantiated.

Keywords: *entrepreneurial activity, professional competence, entrepreneurial competence, Master's degree, branch of Physical Culture and Sports.*

Introduction. The objective need to train Masters in Physical Culture and Sports for entrepreneurship activity is crystallized against the background of the growing need of society to create a network of sports and recreation facilities accessible to the general population, whose activities are aimed at maintaining human health, development of physical culture and sports in Ukraine. To this end, the regulatory framework for the development of small and medium-sized businesses in Ukraine is being improved, as well as the existing problems of employment of graduates of higher educational institutions are being solved.

Sources. The problem of entrepreneurship development in Ukraine and the world and entrepreneurial competence of the subjects of the educational process is studied in the following thematic areas: theory and history of entrepreneurship in Ukraine and the world (L.Yershova, T. Lazanska, S. Pryschepa, O. Romanovsky, J. Stoner, R. Umerov, I. Tsygilyk, J. Schumpetert, etc.); development of personal qualities of an entrepreneur, in particular, the formation of entrepreneurial competence (N. Akaev, L.Bazyl, G. Matukov, N. Pobirchenko, V.Orlov, O. Protsenkot, etc.); teaching the basics of entrepreneurship in professional educational institutions (D. Aistrakhanov, Z. Varnaliy, O. Klimko, V. Kolot, S. Mocherny, etc.).

The problem of development of components of entrepreneurial competence was studied by foreign (J. McCleland, R. Brockhouse, R. Kiyosaki, J. Fleming, R. Mitchell, etc.) and domestic psychologists (L. Karamushka, O. Kredentser, S. Maksimenko, Yu. Pachkovsky and others). In foreign scientific literature and pedagogical practice, the study of problems of entrepreneurship and, in particular, entrepreneurial competence, has a long history. The phenomenon of entrepreneurship has developed on a large scale since the beginning of the twentieth century. Based on the analysis of the works of P. Drucker, A. Marshall, D. Ricardo, F. Hayek, J. Schumpeter, and others, the characteristic features of this phenomenon are identified – initiative and independence, innovation and creativity, systematicity (regularity, professionalism, consistency) and risk, legal and social responsibility, the purpose of making a profit.

The article aims to identify and characterize the pedagogical conditions of formation of entrepreneurial competence of future Masters in Physical Culture and Sport in institutions of higher education, to substantiate the most effective forms and means of pedagogical activity.

Methods: to solve the given tasks, theoretical analysis, generalization of scientific and methodological literature have been used. An expert assessment of the circumstances affecting the level of professional training of future Masters in PCaS and the rating estimation of pedagogical conditions for the development of entrepreneurial competence, which are are often found in scientific research and methodical recommendations of domestic and foreign teachers, has been conducted.

Results and discussion. The development of entrepreneurial competence as a complex integral quality of future professionals contributes to the harmonization of their individual interests with public demands. Motivation to acquire the ability to entrepreneurship, the development of appropriate value orientations, the ability to implement the knowledge in professional and entrepreneurial activities acquired in the higher educational institutions can and should be laid in the process of training. In this regard, there is a need to determine and scientifically substantiate the pedagogical conditions for the development of entrepreneurial competence of future Masters in Physical Culture and Sports.

In modern information and educational content, pedagogical conditions are mostly considered as certain, artificially created circumstances relating to the goals, content, organizational forms, technologies, methods, tools and other components of training the future professionals to achieve the goal and obtain quality results. They are visualized as a set of correlations of the relevant psychological and pedagogical process to a particular educational environment or pedagogical system.

Concretization of the essence of pedagogical conditions (for the development of entrepreneurial competence of future Masters in Physical Culture and Sports and the scientific and methodological support in the process of professional training of such specialists) requires consideration of the essential characteristics of the scientific category. For the most part, authors of scientific works use the term 'pedagogical conditions' if they want to show a holistic pedagogical process, emphasize certain aspects or components. The peculiarity of pedagogical conditions is that they 'by themselves, without activity, can not become a new reality, produce it, they only create the possibility of a new thing as the conditioned one' (Philosophical Encyclopedic Dictionary, 2002, p. 531). In view of this, in clarifying the essence of the studied category we take into account the following characteristics of pedagogical conditions: universality in the field of higher education,

originality in the training of future Masters in Physical Culture and Sports, as well as dynamism, flexibility, relevance to a particular local educational space of the University or Faculty of Physical Culture and Sports. According to the specified essential characteristics, according to O. Romanovsky (2002a, p.54-64), in determining the pedagogical conditions for the development of entrepreneurial competence of Masters in Physical Culture and Sports, we focus on the concept of entrepreneurial education. We support the scientist's opinion that in outlining the strategic vectors and target guidelines of higher education, the key goal is to determine the acquisition of entrepreneurial qualities of citizens, regardless of their chosen profession or specialty. It is the entrepreneurial worldview, appropriate entrepreneurial types of behavior and skills that are important to be developed among all students, regardless of whether or not they show the ability to do business. 'Entrepreneurial education', says the scientist, 'cultivates the ability to be a leader, teaches and instills other business qualities necessary in the business environment of different cultures and peoples; provides individuals with the necessary knowledge about the profession and cultivates related business skills, so that a person can make the right choice of profession and acquire the ability to work in various areas of business; teaches the future entrepreneur the ways to choose and rationally use technological tools for personal and business decisions; forms the ability to communicate professionally as a listener and a speaker at public and business meetings'. (Romanovsky, 2002b, p. 118).

The development of entrepreneurial competence of future Masters in Physical Culture and Sports is due to the creation of an appropriate educational and developmental environment in higher educational institution, which integrates the processes of professional training in the field of Physical Culture and Sports and preparation for entrepreneurial activity. This process requires the creation of an integrated set of pedagogical tools that provide a variety of cyclical and non-cyclical influences on the worldview positions and motivation of future Masters in PCaS in relation to entrepreneurship activity, mastery of entrepreneurial competence.

Among the pedagogical conditions for the development of entrepreneurial competence of students of higher educational institutions, researchers note those ones that, in their opinion, are traditional: the use of methods to enhance cognitive and entrepreneurial activity (problem-based learning); intensification of the learning process; the use of interdisciplinary links, as well as those ones that can be characterized as aimed at the development of entrepreneurial qualities: giving priority in the process of professional training of business games that mimic production situations in business and form personal and professional qualities of the entrepreneur; solving special multilevel, problem-solving tasks that provide intensive emotional and intellectual work of students; accumulation of business experience. Among the tasks of entrepreneurship education, scientists highlight the problem of forming an economic worldview, awareness of the need for tasks to conserve resources, education of a respectful attitude to any kind of work and labour activity, in general; developing the ability to creatively manipulate data from all the functional aspects of business and entrepreneurship needed to make informed management decisions.

One of the primary positive qualities of the personality of an entrepreneur and athlete is his/her leadership qualities. A person with leadership qualities is the most authoritative person in any community. Such a person plays a central role in organizing joint activities and regulating relationships in social society. An entrepreneur cannot but be a leader, because he must unite people around him and inspire them to achieve a high goal. He will succeed in business only if he can convince his employees of the ability to achieve such a level of performance of tasks that previously seemed inaccessible to them. This ability of the leader is closely related to such qualities as the ability to create optimistic plans, strengthen hopes for success, explain the essence of innovation, unite the team in crisis situations and etc. According to A. Meneghetti (2004, p. 17), a leader is a person who, satisfying his own selfishness, realizes the public interest. Developing his own activities, he distributes material goods and provides employment for hundreds of people. At the same time, the leader stimulates progress in society and revives the economy, which gives impetus to the evolution of society.

We draw attention to the fact that the pragmatic concept of entrepreneurship considers the activities of entrepreneurs in the field of Physical Culture and Sports not to be only as a certain selfish manifestation of the desire for personal enrichment, but as socially useful and socially significant work. Business entities have a need for public recognition of their activities and results. In addition, in the process of preparation for such activities, it makes sense for business entities to motivate the achievement of high positive evaluations of their business by society. It should be noted that this need is due not only to the form of altruism and humanitarianism, but a

conflict of selfish interests of business entities, competition between them, and this leads to the need to appeal to society to search comparisons of competitors' actions and identify the best ones. Winners in the competition are only those entrepreneurs who have proven to society that they have a competitive advantage over rivals (Rubin, 2016, p. 145). Future Masters in the field of Physical Culture and Sports must be ready for such a struggle. Their ideas about success in entrepreneurship should include a socially useful component of entrepreneurial activity. This position is advantageous in business. For the successful entrepreneur, money is a tool for business development, not an end in itself. The experience of the most companies in the field of Physical Culture and Sports shows that the desire to just make a lot of money is a dead-end position. The development of entrepreneurial competence of future specialists in the field of Physical Culture and Sports should be aimed at understanding the position and needs that arise in the process of business activity and are related to the attitude of consumers to sports and health services and physical culture.

In defining and substantiating pedagogical conditions that promote the formation of entrepreneurial qualities, researchers emphasize the need to take into account such individual and personal characteristics of the subjects of educational processes as purposefulness, organization, thinking, memory, motivational and volitional sphere, etc. According to R. Kiyosaki and the others (2014, p. 79), people who have no experience and undertake to organize their own business, sometimes feel helpless and confused because they are accustomed to following other people's orders. Even, if such a person is characterized by challenging diligence, but has no experience in setting goals, planning his actions, the ability to set priorities and manage his time, as well as determine the sequence of necessary actions, it will be difficult for him to count on success in business. These skills are just as important as the ability to use a checkbook, make business plans and analyze financial statements. We consider it inexpedient to train an athlete to be an economist or an accountant in preparation for professional activities. The task of higher educational institutions is to open for the Master of Science student the opportunity to see his own prospects, and the formation of those qualities that will ensure the achievement of life and professional success.

Scientific statements about the importance of individual teaching, research and independent work of students for the development of entrepreneurial competence are important in the context of research. They allow to integrate the training of future Masters as specialists in Physical Culture and Sports and business entities, enable integrity as an holistic process of education, upbringing, socialization and self-development of the individual; implementation of business and creative cooperation with commercial structures in the field of Physical Culture and Sports; implementation of active interaction of such commercial structures with socio-pedagogical structures, which opens up additional opportunities for the use of material and social conditions for the implementation of deep and comprehensive preparation for entrepreneurial activity; application of a systematic approach to the development of a program of joint activities, which allows to increase the scientific and methodological validity and effectiveness of training; providing flexibility and variability of the training system, which opens space for pedagogical search, innovation and self-development, rapid updating of knowledge and social experience of young people.

Based on these considerations, scientists justify the need to supplement classroom classes in mastering the courses on 'Fundamentals of Economics and Entrepreneurship Activity', 'Management and Marketing of Physical culture and Sports Activities', 'Fundamentals of Advertising and Marketing in Tourism', etc., purposeful extracurricular activities for students, which allow to attract additional resources (time, educational technologies, types of activities, information, etc.) in order to harmonize the theoretical and practical components of the educational process in accordance with the objectives of training and education of potential business entities.

In search of favorable pedagogical conditions, we pay attention to such a form of extracurricular activities as participation in the business club, which has a high level of motivational attractiveness for young people and allows the implementation of the widest range of different activities (subject-practical, design, creative, communicative, etc.), the use of modern educational technologies. Participation in the work of the business club is an important organizational and pedagogical condition for ensuring the unity of theoretical and practical components of training the future professionals with the basics of entrepreneurship. The leading idea of the organization of the educational process, focused on achieving the goals of education and upbringing of potential business entities, is to integrate classroom classes on studying courses 'Fundamentals of Economics and Entrepreneurship', 'Management and marketing of Physical Culture and Sports activities' and extracurricular activities of future Masters in PCaS.

Having substantiated the extracurricular work as one of the main pedagogical conditions for the formation of entrepreneurial qualities of Master of Science students, we propose to carry it out within the activities of the consulting center. The researcher considers the pedagogical significance of such a center within the framework of development and substantiation of the content (determination by future Masters, not teachers), forms (priority of individual forms of education), methods of educational work of the training-consulting center based on partnership between consultant (teacher) and Master's student, as well as the functional roles of the consultant and the relevant phases of counseling (preparation, diagnosis, planning, implementation, completion, adjustment). The use of active learning technologies (game, problem, contextual, etc.) in the process of mastering the disciplines, as well as taking into account educational achievements in extracurricular work in certification, ensure the achievement of targets in the formation of future Masters in PCaS as potential business entities.

A significant part of researchers pays special attention to project activities and the application of the project method in the following areas:

- development of criteria for selection of the content of educational material, taking into account the specifics of educational business planning;
- creation of teaching methodology based on a combination of reproductive and creative activities with the priority of the latter ones;
- organization of individual, group and collective cognitive activity;
- maximum use in the teaching of the independence of Master' s students to form the skills of reflexive analysis;
- shifting the emphasis, in the process of creating a business project, to the imagination, creating creative images, but not to the economic real efficiency of the project and its implementation;
- organization of economic training practice in actually operating commercial firms;
- formation of positive motivation in choosing a professional activity focused on entrepreneurship;
- application of reflective cross-technologies of the situation center as a means of group work of students in a collective mode on creation of the project in the conditions of support of work by service group.

One of the crucial conditions for the development of entrepreneurial competence of students is the deepening and consolidation of entrepreneurial thinking, personal characteristics in accordance with market requirements. Among the pedagogical conditions that will contribute to the effectiveness of the process of formation of entrepreneurial competence G. Matukova (2015, p. 187) identifies the following:

- application of an integration approach to the study of economic disciplines;
- organization of educational communicative space and modeling of communicative situations of professional character;
- taking into account the levels of professional adaptability of economic professionals;
- ensuring the relationship of educational material of fundamental economic disciplines with the content of economic activity of enterprises;
- approaching the process of preparing students for the practical activities of an entrepreneur-innovator, the development of his personal entrepreneurial vision.

The effectiveness of the development of entrepreneurial competence of future Masters in Physical Culture and Sports depends on the motivation for the development of entrepreneurial competence, maximum concentration of attention on the educational process, the atmosphere of successful cooperation between teachers and students, adherence to correct tactics and strategies for assessing academic success, intensifying their independent activities, etc. High motivation, according to N. Pobirchenko (2007, p. 265), is the main psychological source of effective work, and it is provided by such factors as conformity of the content and the form of the organization of training, rest and work directed on formation of skills of partnership and cooperation; creative nature of joint activities; encouragement and prospects for growth in education and work.

The research analyzed above is about the formation of certain components of entrepreneurial competence of future Masters in PCaS, and not about holistic formation, which in the system of professional training of Masters in Physical Culture and Sports should be presented as a dynamic personal-professional phenomenon that ensures success in business.

The components of entrepreneurial competence of Masters in Physical Culture and Sports include:

- the ability to think innovatively, generate promising ideas, turning them into new technologies in order to achieve goals and make a profit;
- the ability to search for new market opportunities for business;
- the ability to work faster, more beyond the proposed requirements and in conditions of uncertainty;

- the ability to quickly assess the economic and social conditions of entrepreneurial activity;
- the ability to develop business plans for the creation and development of new organizations, activities, products;
- the ability to make decisions, willingness to take responsibility for the consequences of decisions;
- the ability to formulate a goal, switch to an alternative strategy to achieve the goal;
- understanding the essence of the problem and the ability to find an innovative solution to the problem in standard and non-standard situations;
- the ability to establish connections, negotiate, communicate with various partners, enter into effective agreements;
- the ability to control the use of resources, ensure optimal allocation of resources between operations and projects;
- the ability to create business and work networks from different participants;
- the ability to attract attention;
- the willingness to take risks, the ability to manage risk;
- the readiness for personal and professional self-development;
- the ability to critically assess personal strengths and weaknesses.

The presented list of components of entrepreneurial competence of future Masters in Physical Culture and Sports makes it possible to specify the pedagogical conditions and create a program for the development of entrepreneurial competence aimed at gaining practical experience of entrepreneurial activity. Among the forms of education, preference should be given to involvement of Master's students in the development of business plans, practicing skills of creating business projects to form entrepreneurial thinking in the process of planning the development of commercial enterprises in the field of PCaS and in cooperation with entrepreneurs; modeling fragments of entrepreneurial activity during research, Master's practice, development of course and other educational projects. Educational entrepreneurial activity can be carried out in the form of educational associations based on the material base of the faculty, higher educational institutions.

The peculiarity of the pedagogical conditions of the development of entrepreneurial competence of future Masters in PCaS is due to their basic employment opportunities. According to the current legislation, Masters in Physical Culture and Sports with entrepreneurial competence can hold positions that, in our opinion, have direct access to entrepreneurship. That is, teachers of Physical Culture and Sports in higher educational institutions; teachers of Physical Rehabilitation in higher educational institutions; coaches in the chosen sport; Physical Rehabilitation specialists; instructors (organizers) of sports and mass work at the factory, private company or at the place of residence; specialists in the operation of sports facilities; employees of state or public bodies of Physical Culture management; employees (manager) of sports clubs, sports and recreation camps; Physical Education instructors in fitness centers, clubs; instructors and methodologists in Physical Culture and Tourism at enterprises and institutions, at the place of residence and in areas of public recreation; specialists-researchers in the field of Physical Education, Sports and Tourism, organizers (managers, instructors) of tourist work; leaders of sports and fitness clubs, sports and health camps; sports coaches, professionals of security structures, in their career development, can become entrepreneurs, managers, start their own business, which will be successful because it is somehow related to their main profession.

Based on the results of expert assessment of the circumstances affecting the level of professional training of future Masters in PCaS, and rating assessment of pedagogical conditions for the development of entrepreneurial competence, which are most common in research and guidelines of domestic and foreign teachers, the following pedagogical conditions were identified:

1. Involvement of Master's students in the development of business plans, development of skills to create business projects in order to form entrepreneurial thinking in the process of planning the development of commercial enterprises in the field of PCaS and in cooperation with entrepreneurs.

2. Stimulation of positive motivation for the development of entrepreneurial competence of future Masters in PCaS in the process of professional training.

3. Introduction of the author's course 'Entrepreneurial activity in the field of Physical Culture and Sports' to the content of professional training of future Masters in Physical Culture and Sports.

4. Application of technologies of imitation-role learning within the implementation of personalized education and trends of practice-oriented learning.

Conclusions. Based on the analysis of the identified pedagogical conditions for the development of entrepreneurial competence of future Masters in Physical Culture and Sports, the most effective forms and means of work are substantiated: development of business plans, creation of business

projects and startups; use of business games that simulate production situations in business and form the personal and professional qualities of the entrepreneur; inclusion of special multilevel, problem tasks that provide intensive emotional and intellectual work of students in the educational process; intensification of extracurricular activities of students (based on business centers, counseling centers, career centers), which allow to attract additional resources (time, educational technologies, activities, information) in order to harmonize the theoretical and practical components of the educational process in accordance with learning objectives and education of potential business entities, etc. This is due to changes in the structure of education and the growing activity of business incubators, most often located on the basis of higher educational institutions. It is shown that startups are fast becoming an integral part of the process of the continuing education, as well as the subject of study of investment companies. It is established that the successful development of entrepreneurial competence is in those higher educational institutions, where: future Masters in the field of PCaS are involved in goal-setting and planning of joint and individual educational activities; the use of various forms of organization of creative and project activities is provided, which stimulates independent activity and activity of Master of Science students; organized interaction of future Masters with the subjects of successful business activity; a psychologically comfortable educational environment is created, in which acquaintance with modern sports enterprises and organizations is carried out, which in general enables obtaining productive knowledge and formation of relevant skills and abilities.

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Педагогічні умови розвитку підприємницької компетентності майбутніх магістрів з фізичної культури і спорту

Андрій Молдован

заступник декана з навчально-організаційної роботи Чернівецького національного університету імені Юрія Федьковича

Реферат.

Актуальність: Якісна підготовка магістрів з фізичної культури і спорту до підприємницької діяльності зумовлена потребами суспільства у створенні мережі спортивно-оздоровчих закладів, доступних для широких верств населення, діяльність яких спрямована на збереження здоров'я людей. У статті розкриваються педагогічні умови розвитку підприємницької компетентності майбутніх магістрів з фізичної культури і спорту (ФКіС). Розвиток підприємницької компетентності майбутніх магістрів з фізичної культури і спорту зумовлений створенням у ЗВО відповідного освітньо-розвивального середовища, яке інтегрує процеси професійної підготовки в галузі фізичної культури і спорту та підготовки до підприємницької діяльності.

Мета: проаналізувати існуючі педагогічні умови для розвитку підприємницької компетентності у вітчизняних ЗВО і зокрема у закладах з підготовки фахівців із фізичної культури і спорту (ФКіС). Обгрунтувати доцільність їх упровадження в закладах вищої освіти.

Методи: для вирішення поставлених завдань використовували теоретичний аналіз, узагальнення даних науково-методичної літератури. Також було проведено експертне оцінювання обставин, які впливають на рівень професійної підготовки майбутніх магістрів з ФКіС і рейтингової оцінки педагогічних умов розвитку підприємницької компетентності, що найчастіше зустрічаються в наукових дослідженнях та методичних рекомендаціях вітчизняних і зарубіжних педагогів.

Результати: за результатами проведеного експертного оцінювання обставин, що впливають на рівень професійної підготовки майбутніх магістрів з ФКіС, було визначено наступні педагогічні умови розвитку в них підприємницької компетентності: залучення студентів магістратури до розроблення планів підприємницької діяльності; відпрацювання навичок створення бізнес-проектів; стимулювання позитивної мотивації до розвитку підприємницької компетентності майбутніх магістрів з ФКіС у процесі професійної підготовки; запровадження

курсу «Підприємницька діяльність у галузі фізичної культури і спорту» до змісту професійної підготовки майбутніх магістрів із фізичної культури і спорту; застосування технологій імітаційно-рольового навчання в межах реалізації персоналізованої освіти та тенденцій практико-орієнтованого навчання.

Висновки: визначено основні умови успішного розвитку підприємницької компетентності (залучення магістрантів до цілепокладання і планування спільної та індивідуальної освітньої діяльності; використання форм організації творчої та проєктної діяльності; організація взаємодії із суб'єктами успішної підприємницької діяльності; створення психологічно комфортного освітнього середовища для ознайомлення із сучасними спортивними підприємствами та організаціями); обгрунтовано найбільш ефективні форми й засоби формування підприємницької компетентності у майбутніх магістрів ФКіС (розроблення планів підприємницької діяльності, створення бізнес-проєктів і стартапів; використання ділових ігор; застосування проблемного та проєктного навчання; активізація позааудиторної діяльності студентів на базі бізнес-центрів, консультаційних центрів, центрів кар'єри).

Ключові слова: *підприємницька діяльність, професійна компетентність, підприємницька компетентність, магістр, галузь фізичної культури і спорту.*

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ORGANIZATIONAL AND PEDAGOGICAL CONDITIONS OF DEVELOPMENT OF DIGITAL CULTURE OF PEDAGOGICAL EMPLOYEES

Oleksandr Bazeliuk

PhD in Education, DSc Student at the Institute of Vocational Education and Training of NAES of Ukraine
https://orcid.org/0000-0002-3206-2287, e-mail: o.bazeliuk@ukr.net

Abstract.

The *relevance* of the study is associated with the society's need for increasing the rate of vocational (professional) education digitalization and with the lack of methodological and didactic support of this process.

The *aim* is to justify the structure and content of organizational and pedagogical conditions of developing digital culture among the teaching staff at vocational schools.

Methods: comparison of scientific facts and generalization of pedagogical experience with extrapolation of the analyzed scientific principles and empirical ideas to the theory and methodology of vocational education; analysis of documentation and results of the teaching staff's activity at vocational schools; pedagogical observation and self-observation.

Results: the present-day status of vocational education and in particular the status of the teaching staff's digital culture have been analyzed; emphasis has been placed on the intensification of the digitalization trend due to the world pandemic; the key reasons for the low level of digitalization (domination of conservative approaches to the organization of training, complex mechanisms of implementing apprenticeship and work-based learning modes) have been identified; optimal ways of solving the problem (using hybrid learning models, ensuring appropriate infrastructure and equal access to the Internet and digital educational resources, organization of digital skills training for the teaching staff) have been described.

Conclusions: a novel set of organizational and pedagogical conditions as a subsystem of developing digital culture among the teaching staff at vocational schools has been justified. It consists of three blocks: the personal and professional block that includes the teaching staff's use of digital resources and their willingness to train themselves to improve the skills of using digital resources and services; the organizational and technical block which presupposes the creation of digital educational environment at vocational schools and organization of the educational process based on blended learning approaches; the content and procedural block that includes e-learning courses available in the Learning Management System (LMS) and the tailor-made course "Digital Technologies in Vocational Education".

Keywords: *vocational education, digitalization, digital educational environment, pedagogical conditions, teaching staff at vocational schools.*

Introduction. The problem of educational process digitalization, among others at vocational schools, has recently gained significance for the social life in Ukraine. The penetration of electronic means in all aspects of life has brought the provision of available educational services to a new level and extensively automated many stages of production and social processes. Teachers were among the first ones to become interested in the potential of using electronic resources at the modern digital stage of technological development. However, major obstacles involving, among others, the lack of methodological and didactic support have become a considerable impediment.

In the analysis of modern vocational education development trends, V. Radkevych (2020) identifies the following: digitalization, technologization and standardization. The above trends are a threefold structure whose elements, regardless of their formal independence, rely on each other and actively react to changes in them.

Above all, vocational education digitalization involves the use of new technological tools and information resources in the education process. It is accompanied by the processes of developing online platforms with learning and didactic materials for teachers and students; SMART complexes of study disciplines; hardware and software to ensure various aspects of training management and communication among education subjects; educational interaction in social networks; simulation of real-life production environment based on the software-supported learning principle; creation of students' digital profiles for recording acquired competences, etc. (Bazeliuk, 2018). Taking this into account, the investigation of organizational and pedagogical conditions of developing digital culture among the teaching staff gains particular significance.

Sources. Conceptual foundations of education informatization and digitalization are elaborated in the works of V. Bykov, A. Hurzhii and V. Kovalchuk. A wide range of issues related to the use of modern electronic means in vocational education are described in the works of O. Spirin, A. Kalenskyi and M. Pryhodii. Methodological aspects of remote vocational training are explored in a series of works by L. Petrenko and S. Kravets. The use of e-learning resources and the creation of SMART complexes for vocational education are described in the works of O. Humennyi, A. Kononenko and L. Lypska. The problems and prospects of vocational (professional) education digitalization were investigated by M. Yershov (2018).

Pedagogical conditions within methodological systems of teachers' professional development were studied by Yu. Babanskyi, A. Verbytskyi, B. Hershunskyi, I. Lerner, I. Pidlasyi, V. Slastonin, etc. General pedagogical aspects of pedagogical conditions were described by S. Batyshchev, R. Hurevich, A. Kolomiiets, A. Lytvyn, etc.

The **aim of the paper** is to justify the structure and content of organizational and pedagogical conditions of developing digital culture among the teaching staff at vocational schools as an important component of the phenomenon under study.

Methods. The following methods were used to conduct scientific analysis of the phenomenon under study: comparison of scientific facts and generalization of pedagogical experience with extrapolation of the analyzed scientific principles and empirical ideas to the theory and methodology of vocational education; analysis of documentation and results of the teaching staff's activity at vocational schools; pedagogical observation and self-observation, etc.

Results and discussion. Digital transformation of education has become an irreversible process that requires significant changes to all its components. This global process has intensified due to the COVID-19 epidemic, which has catalyzed it. The extraordinary session of the global UNESCO conference dedicated to education in the post-pandemic period (GEM 2020) emphasized that the crisis has brought to life vulnerabilities in the vocational education system. The main problems were found to be low levels of digitalization and outdated educational structure, which made it difficult to implement apprenticeship and work-based learning modes that are key functional elements of the vocational education system (Policy Brif, 2020). The use of hybrid learning models has been proposed as a solution to this problem. However, it has been found that they require not only appropriate infrastructure but also equal access to the Internet and e-learning resources. An important aspect is training the teachers in digital skills, which is directly related to the development of their digital culture. In this context, the Ministry of Education of Ukraine recommended vocational (professional), specialized pre-higher and higher education institutions to adopt a remote learning mode (Verkhovna Rada Ukrainy, 2020).

In 2020, the global COVID-19 epidemic has affected all social processes in the world. Introduced in March 2020, the quarantine measures have also become a great challenge for the system of vocational education in Ukraine. Transition to online learning has caused substantial difficulties in the achievement of the key objectives of vocational (professional) schools (Kukharenko and Bondarenko, 2020).

In October 2020, the Ministry of Education and Science of Ukraine and EU4Skills presented the results of the audit (Institute of Educational Analytics, 2020) at 1254 specialized pre-higher and vocational schools, in which ensuring equal access to the Internet for students was recognized as a key problem of digital transformation. It was noted that there are 0.4 rooms with Internet access per 1 person.

The findings of studies on remote vocational training (Radkevych and Artiushyna, 2018; Petrenko, anoth, 2020) from previous years demonstrated that almost half of the teaching staff (49 %) had never used any e-learning elements in their pedagogical activity. It was found that almost one in six surveyed teachers (15.8%) has a negative experience of using e-learning resources, while only one third of the teachers have a positive experience (28.6 % and 6.6 %, respectively). At the same time, only 6.6

% of respondents admitted using them systematically and effectively.

The analysis of the level of willingness to implement remote vocational training among the teaching staff at vocational schools (Kravets, 2016) demonstrates a sufficient level of willingness. However, the motivational and evaluative-reflexive components are the most pronounced, while the level of cognitive and operational-activity components is moderate. It indicates that there is a need for increasing the level of cognitive and operational-activity components of the willingness to implement remote vocational training among the teaching staff at vocational (professional) schools. The results of this study determine the need for the development of digital culture among the teaching staff at vocational schools based on their expertise and involving a set of professional creative skills, innovative and prognostic thinking, a high level of psycho-pedagogical culture, and a high level of proficiency in using modern digital technologies. It appears to trigger the development of both the vocational education system in general and the students' life opportunities (Bazeliuk, 2018). At the same time, such development of the vocational teaching staff can only take place in appropriate organizational and pedagogical conditions.

A. Lytvyn (2014, p.63) interprets pedagogical conditions as "a set of constructed opportunities (circumstances) of the content, forms and methods of the integrated educational and didactic process, which ensure the management of the operation and development of the procedural aspect of the education system, influence the training process, and ensure effective control and implementation of this process according to the objectives using the selected forms, methods, techniques, and provisions whose application ensure the achievement of the goal".

It is worth mentioning S. Kravets' (2018) view that any pedagogical conditions at a modern education institution are part of the information education environment. It means that the organizational support of vocational training must be provided at the background of proper technical support at education institutions, including the availability of computers, computer classrooms, stable Internet connection, etc., and the above-mentioned environment must be based on specialized hard- and software with learning management systems (LMS).

The description of the teachers' digital competence proposed by a creative team of scholars led by N. Morze (2019) includes requirements to the structure and levels of digital competence needed for the teaching staff to successfully carry out their activity in digital society. For the purposes of our study, this description is important as a systematized structure of professional and personal qualities required for a digital era teacher. Based on this description, we have formulated the *personal and professional conditions of developing digital culture among the teaching staff at vocational schools* as follows:

- teaching staff's mastering digital resources;
- willingness to engage in self-education and improve the skills of using digital resources and services.

However, the availability of computers and access to the Internet cannot fully ensure the requirements to education digitalization at vocational schools. Above all, digitalization is the creation of digital infrastructures capable of interacting with the user (establishing interactive (in the broad meaning) teacher-student, student-teacher, student-student connection) both at the local and at the global level. Thus, the need to ensure both the pedagogical conditions and, most importantly, their organizational and technical component comes to the fore.

The digital education environment at vocational schools must be based on the set of digital means (digital infrastructure components) capable of ensuring educational interaction among all its participants.

There are two basic scenarios for the creation of such infrastructure:

- based on cloud services (e.g. Microsoft or Google);
- based on specialized hard- and software with learning management systems (LMS), e.g. LMS Moodle.

The advantages and disadvantages of each of these scenarios deserve separate research, but it is obvious that, from the educational perspective, a teacher with a high level of digital culture will be more effective as the understanding of differences and specific functional features of these infrastructural components will allow teachers to take into account and overcome their disadvantages and to make a better use of their advantages.

Therefore, the creation of digital educational environment at vocational schools is a crucial component of the organizational and technical conditions of developing digital culture among the teaching staff at vocational schools.

Regardless of the selected scenario for the organization of the digital educational environment,

the teachers will inevitably face the problem of achieving the objective related to the mastering of respective professional skills by future qualified specialists. This problem is extremely pressing for vocational training as learning fully remotely is either impossible or very difficult for most professions. This problem can be resolved if distance and traditional learning is joined, and remote and face-to-face interaction is combined. This combination has been called blended learning (Bazeliuk et al., 2017), (Kukharenko, 2016). For vocational education, blended learning is a harmonious combination of remote learning (to acquire theoretical knowledge) and students' applied practical activities. Recommendations on the organization of blended learning are set forth in the Recommendations of the Ministry of Education and Science (Recommendations on the Implementation of Blended Learning at Specialized Pre-Higher and Higher Education Institutions, 2020).

Thus, a second component of the organizational and technical conditions for the development of digital culture among the teaching staff at vocational schools is the *organization of the educational process based on blended learning approaches*.

At the same time, the implementation of the proposed blocks of organizational and pedagogical components is impossible without a targeted process of acquiring pedagogical experience in the digital environment and systematic development of the level of one's digital culture. Taking this into account, we have defined the *content and procedural block of conditions* that is an integral component of the development of digital culture among the teaching staff at vocational schools. It is this block that contains the main procedural elements and their content. This block of pedagogical conditions includes e-learning courses available in the Learning Management System, namely "Critical Thinking Development", "Digital Communication Culture"; "LMS Moodle for Vocational Education", and the tailor-made course "Digital Technologies in Vocational Education". The courses contain up-to-date information on a wide range of digital technologies used in the practical activity of the teaching staff at vocational schools and provide an opportunity to increase the level of one's digital culture in a systemic and targeted manner. It also helps avoid chaotic acquisition of digital skills detached from the pedagogical process.

Conclusions. The global process of digital transformation has given rise to serious educational challenges, in particular in vocational training. Digital transformation in education is an objective global process significantly accelerated by the world pandemic of COVID-19. Only a teacher with a high level of digital culture is now able to ensure an effective educational process in the new-age digital educational environment. The development of digital culture among the teaching staff at vocational schools will be rapid if respective organizational and pedagogical conditions are in place.

The proposed organizational and pedagogical conditions as a subsystem of the development of digital culture among the teaching staff at vocational schools consists of three blocks that rely on and complement each other.

The personal and professional block includes the teaching staff's use of digital resources and their willingness to train themselves to improve the skills of using digital resources and services.

The organizational and technical block presupposes the creation of digital educational environment at vocational schools and organization of the educational process based on blended learning approaches.

The content and procedural block includes e-learning courses available in the Learning Management System (LMS) and the tailor-made course "Digital Technologies in Vocational Education".

In the future, components of the digital environment at vocational schools must be studied and the regulatory background of the teaching staff's activity at vocational schools must be explored taking into account extensive implementation of digital technologies.

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Організаційно-педагогічні умови розвитку цифрової культури педагогічних працівників

Олександр Базелюк

докторант Інституту професійно-технічної освіти НАПН України

Реферат.

Актуальність дослідження зумовлена потребою суспільства в прискоренні темпів цифровізації професійної (професійно-технічної) освіти та відсутністю методологічного й методичного забезпечення даного процесу.

Мета – обґрунтувати структуру та зміст організаційно-педагогічних умов формування цифрової культури педагогічних працівників закладів професійної освіти.

Методи: співставлення наукових фактів та узагальнення педагогічного досвіду з екстраполюванням в теорію та методику професійної освіти проаналізованих наукових положень та емпіричних уявлень; вивчення документації й результатів діяльності педагогічних працівників закладів професійної освіти; педагогічного спостереження та самоспостереження.

Результати: проаналізовано сучасний стан професійної освіти і зокрема стан цифрової культури педагогічних працівників; акцентовано увагу на посиленні тенденції цифровізації, зумовленій світовою пандемією; виявлено основні причини низького рівня цифровізації (домінування консервативних підходів до організації навчання, складні механізми впровадження наставництва та режимів навчання на засадах продуктивних діяльності); охарактеризовано оптимальні шляхи вирішення проблеми (використання гібридних моделей навчання,

забезпечення відповідної інфраструктури, рівного доступу до Інтернету та цифрових освітніх ресурсів, організація навчання цифровим навичкам педагогів).

Висновки: обґрунтовано власний комплекс організаційно-педагогічних умов, як підсистеми розвитку цифрової культури педагогічних працівників закладів професійної освіти, що складається з трьох блоків (особистісно-професійний блок, що складається з володіння педагогічними працівниками цифровими засобами та готовності до самоосвітньої діяльності з вдосконалення володіння цифровими засобами та сервісами; організаційно-технічний блок, що передбачає створення цифрового освітнього середовища ЗПО та організацію освітнього процесу на основі підходів змішаного навчання (blended-learning); змістово-процесуальний блок, що містить електронні навчальні курси розміщенні у Системі управління навчанням (СУН), та авторський курс «Цифрові технології в професійній освіті».

Ключові слова: *професійна освіта, цифровізація, цифрове освітнє середовище, педагогічні умови, педагогічні працівники закладів професійної освіти.*

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FACTORS IN DEVELOPING PEDAGOGICAL EXCELLENCE IN FUTURE TEACHERS

Iryna Androshchuk [1], Ihor Androshchuk [2]

1 Doctor of Sciences in Pedagogy, Professor, Professor at the Department of Technological and Professional Education and Decorative Arts, Khmelnytskyi National University, Faculty of Humanities and Pedagogy, Khmelnytskyi, Ukraine, http://orcid.org/0000-0002-8054-5574, e-mail: ivandroshchuk@ukr.net

2 Doctor of Sciences in Pedagogy, Associate Professor, Head of the Department of Technological and Professional Education and Decorative Arts, Khmelnytskyi National University, Faculty of Humanities and Pedagogy, Khmelnytskyi, Ukraine, http://orcid.org/0000-0001-5490-1566, e-mail: lemen77@ukr.net

Abstract.

Relevance. The quality of the educational process mainly lies in teachers' pedagogical excellence. The development of pedagogical excellence in future teachers in higher education institutions (HEIs) depends on several factors, which will enhance the effectiveness of this process.

Objective: the article aims to specify the concept of pedagogical excellence and its structural components, determine the factors influencing the development of pedagogical excellence in future teachers in HEIs.

Methods: theoretical methods: analysis of relevant psycho-pedagogical and scientific works on the issues of developing pedagogical excellence – to clarify the concept of pedagogical excellence and its structural components; generalization and systematization – to determine the factors enhancing the development of pedagogical excellence in future teachers in HEIs.

Results: the article analyzes the main approaches to interpreting the concept of pedagogical excellence and determines its structural components. It describes pedagogical excellence as an integrative personal quality. The latter combines general and professional competences, teaching abilities, use of pedagogical techniques (internal and external), relevant professional and personal qualities, creativity and pedagogical interaction with the actors in the educational process based on reflection and lifelong learning. The article isolates three groups of factors influencing the development of pedagogical excellence in future teachers (socio-economic, personal and technological). Finally, the article indicates that socio-economic factors influence the needs of students to enrol in teacher training programmes, as well as the main personal and technological factors in higher education study.

Conclusions: teacher training in HEIs and development of pedagogical excellence should take into account the socio-economic, personal and technological factors.

Keywords: *pedagogical excellence, future teachers, structural components of pedagogical excellence, factors in developing pedagogical excellence, higher education institutions.*

Introduction. Given the pandemic-related challenges for education, the active use of information and communication technologies in distance learning requires updating of approaches to defining pedagogical excellence of future teachers and the factors of its development. Soft skills are of particular importance since they enable graduates to become successful professionals, create an educational space, strengthen the educational process with the use of various platforms and online services and interact in a distance learning environment. This requires future teachers to be able to work in a team, make decisions and take responsibility under critical conditions, resolve conflicts and think critically. Therefore, it is essential to update the requirements for pedagogical excellence of teachers and reconsider approaches to its development. In this context, it is vital to clarify the concept of pedagogical excellence and the factors influencing the effectiveness of this process in HEIs.

Sources. An analysis of relevant psycho-pedagogical sources shows that pedagogical theory and practice focus on teacher training and especially the process of developing their pedagogical excellence. Many researchers cover the issue of pedagogical excellence (H. Filipchuk, Ye. Kaharov, N. Kuzmina, L. Kulinenko, O. Malnatska, K. Pasko, N. Pykhtina, S. Rudyshyn, H. Sahach, S. Sysoieva, M. Yevtukh), as well as relevant theoretical and methodical principles (L. Kramushchenko, N. Kuzmina, O. Lavrinenko, A. Markova, M. Soldatenko I. Ziaziun).

Objective: the article aims to specify the concept of pedagogical excellence and its structural components, determine the factors influencing the development of pedagogical excellence in future teachers in HEIs.

Methods*:* theoretical methods: analysis of relevant psycho-pedagogical and scientific works on the issues of developing pedagogical excellence to clarify the concept of pedagogical excellence and its structural components; generalization and systematization to determine the factors enhancing the development of pedagogical excellence in future teachers in HEIs.

Results and discussion. It is important to note that the issue of developing pedagogical excellence had been considered in different aspects and at different times. However, there is still no single approach to its interpretation. Prominent educators Comenius, Makarenko, Ushynsky, Sukhomlynsky emphasized the importance of developing pedagogical excellence. Indeed, Makarenko considered pedagogical excellence as real knowledge of the educational process based on abilities and qualifications which could be achieved, although not easily (Makarenko, 1984). At the same time, the works of Comenius, Makarenko, Ushynsky and Sukhomlynsky highlighted the leading role of developing teacher's professional and personal qualities and ability to interact based on the subject-subject approach in the development of pedagogical excellence.

It was the Ukrainian scholar Ivan Ziaziun who significantly contributed to the study of theoretical and methodical principles underlying the development of pedagogical excellence. He founded this area of research and the course on pedagogical excellence in HEIs providing teacher training. This outstanding scholar interpreted the concept of pedagogical excellence as "a set of personality traits needed to organize professional activities on a reflective basis" (Ziaziun, 1997). It is pedagogical excellence that describes the highest level of pedagogical activity based on self-actualization and self-organization (Ziaziun, 2000). Besides, the scholar considered humanities-oriented focus as an important characteristic and structural component of pedagogical excellence (Ziaziun, 1997). It is important to note that the main ideas on the essence and structure of pedagogical excellence, stages and levels of its development covered in his works have become the basis for further research.

Also, one should pay special attention to the interpretation of pedagogical excellence in the context of Pasko's approach. According to the latter, pedagogical excellence implies "subjective philosophical understanding of teacher's professionalism, which is the result of axiological, empirical, theoretical and practical aspects of their professional development" (Pasko, 2008). The researcher presents the author's model of pedagogical excellence based on personal-centred and pragmatist approaches. It consists of the twenty-eight components which are interconnected with each other, on the one hand, and with human consciousness and existing social factors of teacher development, on the other hand (Pasko, 2008). Lavrinenko also justifies the trends in the development of pedagogical excellence. The researcher defines teacher's "self-creativity" and "self-inclusion" as the important indicators of pedagogical excellence. The authors of the article do not agree with this position since it considers pedagogical excellence as a subject-subject interaction between teachers and students (Lavrinenko, 2009). They believe that pedagogical interaction defines the level of pedagogical excellence.

Modern pedagogy regards pedagogical excellence as a manifestation of the teacher's creative realization in professional activities (Pasko, 2008; Kulinenko, 2013). Indeed, Kulinenko views pedagogical excellence as the basis of teacher's realization, as well as the result of their professionalism and creativity. Those teachers who are at high levels of pedagogical excellence think in professional concepts and demonstrate professional uniqueness (Kulinenko, 2013). In general, all scholars agree that pedagogical excellence is a means of expressing the teacher's professionalism, characterizes their ability to organize professional-pedagogical activities and determines the effectiveness of the educational process.

The analysis of relevant scientific sources shows that structural components specify the concept of pedagogical excellence. However, researchers express different views on the structure of peda-

gogical excellence. The main approaches to determining its structural components are presented in Table 1.

Table 1

Researcher	*The main approaches to the structure of pedagogical excellence*
V. Sukhomlynsky (1977)	Ability to influence consciousness and feelings of pupils using the most effective teaching methods and techniques
N. Pykhtina (2013)	Professional knowledge as the basis of excellence; professional-pedagogical techniques; professional-pedagogical skills; professional-pedagogical abilities; the humanistic focus of pedagogical activity
I. Ziaziun (1997)	Humanistic focus, professional competence, pedagogical abilities, pedagogical techniques
S. Rudyshyn (2011)	Cognitive, regulatory, communicative, individual, reflexive
O. Malnatska (2014)	Teacher's culture, knowledge, worldview, theoretical training
Ye. Kaharov (based on Zaitseva, 1991)	Physical health, sobriety, will, initiative, organizational skills, good knowledge of the subject, propensity for self-education, trust of pupils, attention to pupils, interest in public life and participation in it, discipline, punctuality, honesty, sense of duty

Thus, this article considers pedagogical excellence of future teachers as an integrative personal quality. The latter combines general and professional competences, teaching abilities, use of pedagogical techniques (internal and external), relevant professional and personal qualities, creativity and pedagogical interaction with the actors in the educational process based on reflection and lifelong learning.

It is important to note that the development of pedagogical excellence and its structural components begins in HEIs. In this context, Ziaziun's approach is of special value. According to it, future teachers are to reach the second (basic) level of pedagogical excellence upon completion of teacher training in HEIs. In turn, HEIs should help students to master the fundamentals of pedagogical excellence for a conscious and productive beginning of professional activities. It involves shaping humanistic focus, consolidating knowledge, developing pedagogical skills, teaching to use interaction techniques and preparing for professional analysis of various pedagogical situations (Ziaziun, 1997). It is essential to identify the factors influencing the effectiveness of this process to solve this particular issue.

The analysis of relevant scientific sources and surveys of students has made it possible to isolate three groups of factors in teacher training and developing pedagogical excellence in future teachers (socio-economic, personal and technological).

Socio-economic factors determine the social significance of the teaching profession, the possibility of increasing teaching salary depending on career growth and professional conditions. These factors serve as motivational conditions defining the hierarchy of needs in the development of pedagogical excellence. At the same time, a low salary is a factor which negatively affects the development of pedagogical excellence and professional activities of novice teachers (Androshchuk, 2017). According to the survey, there is a stable stereotype about the feasibility of continuing professional development and self-education, given that teaching salary does not ensure an adequate standard of living. Therefore, graduates are faced with a choice: to teach and have a low income or to find a more well-paid job in some other area. Still, students are aware of the requirements for the teaching profession and its workload. Teacher graduates mostly choose to work outside the profession owing to the discrepancy between the teacher's responsibilities and teaching salary. The authors of the article consider this factor as the one which has caused the reluctance of young people to enrol in teacher training programmes.

Personal factors include teaching abilities, professional and personal qualities important for the achievement of objectives of the educational process based on the subject-subject interaction. At the same time, the effectiveness of developing pedagogical excellence mainly depends on these factors since they determine both the propensity and orientation of students towards pedagogical activity. Personal factors are decisive for higher education study, given that they determine the effectiveness of implementing technologies and methods of teaching.

Technological factors reflect the content, technologies, forms and methods of teacher training in HEIs. Importantly, students stress the value of the image of university teachers. It is the level of their pedagogical excellence that serves as an example, which students take as a basis during teaching placements or

at the first stage of professional activities. The analysis of technological factors in developing pedagogical excellence shows that the effectiveness of this process lies in university teachers' ability to use innovative technologies and methods of teaching, various forms and methods of training based on personality-centred and pragmatist approaches and develop the subject-subject interaction.

Conclusions. Thus, pedagogical excellence is an important condition for the effectiveness of the pedagogical activity. Pedagogical excellence of future teachers is interpreted as an integrative personal quality. The latter combines general and professional competences, teaching abilities, use of pedagogical techniques (internal and external), relevant professional and personal qualities, creativity and pedagogical interaction with the actors in the educational process based on reflection and lifelong learning. The groups of factors influencing the effectiveness of developing pedagogical excellence include socio-economic, personal and technological. Further research should aim to justify the methodology for developing pedagogical excellence in future teachers in HEIs.

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Чинники формування педагогічної майстерності майбутніх педагогів

Ірина Андрощук [1], Ігор Андрощук [2]

1 доктор педагогічних наук, професор, професор кафедри технологічної та професійної освіти і декоративного мистецтва Хмельницького національного університету

2 доктор педагогічних наук, доцент, завідувач кафедри технологічної та професійної освіти і декоративного мистецтва Хмельницького національного університету

Реферат.

Актуальність: якість освітнього процесу значною мірою визначається рівнем сформованості педагогічної майстерності педагогів; формування педагогічної майстерності майбутніх педагогів у закладах вищої освіти залежить від групи чинників, врахування яких сприятиме підвищенню результативності цього процесу.

Мета: з'ясування сутності поняття «педагогічна майстерність» та її структурних компонентів, визначення чинників, що впливають на результативність формування педагогічної майстерності майбутніх педагогів у закладах вищої освіти.

Методи: теоретичні: аналіз психолого-педагогічних джерел, наукових праць присвячених проблемам формування педагогічної майстерності – для з'ясування сутності поняття «педагогічна майстерність» та її структурних компонентів; узагальнення та систематизація – для визначення чинників, що впливають на результативність формування педагогічної майстерності майбутніх педагогів у закладах вищої освіти.

Результати: проаналізовано основні підходи до трактування поняття «педагогічна майстерність» та визначення її структурних компонентів. Схарактеризовано педагогічну майстерність як інтегративне особистісне утво-

рення, яке поєднує у собі загальні й професійні компетентності, здібності до педагогічної діяльності, володіння педагогічною технікою (внутрішньою та зовнішньою), сформованість відповідних професійно особистісних якостей, здатність до творчості та педагогічної взаємодії з учасниками освітнього процесу на рефлексивній основі й неперервної освіти впродовж життя. Виокремлено та коротко схарактеризовано три групи чинників, що впливають на формування педагогічної майстерності майбутніх педагогів: соціально-економічні, особистісні та технологічні. Зазначено, що соціально-економічні чинники впливають на потреби учнівської молоді вступати на навчання за освітніми програмами, що здійснюють підготовку вчителів; особистісні й технологічні чинники є визначальними під час навчання у закладах вищої освіти.

Висновки: підготовка майбутніх педагогів у закладах вищої освіти й формування педагогічної майстерності зокрема має здійснюватися з врахуванням таких груп чинників: соціально-економічних, особистісних та технологічних.

Ключові слова: *педагогічна майстерність, майбутні педагоги, структурні компоненти педагогічної майстерності, чинники формування педагогічної майстерності, заклади вищої освіти.*

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EVALUATION OF QUALITY OF TRAINING OF SPECIALISTS IN COLLEGES: THEORY, PRACTICE, PROSPECTS

Andriy Kalensky [1], Tatiana Pashchenko [2], Irina Mosya [3], Natalia Vanina [4], Natalia Kalashnik [5]

1 Doctor of Pedagogical Sciences, Professor, Head of laboratory of scientific and methodological support for specialist training in colleges and technical schools, Institute of Vocational Education of the National Academy of Pedagogical Sciences of Ukraine, http://orcid.org/0000-0001-9034-5042, e-mail: kaa_1959@ukr.net
2 Candidate of Pedagogical Sciences, senior researcher, senior researcher of laboratory of scientific and methodological support of specialist training in colleges and technical schools, Institute of Vocational Education of the National Academy of Pedagogical Sciences of Ukraine, http://orcid.org/0000-0002-7629-7870, e-mail: tantarena@ukr.net
3 Candidate of Pedagogical Sciences, senior researcher of laboratory of scientific and methodological support of specialist training in colleges and technical schools, Institute of Vocational Education of the National Academy of Pedagogical Sciences of Ukraine, http://orcid.org/0000-0001-7641-3352, e-mail: mosyaira@ukr.net
4 Candidate of Economic Sciences, Associate Professor, researcher of laboratory of scientific and methodological support of specialist training in colleges and technical schools, Institute of Vocational Education of the National Academy of Pedagogical Sciences of Ukraine, http://orcid.org/0000-0001-8310-5139, e-mail: nvanina.science@gmail.com
5 Candidate of Pedagogical Sciences, Associate Professor, Department of Ukrainian Studies Vinnytsia National Medical University them. E. Pirogov, https://orcid.org/0000-0001-5312-3280, e-mail: kalashnuknatalia@gmail.com

Abstract.

Relevance. The conformity of the quality of education to the needs of man, society, and the state determined the need to modernize Ukrainian education and ensure a balance between the demands of the labor market and the development of the system of professional higher education. Solving problems in improving educational technologies and implementing innovative teaching methods is an urgent task in developing pedagogical tools for the formation of general and professional competencies, criteria and methods for assessing the achievement of students' planned learning outcomes.

The purpose is to analyze the theory, practice and prospects of assessing the quality of training in colleges.

Methods. To achieve this goal, a set of theoretical (description, analysis, synthesis, comparison, generalization) and empirical (observation, survey, questionnaire) research methods were used.

Results. The essence of the study is that improving the quality of training in vocational higher education institutions, taking into account the peculiarities of reforming the domestic education system and the needs of the national labor market is not possible without modern methodological support for assessing their training. The study of interpretations of the concept of "quality of education" identified the types of dependence on the quality of training and the need to form personal professional qualities for students to acquire professional skills and abilities. Conducting a survey of teachers with different teaching experience and academic titles from different regions of Ukraine allowed to clarify the current features of assessing the quality of training in technical schools and colleges. In order to study the readiness of teachers to assess the quality of training in technical schools and colleges, questionnaires were developed and sent to all educational institutions with which a cooperation agreement has been signed. According to the results of the survey, the authors proposed a modernization of the set of main principles for assessing the quality of education and ways to achieve objective pedagogical control.

Conclusions. The application of the basic principles of assessing the quality of vocational education, using experimental research has proved the need to take into account the pedagogical conditions for proper assessment of the

quality of training in colleges. The results of the study of quality assessment of training in technical schools and colleges necessitated the development of a set of measures to modernize the assessment of quality of training. In the course of the study of teachers' readiness to assess the quality of training, the need to introduce a methodological system for assessing the quality of training in institutions of professional higher education and develop its structural model was proved.

Keywords: *quality of training, assessment, college, professional higher education.*

Introduction. One of the most important tasks facing Ukraine is its sustainable innovative development. The need to modernize the training of specialists is due to the formation of a new educational policy of Ukraine, where the priority is to ensure the appropriate quality of education based on maintaining its fundamentality and compliance with the mature and far-reaching needs of man, society and state.

Particular attention is paid to the quality of vocational education as a guarantor of sustainable development of the state economy, providing it with mobile, competent professionals. Problems of reforming the Ukrainian education system, development and implementation of market mechanisms for regulating its relations with the real economy, training are today among the most important national problems.

In these conditions, the competitiveness of the future specialist acquires the status of one of the leading indicators of the work of institutions of professional higher education and is the ability of educational services to meet the demands and expectations of consumers. Quality management is designed to ensure a balance between the demands of the labor market, the needs of the developing individual and the development of the system of professional higher education in general.

Head The task of professional higher education is not only the formation of knowledge, skills and abilities, but also the development of the ability to adapt to changes in technology, technology, labor organization. One of the problems is the improvement of educational technologies, the introduction of innovative teaching methods based on constant interaction between teacher and student. The nearest urgent task is the development of pedagogical tools for the formation of general and professional competencies, as well as criteria and methods for assessing the achievement of students' planned learning outcomes. The scientific research "Methodical bases of estimation of quality of preparation of experts in establishments of professional higher education" begun in Institute of professional and technical education is directed on the decision of these problems.

The essence of the study is that improving the quality of training in vocational higher education institutions, taking into account the peculiarities of reforming the domestic education system and the needs of the national labor market is not possible without modern methodological support for assessing their training.

Sources. The analysis of the literature on the problem of assessing learning outcomes in the context of the competency approach showed that this issue is quite thoroughly researched and covered in the scientific achievements of teachers and psychologists. Studies of domestic and foreign scientists are devoted to various aspects of assessing the quality of training of future specialists: psychological and pedagogical aspects of assessing the quality of training are comprehensively covered in the works of Yu. Oliynyk, P. Pidkasisty, I. Pidlasy, M. Skatkin, N. Talyzina, I. Kharlamov and others, A. Aleksyuk, Y. Babansky, V. Ilyin, I. Pidlasy, V. Yagupov and others studied the quantitative evaluation methods. others; I. Bulakh, V. Ilyin, E. Luzik, O. Mokrov, I. Romanyuk, V. Polyuk, G. Tsekhmistrova and others studied approaches to the organization of quality assessment of training.

Despite the significant research achievements, they are mostly theoretical in nature and do not provide practical advice on the assessment of students in a competency-based approach. The problem of assessing learning outcomes remains relevant and one of the main topics of discussion, both in the domestic and global educational environment.

At present, the issues of methodological support for assessing the quality of training in vocational higher education institutions, which should reliably ensure the comparison of students' academic achievements with the goals of their professional training, remain insufficiently studied. In this regard, the need to study the status of assessing the quality of training in institutions of professional higher education.

The purpose is to analyze the theory, practice and prospects of assessing the quality of training in colleges.

Methods. To achieve this goal, a set of theoretical (description, analysis, synthesis, comparison,

generalization) and empirical (observation, survey, questionnaire) research methods were used.

Results and discussion. In modern conditions, one of the priority aspects of educational policy of our country is to ensure the quality of education, its compliance with socio-professional requirements and personal expectations of consumers of educational services. These issues are taken care of by the standardization of professional higher education, which determines the establishment of regulatory requirements for qualification standards for educational outcomes (competencies) of graduates of vocational education institutions, provides permanent comparison of students' academic achievements with the goals of their competence-oriented training. professional training of specialists in vocational education institutions by means of innovative content and learning technologies and promotes the convertibility of levels of vocational education within the state and abroad (Kalensky et al., 2018, p. 4).

It is high professional training that becomes a factor in a person's social protection in the new economic conditions. The task of vocational education is not only the formation of knowledge, skills and abilities, but also the development of the ability to adapt to changes in technology, technology, labor organization.

Priority attention to quality issues is due to the following main factors:

- the need to correlate the main goals of vocational school development with the state educational policy (state educational standard, licensing, certification, state accreditation of vocational education institutions);

- the problem of compatibility of certificates and diplomas of vocational education, their recognition and gradual entry into the world labor market;

- the need to involve social partners in determining the content and level of professional education in order to objectively assess the quality of graduates of educational institutions.

The UNESCO Program Document "Reform and Development of Higher Education" states: "The quality of higher education is a concept that is characterized by many aspects and largely depends on the contextual framework of the system, institutional objectives or conditions and norms in this discipline."

Currently, in the scientific environment and the environment of higher education practitioners there are different interpretations of the concept of quality of education, which are based on different structural combinations of such categories as "education standard", "educational result", "quality of the educational process", etc.

The quality of training is determined by the conformity of knowledge, skills, abilities acquired in the educational institution, the formation of professionally necessary personal qualities, the requirements of modern production, the level of production relations and prospects for their development.

The quality of professional training of the future specialist in the special literature means:

• the degree of compliance of the level of training with the professional requirements for him as a specialist, professional (Guslyakova, Sintsova, and Popkova, 2000, p.49);

• the effectiveness of a particular educational institution or vocational education system as a whole (Frolov and Makhotyn, 2004, p.37);

• a set of characteristics of professional consciousness that determine the ability of a specialist to successfully carry out professional activities in accordance with the requirements of the economy at the present stage of development (Khoruzhenko, 2008, p. 95);

• demand for the acquired knowledge in the specific conditions of their application, compliance with the professional orientation of the specialist and his specific knowledge and skills (Lukyanchenko and Laricheva, 2011, p. 51).

The quality of training depends on:

- optimal selection of content;

- ways of realization of educational disciplines (technology, methodical system, etc.);

- competencies of specialists of higher education institutions;

- development of personal and professional orientation of students in the educational process of the educational institution.

Thus, the quality of training of future professionals is seen as a deep mastery of specially selected, structured theoretical material on the basics of the specialty for students to acquire professional skills and the formation of the necessary personal professional qualities in a specially organized, professionally oriented learning process. This creates the preconditions for the realization of the personal potential of students under any circumstances and at any time.

As stated in the Law of Ukraine "On Professional Higher Education" (2019), the main criterion for the effectiveness of professional training in colleges is the quality of professional higher education - compliance with educational conditions and learn-

ing outcomes to the legislation and standards of professional higher education, professional and / or international standards. (if available), as well as the needs of stakeholders and society, which is provided through the implementation of procedures for internal and external quality assurance of education (Verkhovna Rada of Ukraine. Legislation of Ukraine, 2019).

It is the compliance of learning outcomes with the requirements of the standards of professional higher education that is the parameter of the efficiency of the educational process, which is called the quality of professional training. The guidelines for the development of higher education standards state that educational outcomes are a set of knowledge, skills, abilities and other competencies declared in educational standards that must be mastered by a person in the process of learning a certain educational and professional program and can be identified, quantified and measure (Guidelines for the development of standards of higher education, 2017).

Practice shows that one of the reasons that can significantly reduce the effectiveness of training may be the bias in assessing the level of their training, due to the imperfection of the evaluation system or the lack of the necessary evaluation methodology for the selected criteria. Incorrect values of training quality assessment form a misconception about the capabilities and willingness of the specialist to realize their potential, require adjustments to the content and direction of further training, reducing the overall effectiveness of the training system.

Before proceeding to the study of theoretical and methodological aspects of assessing the quality of training in institutions of higher professional education, it is necessary to analyze the current state of training. Teachers of about 50 educational institutions of professional higher education from different regions of Ukraine (including about 20 educational institutions that train specialists for construction) industries), different in their characteristics, with different teaching experience and academic titles.

In particular, it was found that the work experience of the vast majority of teachers of construction colleges (51%) is from 11 to 20 years; 35% of teachers with experience of more than 20 years have been identified, 22% of respondents have experience of 4 to 10 years, and only 3% of teachers of higher (pre-higher) education institutions have experience of up to 3 years. Most teachers have the highest category of teachers (51%), the least number of teachers have the category of teacher-specialist (5%). Some teachers have the degree of candidate of pedagogical sciences.

As a result of the survey conducted in institutions of higher (pre-higher) education in the construction industry, teachers believe that their school needs priority modernization (Fig. 1) of learning technology (25.7% of respondents), teaching aids (21.6%), content education (17.6%), educational and cognitive activity of students (16.2%), forms of organization of education (10.1%), pedagogical activity of a teacher (4.1%) and teaching methods (3.4%), control learning success (1.4%).

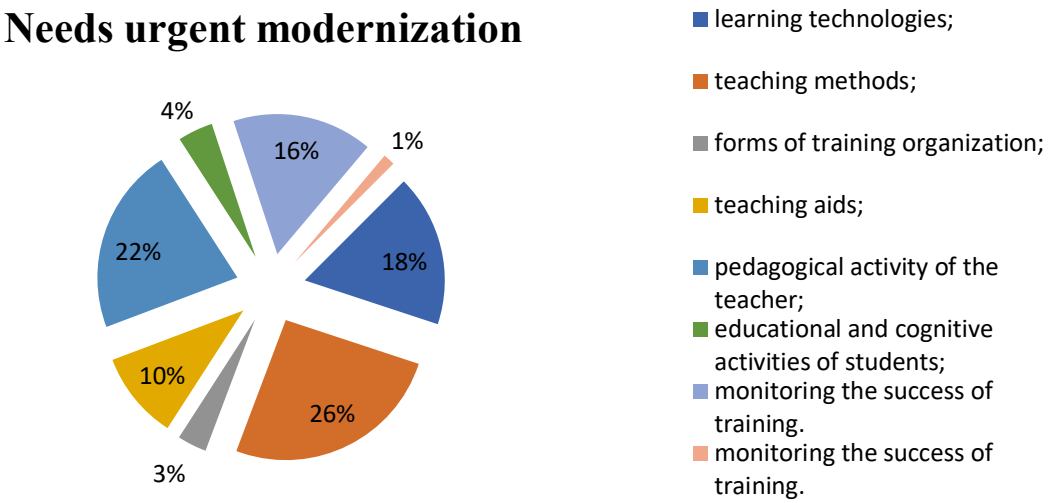

Fig. 1. Components of the pedagogical process of training junior construction specialists in need of priority modernization

That is, the quality of assessment in construction colleges does not need to change. This is probably because most teachers are superficially familiar with the method of assessing the quality of training of future professionals. This is confirmed by the results of the survey.

Studies have shown that the term "quality of professional higher education" is familiar to only

18% of teachers, and 57% of respondents are not familiar with the content of the Law "On Professional Higher Education".

29% of teachers of professional construction colleges who took part in the survey can correctly determine the types of control according to the specified classifications.

When asked to rank the personal qualities of future professional junior bachelors-builders in order to ensure high-quality professional training, the teacher was noted that the teacher must first of all have a professional interest, be communicative, organized, creative and independent.

Analysis of the answers to the questionnaire "Which components of the classification of value, affective or emotional sphere (W. Krathwoll, 1964) include: independence and responsibility in work, professional respect for ethical principles, demonstration of good professional, social and emotional behavior, healthy lifestyle etc." found that only a third (33%) of teachers knew the correct answer.

From the research it becomes obvious that there is a discrepancy between the theory and practice of assessing the quality of training in institutions of professional higher education. Thus, the analysis showed that the most important direction in the development of quality assessment at this stage is to improve the assessment methodology, built on the methodological basis of an integrated approach.

In order to study the readiness of teachers to assess the quality of training in technical schools and colleges, we developed questionnaires and sent them to all educational institutions with which a cooperation agreement has been signed.

The structure of teachers' readiness to assess the quality of training in colleges and technical schools provides for the unity of cognitive, motivational, activity and personal components.

In the study of teachers' readiness to assess the quality of training in technical schools and colleges of construction (Fig. 2) found that most teachers are characterized by a sufficient level of formation of motivational, personal, activity and cognitive components.

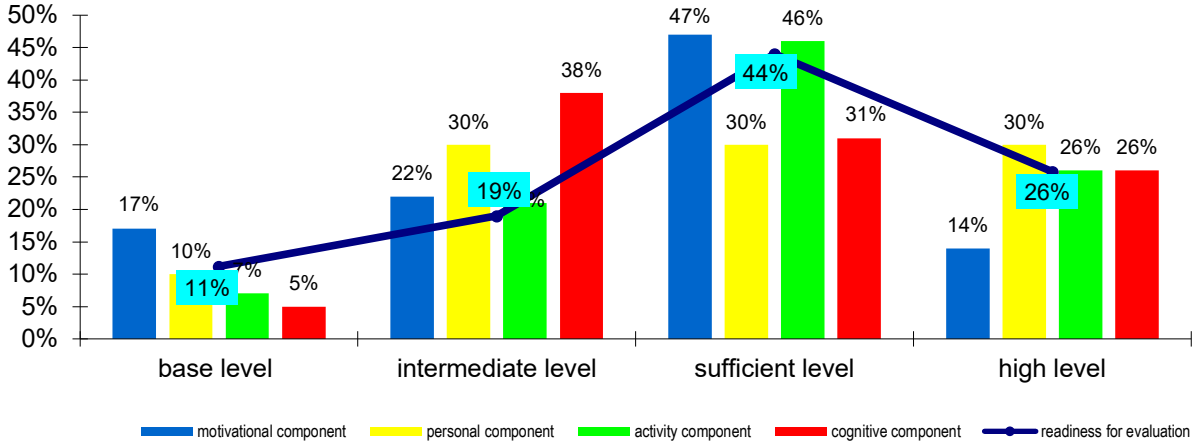

Fig. 2. Levels of readiness of teachers to assess the quality of training of construction professionals.

A high level of readiness, which is creative in nature, is formed in a very limited circle of teachers, which indicates the need to organize special work for its purposeful formation.

The answers of qualified teachers to the questionnaire allowed us to conclude that the successful training of specialists in higher education institutions requires restructuring the usual system of educational process, improving the content, forms, methods, teaching aids, tools and procedures for assessing student achievement. First of all, Luzan PG believes. (2020), it is necessary to modernize the set of main principles of evaluation of learning outcomes, such as:

- clear definition of expected learning outcomes: the learning outcomes planned for the examination must correspond to the educational goals and objectives; must meet such criteria as the possibility of verification, specificity, educational results must be correlated with sufficient time for their study by students; professional orientation of control is determined by the targeted training of the specialist and helps to increase the motivation of students' cognitive activity.

- objectivity of assessment of students 'competence achievements: the principle of objectivity provides assessment in the process of control over scientifically developed objective criteria, creation of conditions under which students' knowledge would be revealed as accurately as possible, uniform

requirements for them, fair treatment of everyone, avoidance subjective evaluative judgments and conclusions of the teacher, which are based only on a superficial examination of knowledge, skills and abilities of students.

Objectivity of pedagogical control is achieved in different ways. The first, traditional way is to form a collegial assessment, for which various commissions are created, the composition and number of members of which depends on the importance of the case to be controlled. The resulting estimates are often called objective, although it is known that the addition of several subjective opinions does not always reflect the objective state.

Another way is to take diagnostic procedures beyond the "teacher-student" relationship, as well as through the use of objective methods of assessing academic achievement (practical control, testing, projects, graphical testing, etc.). The main thing for the principle of objectivity is that the assessment of knowledge should not be influenced by the likes and dislikes of the teacher, should be equal, the same conditions in content, form, methods of assessing the quality of training, the same assessment criteria for all students.

- systematic and systematic assessment of student learning outcomes: assumes that the acquisition of knowledge and skills is carried out in a certain order, which requires a logical construction of content and stages of control, as well as the sequence of different forms, types and methods of control at different stages. Compliance with the requirements of the principle of systematicity and systematicity allows to obtain the most complete and timely information about the degree of achievement of the planned results of the educational process. In addition, the requirements of the principle of systematicity determine that the control of knowledge and skills should be carried out at all stages of learning - from initial perception to the practical application of knowledge and skills. The procedure for assessing the results of students' academic achievements should not be carried out spontaneously, but in compliance with a clear plan, which should be familiarized in advance to all participants in the educational process;

- unity of requirements: control tasks should take into account the requirements of national standards of educational content in accordance with the qualification characteristics of specialties. The principle of unity of requirements to control by all scientific and pedagogical workers provides to be guided in an estimation of students by uniform system of requirements and criteria.

- a positive approach in assessing student learning outcomes. Assessment as a result of assessment should focus on the level of achievement and progress of the student, not to emphasize his failures. A positive approach provides an actual, stimulating impact on the development of educational and cognitive activities of the future specialist, cognitive needs and motives of students. Evaluation should be tactful - carried out in a calm business environment. Students should not be in a hurry to answer or interrupt questions. All comments, instructions and assessments must be made in a tactful and friendly manner. Students must know the content (what will be controlled), the means (how the control will be carried out), the timing and duration of the control. The control becomes the more effective, the psychophysiological features of the controlled are more fully considered. The highest pedagogical requirement is the presence of students' trust in the teacher and their faith in themselves, the teacher's respect for the student.

- individual approach in assessing the results of students 'academic achievements requires control of the direct educational work of each student, does not allow the substitution of individual students' learning outcomes by the results of the team, and vice versa. Mastering knowledge and skills is an individual process. Each student acquires knowledge and skills in accordance with their psychological and physiological characteristics. All students are subject to the same requirements for the amount of knowledge, the level of skills, but in some cases, it is necessary to take into account the individual qualities of students;

- multidimensionality of assessment of students' academic achievements - during the assessment it is important to determine the level of all components of professional competence acquired by future professionals (professional knowledge, skills, formation of professional qualities of the graduate, etc.).

- the adequacy of tools for assessing the competencies of students. The system of assessment methods and procedures should be correlated with educational tasks, assessment functions. The use of only one of the tools does not allow to draw conclusions about the impact of learning on all components of behavioral competence of students. Therefore, at least four tools should be used, each of which is the most adequate for assessing the relevant object of knowledge, attitudes, skills, intentions and behavior.

- compliance with the balance of the subjects of evaluation. To draw adequate conclusions, it is very important to obtain information from different groups (subjects of assessment): teachers, students

themselves, their peers and others. In addition, self-esteem develops students' ability to self-analysis, goal setting and analysis of their own achievements. The use of self-assessment allows you to participate not only in obtaining the result, but also in its analysis.

Naturally, compliance with the requirements of these principles is possible by providing certain pedagogical conditions for assessing the quality of professional training, which include: the orientation of working curricula of disciplines on educational outcomes declared in educational standards; purposeful application of valid, reliable, accurate methods of objective assessment of students' academic achievements; application of several evaluation tools; formulation of objective and understandable for students learning goals; providing effective feedback; early acquaintance of students with assessment criteria; purposeful activation of educational and cognitive activity of students; adjusting the content and process of the educational process based on the results of assessing its quality, etc.

Therefore, the assessment of the quality of training as a procedure for comparing certain learning outcomes of students with the competencies declared in educational standards should be carried out in accordance with the characterized principles and reasonable pedagogical conditions. For this purpose it is necessary to create a methodical system of purposeful formation of readiness of pedagogical workers for assessment of quality of preparation of experts in colleges and to provide scientific and methodical support of processes of development of readiness of pedagogical workers for assessment in the conditions of concrete establishment of professional education.

Assessment of the quality of training in institutions of professional higher education, as a system includes: development and approval of qualification standards for assessment of vocational education; substantiation and implementation of pedagogical methods and assessment technologies; assessment of educational results (competencies) of students.

Conclusions. The quality of professional training of future professionals is seen as a deep mastery of specially selected, structured theoretical material on the basics of the specialty for students to acquire professional skills and the formation of the necessary personal professional qualities in a specially organized, professionally oriented learning process. This creates the preconditions for the realization of the personal potential of students under any circumstances and at any time.

Assessing the quality of vocational education is based on the following basic principles: clear definition of expected learning outcomes; objectivity of assessment of students' competence achievements; systematic and systematic assessment of student learning outcomes; unity of requirements; a positive approach in assessing student learning outcomes; individual approach when evaluating the results of students' academic achievements; multidimensionality of assessment of results of educational achievements of students; adequacy of tools for assessing students' competency achievements; compliance with the balance of the subjects of evaluation.

Based on the analysis of the obtained experimental data, it is proved that in order to properly assess the quality of training in colleges, it is necessary to take into account the relevant pedagogical conditions.

The study of the state of quality assessment of training allowed to conclude that the current features of quality assessment of training in technical schools and colleges is characterized by a system of organizational destructive factors that necessitate the development of a set of measures to modernize the quality of training in technical schools and colleges. development of innovative technologies for objective assessment of competence achievements of future junior specialists.

In the study of teachers' readiness to assess the quality of training in colleges and universities found that most teachers are characterized by an average and sufficient level of formation of motivational, personal, activity and cognitive components, indicating the need for special work for its purposeful formation through the introduction of methodological systems for assessing the quality of training in institutions of professional higher education.

Prospects for further research are associated with the substantiation of the methodological system for assessing the quality of training in institutions of professional higher education and the development of its structural model.

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Оцінювання якості підготовки фахівців у коледжах: теорія, практика, перспективи

Андрій Каленський [1], Тетяна Пащенко [2], Ірина Мося [3], Наталя Ваніна [4], Наталія Калашнік [5]

1 доктор педагогічних наук, професор, завідувач лабораторією науково-методичного супроводу підготовки фахівців у коледжах і технікумах Інституту професійно-технічної освіти НАПН України
2 кандидат педагогічних наук, старший науковий співробітник, старший науковий співробітник лабораторії науково-методичного супроводу підготовки фахівців у коледжах і технікумах, Інституту професійно-технічної освіти НАПН України
3 кандидат педагогічних наук, старший науковий співробітник лабораторії науково-методичного супроводу підготовки фахівців у коледжах і технікумах Інституту професійно-технічної освіти НАПН України
4 кандидат економічних наук, доцент, науковий співробітник лабораторії науково-методичного супроводу підготовки фахівців у коледжах і технікумах Інституту професійно-технічної освіти НАПН України
5 кандидат педагогічних наук, доцент кафедри українознавства Вінницького національного медичного університету ім. М.І. Пирогова

Реферат.

Актуальність. Відповідність якості освіти потребам людини, суспільства, держави визначило необхідність модернізації української освіти та забезпечення балансу між запитами ринку праці і розвитком системи фахової передвищої освіти. Вирішення проблем з вдосконалення освітніх технологій та впровадження інноваційних методів навчання є актуальним завданням розроблення педагогічних засобів формування загальних і професійних компетентностей, критеріїв і методик оцінювання досягнення студентами запланованих результатів навчання.

Мета – аналіз теорії, практики та перспектив оцінювання якості підготовки фахівців у коледжах.

Методи. Для досягнення визначеної мети застосовано сукупність теоретичних (опис, аналіз, синтез, порівняння, узагальнення) та емпіричних (спостереження, опитування, анкетування) методів дослідження.

Результати. Сутність дослідження полягає в тому, що підвищення якості підготовки фахівців у закладах фахової передвищої освіти з урахуванням особливостей реформування вітчизняної системи освіти та потреб національного ринку праці не можливе без сучасного методичного забезпечення оцінювання їхньої підготовки. Вивчення *трактувань* поняття «якості освіти» визначили види залежності якості професійної підготовки та необхідність формування особистісних професійних якостей для набуття студентами професійних умінь і навичок. Проведення опитування педагогічних працівників, з неоднаковим педагогічним стажем та науковими званнями з різних областей України дозволило з'ясувати сучасні особливості оцінювання якості підготовки фахівців у технікумах і коледжах. З метою дослідження готовності викладачів до оцінювання якості підготовки фахівців у технікумах і коледжах розроблено і розіслано анкети до всіх навчальних закладів, з якими підписано договір про співробітництво. За результатами анкетування авторами запропоновано модернізацію комплексу головних принципів оцінювання якості навчання та шляхи досягнення об'єктивного педагогічного контролю.

Висновки. Застосування основних принципів оцінювання якості професійної освіти, використовуючи експериментальні дослідження дозволило довести необхідність врахування педагогічних умов для належного оцінювання якості підготовки фахівців у коледжах. Результати дослідження оцінювання якості підготовки фахівців у технікумах і коледжах обумовили необхідність у розробці комплексу заходів щодо модернізації оцінювання якості підготовки. В ході дослідження готовності викладачів до оцінювання якості підготовки фахівців доведено необхідність запровадження методичної системи оцінювання якості підготовки фахівців у закладах фахової передвищої освіти та розроблення її структурної моделі.

Ключові слова: *якість підготовки, оцінювання, коледж, фахова передвища освіта.*

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CONTENT AND FORMS OF MODERN TRAINING OF FUTURE SPECIALISTS FOR ENTREPRENEURSHIP ACTIVITY

Svetlana Alekseeva [1], Liudmyla Yershova [2]

1 Doctor of Pedagogical Sciences, Senior Researcher of the Professional Careers Laboratory Institute of Vocational Education and Training of NAES of Ukraine, http://orcid.org/0000-0002-8132-0465, e-mail: sv-05@ukr.net

2 Doctor of Pedagogical Sciences, Associate Professor, Deputy Director of Institute of Vocational Education and Training of NAES of Ukraine, https://orcid.org/0000-0002-2346-5842, e-mail: l.yershova@hotmail.come-mail

Abstract.

Relevance is determined by the need to justify the latest approach to staff training, able to accept modern challenges, effectively solve professional problems and organize business activities in accordance with market needs.

Purpose: to determine the features of the content and forms of modern training of future professionals for entrepreneurship activity.

Methods: theoretical (induction and deduction, external and internal analysis, synthesis, generalization – to study the content and forms of training future qualified professionals for entrepreneurship in vocational educational institutions); empirical (questionnaires, self-assessment – to identify the readiness of young people for entrepreneurship); mathematical and statistical (vertical and horizontal analysis – to assess changes in the structure and dynamics of survey indicators, statistical analysis and testing of statistical hypotheses – to assess the consistency of indicators).

Results: the analysis of scientific, statistical and journalistic sources testifies to urgency of a problem of formation of the content, forms and methods of preparation of the future skilled workers for entrepreneurship activity; on the basis of analysis and generalization of the obtained empirical data it has been found that most young students positively perceive entrepreneurial values and attitudes, dream of starting their own business, aware of the risks and problems associated with entrepreneurial activity, recognize lack of psychological, economic and legal knowledge, necessary to open and run own business.

Conclusions: the main characteristics that should be inherent in the modern content of training future professionals for entrepreneurship activity (innovation, sociality, humanization) are determined; the forms of educational activity that are the most effective for the formation of entrepreneurial competence (incubation, acceleration, grant programs to support startups; online courses on social entrepreneurship; psychological workshops; video lectures; e-portfolio) are characterized.

Keywords: *innovative entrepreneurship, startup, entrepreneurial activity, entrepreneurial competence, self-management.*

Introduction. The laws of economics and world experience show that sustainable economic development in the long run depends not so much on the ownership structure and real resource potential of the country, but on entrepreneurship, provided by active and consistent development of the most advanced achievements of domestic science, technology and advanced foreign experience in research and innovation. Each country, taking into account its national characteristics and individual situation, builds its own innovation strategy in such a way as to harmonize as much as possible social needs, available resources, internal and external factors of economic development. The realities of the current stage of market transformation in Ukraine indicate that the Ukrainian economy is not fully suitable for effective functioning in today's market environment. Promoting the growth of small businesses can be an effective way to quickly create new jobs, eliminate unemployment, overcome the negative processes in

the economy of depressed regions. In such circumstances, proper preparation of young people for entrepreneurship activity in educational institutions is an effective way to solve many pressing socio-economic problems. Thus, there is the need to substantiate the requirements for the content and forms of training of future professionals who are ready to accept modern challenges, effectively solve professional problems and organize business activities in accordance with market needs.

Sources. The issues of training future specialists capable of entrepreneurial activity have a historical, legal, socio-economic and political basis. Significance for the world and national economy of the problems of entrepreneurship development is actualized in the laws of Ukraine 'On Education' (2017), 'On Vocational (Professional-Technical) Education' (2019), 'On Development and State Support of Small and Medium Enterprises in Ukraine' (2013), as well as the National Program for Small Business Development in Ukraine (2013), the National Strategy for Education Development in Ukraine for 2012 - 2021, the Strategy for Sustainable Development 'Ukraine – 2020' (2015), the Strategy for Small and Medium Business Development in Ukraine for the period by 2020 (2017), in the UNO Priority Goals for Sustainable Development until 2030 (2015).

The article aims to analyze the features of the content and forms of modern training of future professionals for entrepreneurship activity.

Methods: theoretical: induction and deduction, external and internal analysis, synthesis, generalization – to study the content and forms of training future qualified professionals for entrepreneurship activity in vocational education institutions; empirical – methods of questionnaires, self-assessment – for the formation of a representative set of empirical observations; mathematical and statistical: vertical and horizontal analysis – to assess changes in the structure and dynamics of survey indicators, statistical analysis and testing of statistical hypotheses – to assess the consistency of indicators. Statistical data processing has been performed using software packages Microsoft Excel, SPSS.

Results and discussion. Modern youth actively perceives entrepreneurial values and attitudes. According to the survey conducted by the laboratory of professional career of the Institute of Vocational Education and Training of the National Academy of Educational Sciences of Ukraine (2019) as part of an all-Ukrainian experiment, the positive attitude of students to entrepreneurship shows their desire to engage in independent entrepreneurship, including 14.13% (93 people) consider themselves to be ready for entrepreneurship during training and 60.03% (395 people) plan to engage in small business after graduation. 658 people took part in the survey. There were students of the Higher Vocational School № 11 (Khmelnytsky), Vinnytsia Center for Vocational Education of Processing Industry (Vinnytsia), Lviv Higher Vocational Art School (Lviv), Odessa Higher Vocational School Trade and Food Technologies (Odessa), the Regional center of Professional Education of Garment Production and Services of Kharkiv region (Kharkiv), Cherkasy Professional Road Lyceum (Cherkasy)

To the question 'What do you need to organize your own business?' 37.69% of respondents admitted that they were insufficiently familiar with the economic mechanisms of running a small business; 32.52% – do not have enough knowledge important for successful business; 20.21% – testified to the lack of legal knowledge; 20.97% – stated that they do not have start-up capital to start their own business (Institute of Vocational Education and Training of the National Academy of Educational Sciences of Ukraine (Alekseeva and Sokhatska, 2020).

The study of the conditions of preparation of future specialists for entrepreneurial activity in vocational educational institutions allows to single out the main requirements for the organization of modern educational process, namely: ensuring innovation, sociality and humanization, which should be reflected in the content and forms of preparation of future specialists for entrepreneurship activity in conditions of small business development.

Innovation in entrepreneurship can be considered as an activity to use the results of scientific research and development or other scientific and technical achievements. This leads to the emergence of qualitatively new and better (in properties) goods or services sold on the market or technologies used in practice. The scope can be used to identify production (technical, technological), economic, environmental, information, integrated, scientific and methodological, trade, organizational and managerial, financial, legal innovations. Such innovations are focused on the introduction of new economic incentives, changes in technology, production technology, the introduction of a qualitatively new level of practical implementation of scientific inventions, innovation proposals, energy savings, coverage of advanced forms and methods of scientific, methodological and educational activities (e.g. introduction of distance learning based on new use of special techniques), services and providing them with a new

quality. Thus, innovation is an activity that is directly related to the production of new scientific ideas, their implementation in the tangible and intangible spheres, which leads to the release of new competitive goods, works and services. In innovative entrepreneurship, the leading role belongs to mental work, the result of which is innovation and its implementation. The development of innovative entrepreneurship depends on many factors, but the determining factor among them is the level of education of the population, training of scientific personnel who are able not only to generate new ideas, inventions or discoveries, but also to put them into practice. The availability of a sufficient number of highly qualified scientific personnel can ensure the development of science, technology, technology at a faster pace and at lower cost. Therefore, the defining subject of innovative entrepreneurship should be individuals engaged in this activity, creative individuals who develop and implement innovations in various sectors of the economy.

The content of training future professionals for entrepreneurship activity should include an innovative component that will contribute to the formation of a highly educated, self-sufficient personality with an innovative type of thinking and activities that can adequately respond to today's challenges. The purpose of such training is to form a system of knowledge and practical skills in the creation and management of startups at the initial stage, preparation for participation in incubation, acceleration and grant programs to support startups among young students of vocational educational institutions. In the process of training, future professionals must learn to focus on the main issues related to the functioning of startups, understand how to develop own startup, have the first project with a business model, marketing plan, prospects to develop this project further in incubation or acceleration programs.

It should be noted that to create projects with a strong business culture and startup infrastructure, in September 2020 the initiative 'Entrepreneurship University' was presented, implemented by a network of startup incubators YEP together with the Ministry of Digital Transformation of Ukraine, Ministry of Education and Science of Ukraine, Ukrainian Startup Foundation, with the support of the USAID Competitive Economy of Ukraine Program. The participants of the 'Entrepreneurship University' will receive mentoring support from the network of startup incubators YEP, the Ukrainian Startup Fund, Cisco, OKKO, Genesis and other partners of the initiative. In particular, the network of startup incubators YEP – creates an ecosystem of youth entrepreneurship in Ukraine and Eastern Europe, which opens the prospects of personal and professional development for young people, in particular, to try themselves in entrepreneurship and start own startup in three months (Ministry and Committee for Digital Transformation of Ukraine, 2020).

The development of startup culture in Ukrainian educational institutions and the formation of future professionals' entrepreneurial skills is a critical component of creating an effective ecosystem for the development of innovative entrepreneurship activity in Ukraine. In the global economy, startups play an important role in the development of technology, the creation of new industries and new jobs. At the state level, Ukraine has declared support for startups and innovative businesses. With this in mind, state funds and support programs are being created. Private venture funds and accelerators are also developing. Innovation and entrepreneurship must become the main driver of growth and the transition of vocational education to a qualitatively new level.

The second important feature of the content of training future professionals for entrepreneurship activity is its social component, aimed at acquiring knowledge and skills related to improving social protection, working conditions and nature, solving problems of health protection, culture, environmental protection, occupational safety and health, comfortable working conditions, professional training, retraining and advanced training of personnel. In general, it is believed that all enterprises, in the future, should become social, i.e. have social value and, at the same time, be profitable. The social component of the content of training future professionals for entrepreneurship activity is focused on obtaining a set of future professionals' knowledge and skills necessary to effectively start own social business or participate in social projects. Young people need to reveal the importance and necessity of social entrepreneurship, its planning, features of the organization, search for funding and marketing, evaluation of activity performance and further development of social enterprise.

Social entrepreneurship is a relatively young business tool in Ukraine, which responds to social challenges through innovative concepts, creates additional social value and, at the same time, generates income for its further development. One of the main rewards for a social entrepreneur is the recognition of his/her mission and work results.

According to the catalog of social enterprises, as of 2016/2017 in Ukraine there were 150 social enterprises of various organizational and legal forms and public organizations. However, some experts believe that their number is much larger and can reach almost 1,000 units. The unique role of social entrepreneurship is emphasized by the European Committee of the Regions, which in its official document 'Eastern Partnership deliverables for 2020: The contribution of local and regional authorities' (2018) calls for 'concrete measures to develop social entrepreneurship as a form of non-formal education among youth and adults' at the local and regional levels, which solves local problems, generates profits, creates working places and promotes their social innovation development'. The social entrepreneurship sector in Ukraine still depends on foreign support. In particular, with the assistance of international partners in Ukraine, a series of online courses on social entrepreneurship have been developed, revealing its essence, features, directions and prospects for development. For example, the online course 'Social Entrepreneurship and Competitiveness' (EdEra-PLEDDG: SE, 2019), developed and implemented by the Federation of Canadian Municipalities with financial support from the Ministry of International Affairs of Canada. There is also an interesting online course 'Social Entrepreneurship: Design Thinking and Uncertainty' (VUM on-line, 2020), which is located on the distance learning platform of the Open University of Maidan, which disseminates the ideas of civil society in Ukraine.

In the preparation of future professionals for entrepreneurship activity, it is advisable to use cash flow or board transformation games. This approach is actively used by the CBO 'Rotary Club Kyiv International', aiming to raise the level of financial literacy of young people in Ukraine and teach them, with joint efforts, to solve financial challenges in society; to form generations of Ukrainians who know how to use a wide range of financial instruments, easily open and develop their businesses, begin to form themselves as entrepreneurs and investors in the school. The use of Cash Flow and other board games / modulation programs in brainstorms allows to teach young people to solve financial challenges in teams, use financial instruments, calculate risks.

It is also worth noting that the development of entrepreneurial competence of future professionals is closely linked to the ability of young people to self-knowledge, self-regulation, self-control, self-development and self-improvement. That is, an important component of preparing young people for activities in the field of small business and an effective form of organizing work with young students in quarantine restrictions, is self-management (Yershova, 2020, p.2; Yershova, 2019). For the formation of young students' personal innovations, necessary for the successful opening and running own business, a pedagogical technology for the development of entrepreneurial competence of future qualified personnel using elements of self-management is developed. This is a system of step-by-step pedagogical actions aimed at using forms, methods, techniques of self-management for the guaranteed development of future qualified personnel qualities, skills and abilities required for future entrepreneurial activity (Yershova, 2020, p.15)]. We offer several forms of technology implementation that are effective in quarantine conditions: psychological workshops, video lectures, e-portfolio.

Psychological workshop is a system of diagnostic and counseling procedures created to systematically communicate information about the individual to young students, the formation of their ability to determine the characteristics of their own temperament, character, emotional and volitional sphere and communication, compose their own self-portrait, identify favorable and unfavorable, for entrepreneurial competence, traits and qualities, build a strategy for personal development and professional career. This form can be implemented on the basis of the approved program of psychological diagnosis and counseling approved by the pedagogical council. Psychologists, social educators, class teachers, invited specialists can be involved in the program implementation. Classes and consultations can be conducted both on the basis of an educational institution (for example, a career center) and online.

To form the content of the program, a psychologist, social educator or class teacher selects the techniques necessary for the psychological diagnosis of young students. Before each test, the specialist must acquaint young students with a specific psychological phenomenon to be studied. Testing can take place individually online or in small groups in optional classes, group consultations, class hours, etc. in compliance with the necessary conditions for this type of work. After completing the test, each student must determine his/her own level of development / formation / detection of the phenomenon under study and record the results in a special notebook. If you have the technical capabilities, you can create an interactive online notebook. Based on the findings of all the tests included in the program, each student makes his/her own self-portrait, which indicates the traits and qualities that are favorable and

threatening for running own business. After writing own self-portrait, students create a strategy of self-realization of the individual (Loznytsia, 2001, p.442), where they determine the trajectory of their professional career and the stages of formation of their own business.

Video lectures – the organized viewing and discussion of documentaries and feature films on the topic of entrepreneurship. This is a very effective form of development of students' personal tumors, important for starting and running their own business. The purpose of this form of work with students – based on watching and discussing popular feature and documentary films to acquaint students with real and artistic images of successful entrepreneurs, analyze specific situations of success, struggle for their own ideals and values, ways to overcome difficulties used by heroes, social responsibility, etc.

This form of work, showing the stories of real people and successful business projects, stimulates students' interest in entrepreneurship activity and is very convenient for working in the classroom, in extracurricular activities and remotely. It can also be used during the holidays, without distracting students from the preparation and conducting classes. To increase the pedagogical effectiveness of this form of work for each film, teachers should prepare a list of questions that students should look for answers in the review process. After watching, it is suggested to organize a discussion of films, which can take place: at the classes, classes in certain disciplines, remotely on social networks or with the help of such messengers as Microsoft Teams, Zoom, Skype, etc. The best forms for discussion – talkings, writing works of thought, reasoning, essays.

It is possible to offer viewing of known documentary films from a cycle 'Unknown Ukraine. Essays on our history' for the organization of this kind of work. These are one hundred and eight 15-minute Ukrainian documentaries made by the National Cinematography of Ukraine (Kyivnaukfilm Film Studio) in 1994 –1996, dedicated to the history of Ukraine. Among them, it is worth paying attention to two films about the life and work of famous Ukrainian entrepreneurs: film 75 'Earth-feeder' (2011) is dedicated to the families of Khanenko, Kharytonenko, Branytsky, Tereshchenko; film 80 'New Owners' (2011), depicts the flourishing of capitalist relations in Ukraine, industrial activities and charity of the Tereshchenko, Semerenko, Brodsky, Deshchinsky, Kryakov families. Among the modern documentaries, the TV series 'Game of Fate', created with the support of the Ukrainian Cultural Foundation, is noteworthy. To form the images of successful Ukrainian entrepreneurs, it will be useful to review the cycle 'Semerenko' (2007): Part 1. 'Platon', Part 2 'Vasyl', Part 3. 'Levko', Part 4. 'Volodymyr'. The film 'The Tereshchenko Family' (2015), made by the Contact film studio commissioned by the Ukrainian Institute of Memory, is very informative.

The viewing and discussion of feature films about various aspects of entrepreneurship activity can also have a powerful educational effect (Harbukh, 2018). Feature films can be provocative, such as 'Thank You for Smoking', 'Boiler', 'Corporation', 'Dallas Buyers Club', 'Limit of Risk', which allows you to organize an interesting discussion about personal and social responsibility in business. and ways to counter manipulative technologies. Feature films also have a powerful motivating effect, such as the drama 'The Man Who Changed Everything', cultivate civic feelings, like the novel 'Atlantis Shrugged', teach to believe that a business idea can be created even at a young age, as this is shown in the biographical tape 'Social Network'. This form of work teaches young people a critical perception of information about the business world, which has a positive effect on the axiological component of their future professional activity (Ershov, 2019).

An electronic portfolio is an electronic resource for storing and disseminating information about the achievements of future qualified employees of a particular educational institution. The purpose of this form of work is to record and accumulate achievements, track the growth of professional skills, present the results of activities and successes during studies at the educational institution. This is a very promising way to develop such important abilities for entrepreneurship activity as self-motivation, self-esteem, self-education, self-actualization, self-presentation. The student's work on the content of the e-portfolio ensures the development of his/her skills of self-diagnosis, self-motivation, self-development and self-improvement. In the portfolio, the student presents his/her abilities, values, plans, achievements, honors and awards in the main areas of his/her life - personal ('I-personality' – the best personal traits, qualities, properties, important for personal and professional success and social recognition), family ('I-family' – the most important family values, traditions, plans), social ('I-citizen' – socially responsible skills, civic competencies, experience of volunteering and charity), professional ('I-professional' – professional goals and values, examples of professional activity, master classes, skill presentations, etc.).

Electronic student portfolios can be created on the website of the educational institution as separate personal pages. The information contained in them may contain hyperlinks to numerous documents stored in cloud services, on the pages of other sites, the Internet, etc. Thus, information about the student's progress becomes available to the general public and may be of interest to potential employers while studying in educational institution. At the same time, the e-portfolio has a fairly wide range of practical implementation depending on the technical capabilities of the educational institution, ICT competencies of teachers and students.

The application of the described forms of work in the activities of the educational institution for the formation of entrepreneurial competence of future professionals opens up special opportunities for establishing strong interdisciplinary links. In particular, working on a psychological self-portrait of a person can combine the efforts and experience of psychologists, social workers, class teachers, teachers of history, language and literature: class teacher or social educator organizes testing, psychologist conducts individual consultations on the basis of results, language teachers help to create students' own psychological self-portrait as a work-reflection on their features, qualities, prospects of development. Working on an e-portfolio brings together computer science teachers (who administer the educational institution's website, create a local network of private portfolios, teach students to upload content to their pages, prepare presentations, edit films, etc.), psychologists and class teachers (who teach students to archive their successes and achievements, identify tasks for self-development and self-improvement, form skills of self-presentation), masters, methodologists and teachers (teach to systematically record and effectively present the results of professional activity of students during industrial practice).

Thus, provided proper training and motivation of teachers, the presence of a cohesive and creative teaching staff, even during quarantine restrictions, it is possible to organize interesting and effective work in the educational institution to prepare students for future entrepreneurship activity by self-management.

Conclusions. Based on the analysis and generalization of empirical data obtained during the survey of students of vocational educational institutions conducted by the laboratory of vocational careers of the Institute of Vocational Education and Training of the National Academy of Educational Sciences of Ukraine (2019), it has been found that most young people positively perceive entrepreneurial values and attitudes, dream of starting own business. They are aware of the risks and problems associated with business activities, recognize the lack of their own psychological, economic and legal knowledge necessary to start and run own business. The main characteristics of the content of training future professionals for entrepreneurship activity are: innovation (orientation of the content of education on the formation of highly educated, self-sufficient personality with an innovative type of thinking and activity capable of responding to today's challenges; application of teachers' innovative educational technologies; development of students' creativity and critical thinking; acquaintance of young students with modern innovative business ideas), sociality (focus of the content of future developers of business ideas on mastering the knowledge and skills important for social business, which allows to solve important problems for society, while gaining economic profit), humanization (orientation of the content of education on the acquisition of knowledge, formation of skills and abilities important for the study of future professionals of their own personality, providing the conditions necessary for the full formation of the educational institution 'I-concept' of personality; information needed to make students aware of their capabilities and prospects; formation of their skills of self-development and self-improvement; education of will, self-respect, dignity, justice, purposefulness, responsibility, etc.).

The forms of educational activity are characterized and they are the most effective for formation of business competence: incubation, acceleration, grant programs of support of startups (for formation of skills of development and realization of business ideas), online courses on social business (for acquaintance with the content, maintenance, features, directions and prospects of development of socially-oriented business projects), psychological workshop (a system of diagnostic and counseling procedures, created to systematically inform students of personal information, the formation of their ability to determine the characteristics of their own temperament, character, emotional and volitional sphere and communication, make own self-portrait, identify favorable and unfavorable traits and qualities for the formation of entrepreneurial competence, build a strategy for personal development and professional career), video lectures (the organized viewing and discussion of documentaries and feature films on entrepreneurship issues in order to develop students' personal neoplasms that are important for starting and running their own business), electronic portfolio (electronic resource for storing and disseminating

information about the achievements of future skilled employees of a particular educational institution).

A promising area of research should be the development of practical recommendations for the implementation of the characterized forms of work (described in the paper) in the activities of vocational (professional-technical) education.

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Зміст і форми сучасної підготовки майбутніх фахівців до підприємницької діяльності

Світлана Алєксєєва [1], Людмила Єршова [2]

1 доктор педагогічних наук, старший науковий співробітник лабораторії професійної кар'єри Інституту професійно-технічної освіти НАПН України

2 доктор педагогічних наук, доцент, заступник директора ІПТО НАПН України

Реферат.

Актуальність: якість освітнього процесу значною мірою визначається рівнем сформованості педагогічної майстерності педагогів; формування педагогічної майстерності майбутніх педагогів у закладах вищої освіти залежить від групи чинників, врахування яких сприятиме підвищенню результативності цього процесу.

Мета: з'ясування сутності поняття «педагогічна майстерність» та її структурних компонентів, визначення чинників, що впливають на результативність формування педагогічної майстерності майбутніх педагогів у закладах вищої освіти.

Методи: теоретичні: аналіз психолого-педагогічних джерел, наукових праць присвячених проблемам формування педагогічної майстерності – для з'ясування сутності поняття «педагогічна майстерність» та її структурних компонентів; узагальнення та систематизація – для визначення чинників, що впливають на результативність формування педагогічної майстерності майбутніх педагогів у закладах вищої освіти.

Результати: проаналізовано основні підходи до трактування поняття «педагогічна майстерність» та визначення її структурних компонентів. Схарактеризовано педагогічну майстерність як інтегративне особистісне утворення, яке поєднує у собі загальні й професійні компетентності, здібності до педагогічної діяльності, володіння педагогічною технікою (внутрішньою та зовнішньою), сформованість відповідних професійно особистісних якостей, здатність до творчості та педагогічної взаємодії з учасниками освітнього процесу на рефлексивній основі й неперервної освіти впродовж життя. Виокремлено та коротко схарактеризовано три групи чинників, що впливають на формування педагогічної майстерності майбутніх педагогів: соціально-економічні, особистісні та технологічні. Зазначено, що соціально-економічні чинники впливають на потреби учнівської молоді вступати на навчання за освітніми програмами, що здійснюють підготовку вчителів; особистісні й технологічні чинники є визначальними під час навчання у закладах вищої освіти.

Висновки: підготовка майбутніх педагогів у закладах вищої освіти й формування педагогічної майстерності зокрема має здійснюватися з врахуванням таких груп чинників: соціально-економічних, особистісних та технологічних.

Ключові слова: *педагогічна майстерність, майбутні педагоги, структурні компоненти педагогічної майстерності, чинники формування педагогічної майстерності, заклади вищої освіти.*

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RELEVANT COMPETENCES OF THE TEACHING STAFF FOR THE ORGANISATION OF DISTANCE LEARNING

Oleksandr Radkevych [1], Oksana Radkevych [2]

1 PhD in Law, Senior Research Fellow, laboratories of foreign vocational education and training, Institute of vocational education and training of the National Academy of Educational Sciences of Ukraine, http://orcid.org/0000-0002-2648-5726, e-mail: mr.radkevych@gmail.com

2 Senior lecturer in methodology of professional education and social human sciences, Bila Tserkva Institute of Continuing Vocational Education of the University of Education Management, https://orcid.org/0000-0003-3332-1495, e-mail: oksanagoran@ukr.net

Abstract.

Relevance: The Covid-19 pandemics has radically changed the organisation of the teaching process at education institutions in general and at vocational (vocational and technical) ones in particular. These changes include partially distance teaching. Accordingly, the teaching staff at vocational (vocational and technical) education institutions had to learn how to interact with the educational process subjects using distance communication platforms. It stimulated them to master new forms, methods and technologies of organising the educational process and helped them acquire relevant competences.

Aim: analysis and determination of relevant competences for the teaching staff to organise distance education at vocational (vocational and technical) education institutions.

Methods: analysis and synthesis to clarify the status and the level of investigation of the research problem; systematisation and generalisation to formulate conclusions.

Results: The definitional and academic understanding of the teaching staff's competence at vocational (vocational and technical) education institutions has been explored. It has been established that the concept of the competence-based approach in education aims to shape the personality of a future specialist with a positive worldview, a system of values and the ability to quickly adapt to new and unexpected life and professional situations. The informational and communicative competence has been highlighted in the narrow and broad understanding. It has been found that the informational and communicative competence of the teaching staff at vocational education institutions must include actual teaching that uses modern info-communication technologies and takes place in information environment. Therefore, it must include knowledge about the use of specialised software in the education process that is instrumental in organising the distance mode of education (Moodle, Classroom, Unicraft, Microsoft Teams, Edmodo, etc.). The technological competence includes knowledge and skills related to the organisation of the teaching process at vocational (vocational and technical) education institutions using distance learning technologies and choosing optimal electronic means and corresponding electronic didactic materials.

Conclusions: The organisation of distance learning at vocational (vocational and technical) education institutions follows a competence-based approach and is based on the principles of the Lifelong Learning Concept. The development of informational, communicative and technological competences in the teaching staff at vocational (vocational and technical) education institutions contributes to a higher quality of future qualified specialists' distance education.

Keywords: *informational and communicative competence; technological competence; teaching staff; vocational (vocational and technical) education institutions; distance learning.*

Introduction: The quality of vocational (vocational and technical) education directly depends on the general public education policy and modern challenges. One of such challenges is the Covid-19 pandemics, which has radically changed the approaches to the organisation of professional training of future qualified specialists at education institutions. These changes include partially distance teaching. Taking this into account, students and the teaching staff have to learn how to interact online, i.e. using distance communication platforms. To this end, the teaching staff have to master new forms, methods and technologies of educational process organisation, and thus acquire new competences. It should be noted that these competences must be combined with professionally oriented knowledge and skills that can be used in the teaching process.

Sources. Issues related to the competences of the teaching staff at vocational education institutions were studied by such scholars as: S. Kravets, V. Luhovyi, P. Luzan, O. Orlov, V. Radkevych (2012, 2016) and others. Issues related to the informational competence were explored by O. Humennyi (2016), A. Hurzhii, O. Bazeliuk, A. Kononenko, M. Pryhodii (2019), O. Radkevych (2015), I. Smyrnova and others. The technological competence was investigated by I. Androshchuk, S. Honcharenko, V. Kobernyk, N. Kulalaieva, V. Kurok, S. Sysoieva (2012) and others.

The **aim of the article** is to analyse and determine relevant competences for the teaching staff to organise distance learning at vocational (vocational and technical) education institutions.

Research methods: analysis and synthesis to clarify the status and the level of investigation of the research problem; systematisation and generalisation to formulate conclusions.

Results and discussion. A priority in the development of modern vocational (vocational and technical) education is orientation towards the competence-based approach. The competence-based approach suggests that the educational process focuses on forming and developing an individual's key and domain-specific competences. The result of this process is the development of an individual's general competence, which is a total of key competences and an integrated personal quality (Competence approach in modern education: world experience and Ukrainian perspectives, 2004).

According to V. Radkevych (2012), the concept of competence-based approach in education, in particular in vocational (vocational and technical) training, focuses on the development of the personality of a future specialist with a positive worldview, a system of values and the ability to quickly adapt to new and unexpected life and professional situations. An important mission of the competence-based approach is the development in future qualified specialists of a conscious attitude to their work and the results of professional activity in their field (Radkevych, 2011).

We will emphasise different approaches to the interpretation of the concept of competence by Ukrainian and foreign scholars. Thus, according to the German scientific school, competence is the willingness and the ability to effectively communicate with people, responsible attitude to them, linguistic skills, professional knowledge, and the Self (Self competence) (Random House Unabridged Dictionary, 1997). According to the European Qualifications Framework for Continuous Lifelong Vocational Training, competence includes such key characteristics as responsibility and autonomy (The European Qualifications Framework, 2018). Their significance consists in the fact that, when working remotely, the teaching staff must be aware of the importance of their professional didactic activity, e.g. its consequences for society in general and the teaching of vocational (vocational and professional) students in particular.

In the Ukrainian academia, the term "competence" broadly means the level of the specialist's awareness of their professional activity. Therefore, competence is a complex and multi-faceted phenomenon that characterises a person's ability to apply knowledge and skills in various social and professional situations and to skilfully carry out certain activities, including professional ones (Volkova, 2014, p.33). In the narrow sense, competence is the result of professional experience, a consequence of its accumulation in the course of life and professional activity. It ensures profound knowledge of one's subject, understanding of the essence of work performed, ways and methods of achieving aims, the ability to correctly assess a professional situation and make appropriate decisions in this connection (Kohut, 2012).

The competence of the teaching staff at vocational (vocational and technical) education institutions structurally consists of the following elements: knowledge, experience, professional culture, and personal qualities. Besides, the teaching staff's competence is related to different aspects of professional and didactic activity, richness, diversity, integrated nature of professional experience and determined

activity of subjects and their organisational culture (Kohut, 2018).

The above interpretations involve the teaching staff's ability to solve professional tasks and make decisions and judgements in a certain domain, while competence is a qualitative characteristic of their personality. It is based on knowledge, awareness, and professional experience. This emphasises the integrated nature of the concept of competence. This understanding of competence is basic for numerous fundamental and applied studies and pedagogical theories. It is based on it that the features of competence as a pre-condition of professionalism and the mechanisms of its development in future qualified specialists were studied. Thus, scholars link the notion of competence with a certain domain of professional activity and the specialist's possession of not only considerable knowledge and experience, but also the ability to apply the accumulated knowledge and skills at the right time and use them when performing one's professional functions (Horban, 2015). Taking this into account, we interpret competence as an integrated personal structure (quality) that contributes to an individual's successful self-fulfilment in society based on knowledge, abilities and skills, as well as shaping and development of abilities to successfully act in the professional sphere.

The professional standard "Vocational teacher" adopted in 2020 lists general and professional competences that the teaching staff at vocational (vocational and technical) education institutions are expected to possess.

Relevant professional competences include the ability to: plan and implement the teaching process; carry out self-educational, research and experimental activity, methodological work; engage in educational process monitoring, career guidance and support of students' career development. According to V. Radkevych, professional competence is an integral component of professional culture; by this, she understands a system of professionally significant qualities, effective ways of organising work, and a critical attitude to the results of their own and collective work; therefore, it is important to develop it in the teaching staff at vocational (vocational and technical) education institutions. The types of professional competence include technological, informational, energy efficiency, economic, environmental, legal, etc. (Radkevych, 2012).

According to the professional standard (2020), the list of general competences includes the teaching staff's abilities to: adapt to the environment and to academic and professional mobility; bear personal responsibility for the results of professional decisions; engage in communication within professional activities; effectively manage working hours; demonstrate leadership qualities; carry out routine professional actions in the most effective way; act in unconventional situations; work in a team; prevent conflicts; develop and improve oneself. Among the general competences defined in the standard, the first two encourage the teaching staff at vocational (vocational and technical) education institutions to acquire modern informational, communicative and technological knowledge and skills. They are particularly relevant to the organisation of distance teaching, i.e. teaching remotely from the education institution at any convenient time. Distance education is delivered pursuant to the Distance Learning Guidelines that regulate the rights and obligations of education process participants. The consideration of the key provisions of the Concept of Distance Education Development in Ukraine is no less important. Nowadays, according to the Ukrainian legislation, people with secondary, vocational or higher education and those who can perform tasks remotely using modern didactic technologies can study remotely. The distance teaching process is based on the use of various informational and communicative means (websites, web platforms, voip-communication, specialised software, file exchange services, etc.). Upon completion of this type of studies, vocational (vocational and technical) students obtain respective documents.

At the same time, the teaching staff at vocational (vocational and technical) education institutions do not fully possess informational and communicative competence in the process of organising distance teaching. This competence is considered as a person's integrated ability to effectively work in the informational environment; it is manifested during the informational activity and is assessed based on its results (Tykhonova, 2015). Thus, informational and communicative competence broadly means the ability to process information, solve informational and search-related tasks using library resources and electronic search engines, i.e. carry out informational activity using both traditional and new technologies. Based on the above, it can be concluded that informational and communicative competence of the teaching staff at vocational (vocational and technical) education institutions includes actual teaching activity using modern information and communication technologies and taking place in the information environment. This competence presupposes knowledge about the use of spe-

cialised software enabling the organisation of distance teaching (Moodle, Classroom, Unicraft, Microsoft Teams, Edmodo, etc.). In this aspect, it is important that the teaching staff are willing to master electronic teaching tools and change their attitude to the use of e-learning platforms, web resources and databases in the education process.

It is also crucial that the teaching staff at vocational (vocational and technical) education institutions possess technological competence. In academic research, technological competence is considered as "an integrated personal quality and a result of learning related to the development in the teaching staff of the necessary personal qualities, as well as technical knowledge, abilities, and skills; the ability to consciously apply the acquired knowledge in practice, solve technological problems, organise students' technological, cognitive and research activity, organise and design classes involving technologies, train assiduity and shape the necessary personal qualities, design didactic tools and use them to increase the effectiveness of the teaching process and to monitor its results" (Dorokhin, 2010).

The above demonstrates that technological competence should also include knowledge and skills related to the organisation of the teaching process at vocational (vocational and technical) education institutions using distance teaching technologies, choosing optimal e-resources and corresponding didactic materials.

In this context, it is important that the teaching staff at vocational (vocational and technical schools) should be able to develop SMART complexes of study and apply them in the education process. As noted by V. Radkevych and O. Humennyi (2016), SMART complexes of study disciplines should be created based on context learning capable of ensuring high-quality training of future specialists. Taking this into account, they are defined as minimally context-dependent (the level of students' education is considered as the learning context only in the Internet and in the real world), minimally adaptive (i.e. adaptive in relation to the emotional state, while cognitive factors – abilities, motivation, socioeconomic status – are not considered), and minimally customised (i.e. pedagogically oriented management is not used). As is aptly noted by M. Pryhodii (2019), a SMART complex is an interconnected body of regulatory and didactic materials that exist in the informational and educational space of an education institution and that are necessary to effectively develop competences as a programmed result of studying a discipline.

Thus, the development and application of SMART complexes makes it possible to proactively update syllabi taking into account the vocational (vocational and technical) students' needs and the requirements of stakeholders, which has a positive influence on increasing the quality of distance teaching, its didactic support, and the motivation of future qualified specialists to independently acquire professional knowledge and skills.

Conclusions. Nowadays, the teaching staff at vocational (vocational and technical) education institutions increasingly often need to operate novel professional and especially general competences that will enable them to remotely teach future qualified specialists. In this respect, the teaching staff need to have developed informational, communicative, and technological competences, which is an essential precondition of high-quality organisation of the education process using electronic web-resources, SMART complexes of study disciplines, etc. The implementation of the distance mode of vocational (vocational and technical) education is based on the provisions of the Lifelong Learning Concept and continuous professional self-development and self-improvement.

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Актуальні компетентності педагогічних працівників для організації дистанційного навчання

Олександр Радкевич [1], Оксана Радкевич [2]

1 старший науковий співробітник лабораторії зарубіжних систем професійної освіти і навчання, Інститут професійно-технічної освіти НАПН України

2 старший викладач кафедра методики професійної освіти та соціально-гуманітарних дисциплін, Білоцерківський інститут неперервної професійної освіти ДЗВО «Університет менеджменту освіти»

Реферат.

Актуальність: пандемія Covid-19 докорінно змінила організацію освітнього процесу в закладах освіти і, зокрема, професійної (професійно-технічної). До таких змін можна віднести його часткове здійснення у дистанційній формі. Відповідно у педагогічних працівників закладів професійної (професійно-технічної) освіти виникла необхідність навчитися взаємодіяти із суб'єктами освітнього процесу онлайн на дистанційних платформах. Це актуалізувало оволодіння ними новими формами, методами та технологіями організації освітнього процесу, а відтак набуття актуальних компетентностей.

Мета: аналіз та виокремлення актуальних компетентностей педагогічних працівників для організації дистанційного навчання в закладах професійної (професійно-технічної) освіти.

Методи: аналіз і синтез – для з'ясування стану та рівня розробленості досліджуваної проблеми; систематизація та узагальнення – для формулювання висновків.

Результати: Розкрито дефініціальне та наукове розуміння компетентності педагогічних працівників закладів професійної (професійно-технічної) освіти. Встановлено, що концепція компетентнісного підходу в освіті спрямована на формування особистості майбутнього професіонала з позитивним світоглядом, ціннісними орієнтаціями, здатністю швидко адаптуватися до нових і непередбачуваних життєвих і професійних ситуацій. Висвітлено інформаційно-комунікаційну компетентність у вузькому та широкому розумінні. Встановлено, що інформаційно-комунікаційна компетентність педагогічних працівників закладів професійної освіти має включати в себе фактичну навчальну діяльність із застосуванням сучасних інформаційно-комунікаційних технологій та здійснюватися в умовах інформаційного середовища. Тобто, включати в себе знання із застосування в освітньому процесі спеціалізованого програмного забезпечення, що спрямоване на організацію дистанційної форми освіти (Moodle, Classroom, Unicraft, Microsoft Teams, Edmodo тощо). До технологічної компетентності віднесено комплекс знань і вмінь організовувати освітній процес у закладах професійної (професійно-технічної) освіти із застосуванням технологій дистанційного навчання, добираючи для цього оптимальні електронні засоби та відповідний електронний навчально-методичний матеріал.

Висновки: Організація дистанційного навчання в закладах професійної (професійно-технічної) освіти здійснюється на основі компетентнісного підходу та ґрунтується на положеннях Концепції навчання впродовж життя. Розвиток у педагогічних працівників закладів професійної (професійно-технічної) освіти інформаційно-комунікаційної та технологічної компетентності сприяє підвищенню якості дистанційного навчання майбутніх кваліфікованих робітників.

Ключові слова: *інформаційно-комунікаційна компетентність; технологічна компетентність; педагогічні працівники; заклади професійної (професійно-технічної) освіти; дистанційне навчання.*

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MODEL OF IMPROVING THE QUALITY OF TRAINING OF FUTURE ENGINEERING TEACHERS

Oksana Yefremova

graduate student of the Department of Theory and History of Pedagogical Skills of Ivan Ziaziun Institute of Pedagogical and Adult Education NAES of Ukraine, https://orcid.org/0000-0002-0280-8084,
e-mail: efremovaoksana7@gmail.com

Abstract.

Relevance: improvement of the system of professional training of future specialists is impossible without the introduction of information technology, new approaches to measuring the quality of the educational process, innovative diagnostic methods, as well as the use of training models as a necessary prerequisite for the competence of the graduate.

Purpose: a theoretical model of improving the quality of specialists' training, which corresponds to the author's vision of solving this problem is developed and substantiated. Its use is shown in the educational process to improve the quality of training of future engineering teachers.

Methods: theoretical; empirical (praximetric (study and analysis of work plans, training programs for future engineering teachers, tools and methods of pedagogical diagnostics, test tasks and methods of their use); the idea of cybernetic method (model «black box») is used.

Results: the possibilities of pedagogical diagnostics as a technology that contributes to improving the quality of training of students of engineering and pedagogical universities are clarified; the theoretical (structural) model of improving the quality of training of future engineering teachers is proposed and substantiated, the components of the model and the requirements for its development are identified and described, the system of evaluation and quality control of learning outcomes in the higher education institutions has been improved. The evaluation of the quality of professional training of future specialists has been carried out in accordance with the developed «theoretical» and «mathematical» models, without which it is impossible to solve the issue of quality management of the educational process. The article focuses on the «theoretical» model of training. The study proposes an approach to modeling based on the concept of cognition «black box» and specifies the principles of the model, on which the process of training of future professionals is based on.

Conclusions: it has been theoretically proved that the proposed 'theoretical' model of improving the quality of training is the part of the fundamental training of engineering teachers, has a practical and applied nature, and also provides a clear algorithm for effective improvement of the quality of the educational process.

Keywords: *quality of training, engineering teacher, pedagogical diagnostics, innovative methods of diagnosis, scientific management of the educational process, theoretical model of quality of training of specialists.*

Introduction. Modern requirements for the training of specialists and the provision of the education quality were caused by the rapid development of the scientific and technological revolution, the rapid renewal of knowledge, and the increase in the volume of scientific and scientific-technical information. Today, as never before, there is a need for highly qualified specialists who have high-quality general scientific and professional training, capable of independent creative work. One of the components of the system of training the highly qualified specialists is the development of a model for improving the quality of specialists' training, which becomes a system-forming factor in determining the content of education, forms and methods, innovative pedagogical technologies as well as the learning outcome as an indicator of education quality. Currently, researchers and scientists are turning to the creation of models for the training of future professionals, but the most complex and undeveloped theoretical problems include: inconsistency of the conceptual appa-

ratus; lack of reasonable uniform criteria and indicators for assessing the effectiveness and quality of the educational process; difficulties in determining the overall quality development strategy; bias in assessing the real achievements of students; lack of effective tools for comprehensive diagnosis of the effectiveness of the educational process with information about the state of the pedagogical process and the level of training of its participants; difficulties in scientific management of the quality of specialists' training. This necessitated the development and improvement of a theoretical model to improve the quality of specialists' training using methods of pedagogical diagnosis.

Sources. A large number of scientific works is devoted to the study of the problem of providing, improving and evaluating the quality of education in higher education; among them there are the works of V. Andrushchenko, V. Bilokopitov, J. Bolyubash, L. Gorbunov, G. Yelnikova, M. Zgupovsky, V. Kremen, V. Luhovyi, O. Lyashenko, M. Mykhalchenko, C. Nikolaenko, V. Ognevyuk, N. Seleznyova, M.Stepko, L. Spodin, A. Subbetto, Y. Tatura, G. Tsekmistepova and others. The outlined problem is at the center of scientific research and foreign researchers: K. Ingenkamp, K. Kuder, K. Pearson, P. Rulon, M. Richadson, Harvey L. (Harvey and Green, 1993, pp. 9-34), Parri J. (2006, pp. 107-111).

To achieve the goals and objectives of the study, theoretical methods (analysis, synthesis, generalization and systematization of basic principles for identifying the state of the problem; analysis of tools and methods of pedagogical diagnosis; modeling method for developing a 'theoretical' model) are used.

The article aims to develop and substantiate a theoretical model of improving the quality of specialists' training, which corresponds to the author's vision of solving this problem. Its use is shown in the educational process to improve the training of future engineering teachers.

Methods: theoretical (analysis, synthesis, generalization and systematization of basic principles for identifying the problem of scientific quality management of specialists' training; analysis of tools and methods of pedagogical diagnostics, test tasks and methods of their use; modeling method for developing a «theoretical» model); empirical (praximetric (study and analysis of work plans, training programs for future engineering teachers, tools and methods of pedagogical diagnostics, test tasks and methods of their use); the idea of the cybernetic method is used) (model «black box»)

Results and discussion. The issue of creating models for the training of future specialists is considered by researchers mostly at the general level. But, this is not enough, in terms of active use of information technologies in the educational process. The necessity to model the process of improving the quality of training of future professionals is determined by the need for practice of vocational education in building this process, identifying its basic components, monitoring its results, obtaining information on opportunities for its improvement (Lukianenko and Antoniuk red., 2018).

The terms «model», «modeling» are considered in pedagogical science by such researchers as V. Afanasyev, V. Venikov, I. Novik, S. Arkhangelsky, N. Kuzmina, V. Shtoff and others. Problems of models of pedagogical processes were studied by Yu. Vaskov, O. Vynoslavska, N. Talyzin, L. Serman and others. We mean under the model, in a broad sense, a mentally or practically created structure that reproduces a fragment of reality in simplified and visual forms. In a narrower sense, the model is either a specific image of the object under study, which reflects the actual or expected properties, structure, etc., or another object that actually exists alongside the one under study, and is similar to it in some properties or structural features. Thus, the model is a kind of universal research tool.

In our opinion, the approach to modeling is original in the works of American scientists (T. Toffoli and N. Margolus), who believe that: “Science has not benefited much from models that are subject to our desires. We want to have models that have a defiant character; models that have their own mind. We want to get more from models than we have invested in them” (Toffoli and Margolus, 1985). Summarizing and analyzing the given statement, we believe that it is not just «a language figure», but an important approach to modeling. Summarizing the above, the study was based on the concept of building a model of specialists' training that would work more effectively than today's models. Such a model should be clear and understandable to all interested parties (employers, the state, parents, students) and show clear guidelines for achieving high quality training of future professionals. The study of the issue of the construction of «models for improving the quality of training of future professionals» is of particular importance for the research. In our investigation, first of all, we will analyze the concept of «specialists' training model». In the field of higher school pedagogy, the model of training specialists of higher education institutions is considered to be a clear, detailed, scientifically sound set of minimum

positive personality traits of a professional, which should be possessed by each graduate (Stolyarenko, 2002).

In fact, the model of specialists embodies the objective requirements for training, and the compliance of the graduate with them is a necessary requirement for his success in professional activity and life. We share the point of view of the scientist V. Slastenin (red. 2004), who proposes to take into account personal and professional-pedagogical qualities in the model of training; psychological and pedagogical training; methodical training in the specialty, the scope and content of special training. In the study, we have relied on the scientific views of N. Talyzina (1987), who believed that the problem of the training model was key to determining the content of curricula and educational programs. The description of the model of the specialist by the researcher is carried out through the selection of typical tasks to be solved by the future specialist. In constructing our model, we took the phasing (as a basis) proposed by E. Smirnova (1977), which consisted of the following elements: selection of the main parameters of the model first at the hypothetical and then at the research levels; selection, design, standardization and debugging of a set of techniques for model formation; development of methodical bases for the forecast and their realization at creation of concrete model.

Modern researchers agree that the model of training should be prognostic, i.e. not only to record the current state of specialists, but to contain information about its future form. This made it possible to provide advanced training of specialists in the higher education institutions. We believe that the development of such a model will clarify the objectives of training the future professionals, adjust curricula and educational programs, choose comprehensive methods and tools to assess the effectiveness of the educational process, as well as to make management decisions of a corrective nature.

Thus, consideration of theoretical and practical experience in developing models of future professionals has allowed to enrich the scientific thesaurus with a new concept *«model for improving the quality of training of future professionals»*, understood *as a scientifically sound, detailed described algorithm for training the future professionals at the present stage using innovative diagnostic tools and statistical-mathematical methods for predicting the expected changes in form of the educational achievements of these specialists.*

The originality of our approach to constructing a theoretical model to improve the quality of specialists' training is that the algorithm of the model is based on the concept of cognition «black box» (black box). This toolkit has excellent opportunities to study the processes and phenomena occurring in education. We define the concept of the model as «black box».

«Black box» is a term used to denote a system whose mechanism of operation is unknown or is accepted as unknown. Such systems usually have 'input' to enter information and «output» to display work performance. The state of the outputs usually functionally depends on the state of the inputs. The model includes what is essential to achieve the goal (purpose of the model) (Chervak-Smerichko, 2015, p. 249). A clear example that demonstrates the approach to building a model based on the concept of cognition «black box» is shown in *Fig. 1.*

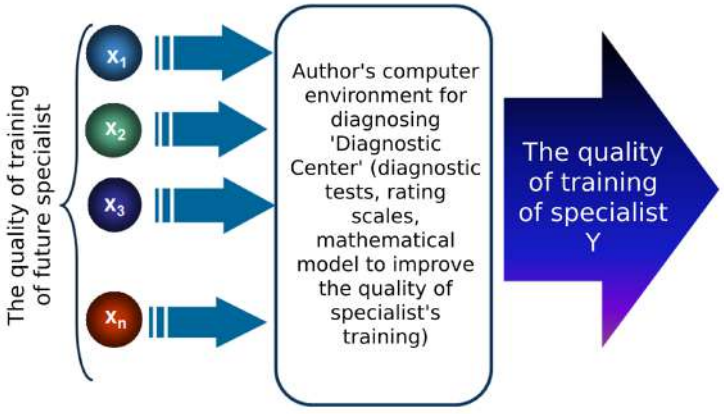

Fig. 1. Graphic model 'black box' to improve the quality of training of future specialists

But, we emphasize that such a model, despite the external simplicity and lack of information about the interior of the system, is not a trivial task. If we formalize the 'black box' model to the limit, we arrive at the task of two sets $X = \{x_1, x_2, \cdots, x_n\}$ and Y of input and output variables between which no relationship is known. As a rule, the output variable is a dependent variable, and the input variables are independent variables, i.e. Y is a function and $x_1, x_2, \cdots, x_n$ – the arguments of this function. The

main task solved by this model is to determine which parameters mainly affect (the quality of specialists' training) and assess this impact. In our study, when compiling the model, which is based on the concept of cognition «black box» (see *Fig. 1*), we proceeded from the understanding that the input parameters will be considered as control effects on the quality of specialists' training, and the value of the output – the solution question: *How to improve the quality of training of specialists?* (reaction to the action of input parameters), in other words, with the help of such a design it is possible to solve the problem of determining the initial level of quality of specialists' training «at the entrance» and what it should be and what this specialist is capable of «at the exit». Thus, this approach to modeling opens new opportunities for scientific management of the educational process of higher education. Thus, the primary task of the study is a clear justification of the parameters of the model for measuring the quality of training of future engineering teachers (list of inputs of the model) (Yefremova, 2011, p. 111).

In order to find out which parameters will be «embedded» in the model, it is not enough just to theoretically substantiate them, it is necessary to study them statistically for a long time. In our case, this problem is solved by statistical and mathematical methods: factor analysis and correlation regression analysis. To successfully solve the problems of the study, we formulate the principles on which the process of constructing a model for improving the quality of specialists' training should be based.

1) *The principle of purposefulness*. This principle involves the choice of methods, forms and means of pedagogical diagnostics in order to ensure the required level of training of future professionals with a clear definition of the main parametric characteristics (quality indicators, evaluation criteria, levels).

2) *The principle of scientific validity*. The main content of the principle of scientific validity is the requirement that the training of specialists should be carried out on the basis of the application of scientific methods and approaches. In our study, the implementation of this principle is achieved using a constructed mathematical model.

3) *The principle of improvement and extensibility*. This principle lies in the ability to quickly improve and expand the functional possibilities of the model by increasing the number and quality of model parameters. The presence of such characteristics will increase the adequacy of the constructed model.

4) *The principle of objectivity*. The principle of objectivity requires obtaining objective and reliable information about the progress and results of assessing the academic performance of students. This is realized with the help of developed diagnostic tests, questionnaires and the constructed mathematical model. The author's computer environment «Diagnostic Center» is used as a tool for pedagogical diagnostics and interpretation of its results.

5) *The principle of systemacity and continuity*. This principle emphasizes the importance of regular implementation of diagnostic activities to measure the quality of specialists' training and make management decisions of a corrective nature. Requirement that ensures the implementation of this principle: this process requires systematic work throughout the training period of future engineering teachers.

6) *The principle of efficiency, flexibility, mobility*. The ability of the model is to respond to changing requests of participants in the educational process and in the shortest possible time to adjust to another similar task.

7) *The principle of diagnostic and prognostic orientation*. Forecasting is an integral part of the management of the educational process of the higher education institutions. This principle presupposes that, in the course of pedagogical diagnostics, information should be obtained, which will allow to build a perspective strategy of quality development and an optimal plan of the process of training the future specialists. At the same time, the effectiveness of training of future specialists and the work of the university as a whole depends on the effective forecasts. In our study, this principle is carried out due to the obtained values of the coefficients of elasticity of the constructed correlation-regression model.

All the above principles are interrelated, interdependent and form the basis for building the model to improve the quality of training of future professionals. Based on the analysis of scientific sources, we have identified such components of the model to improve the quality of training of future engineering teachers as: purpose, content, principles of modeling, methods, tools and forms of diagnosis, stages of implementation, levels and results of the model and etc. The model shown in *Fig. 2*, is represented by a set of components of its target, technological and effective units. We will describe, in detail, the components of the model, starting with the main principles of the target unit.

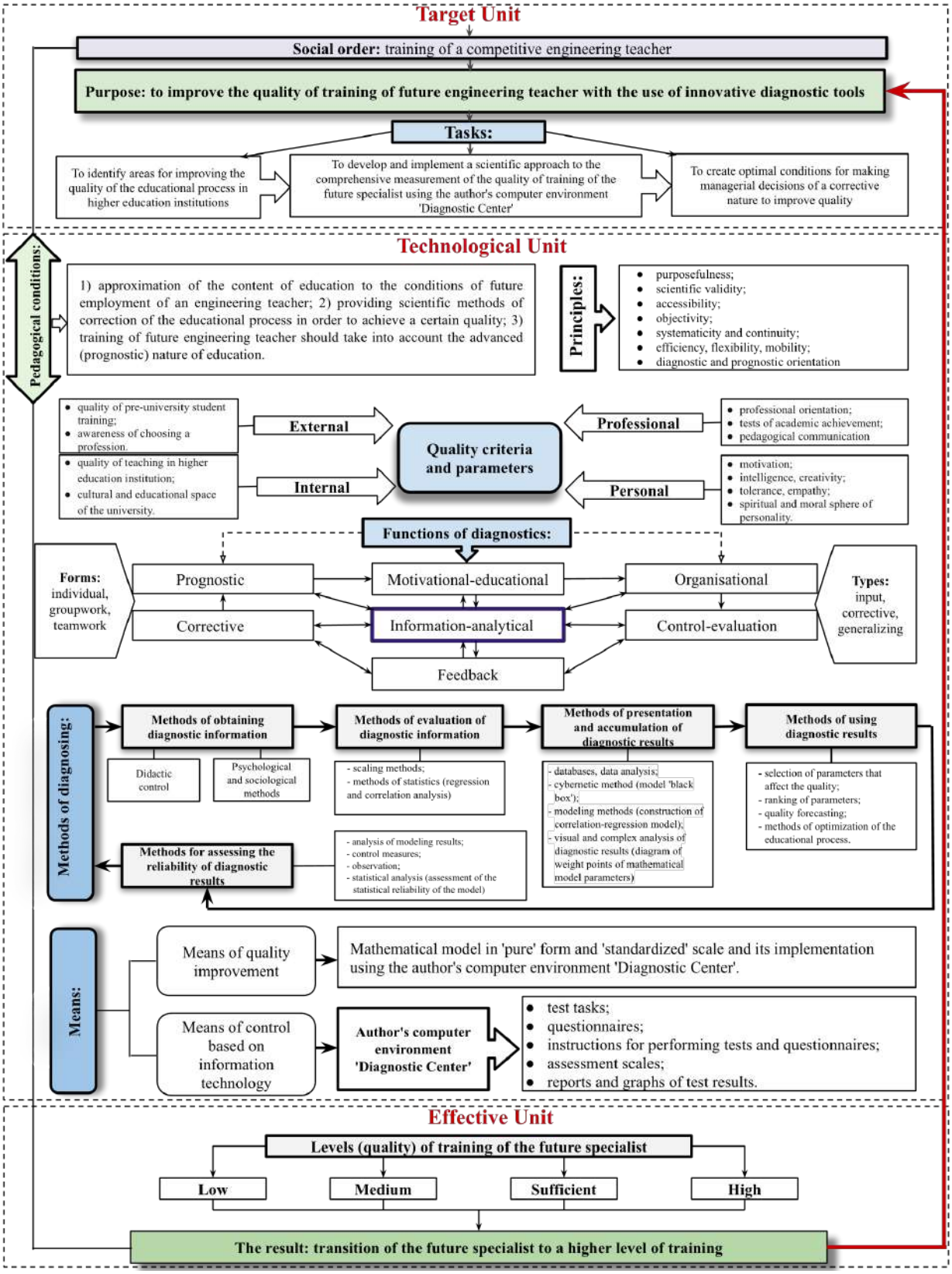

Fig. 2. Theoretical (structural) model of improving the quality of training of future engineering teachers

The target unit is determined by the purpose and objectives of quality training of future professionals. Whereas one of the main priorities of modernization of higher professional education is to ensure the quality of specialists' training, the given goal and objectives are the result of studying and analyzing the current state of professional training of future engineering teachers and identifying effective ways to improve quality. Based on this, ***the purpose*** of the model is to improve the quality of training of the future engineering teacher with the use of innovative diagnostic tools. The implementation of the above goal involves the following ***tasks***: 1) to iden-

tify areas for improving the quality of the educational process in higher education; 2) to develop and implement a scientific approach to comprehensive measurement of the quality of training of future professionals using the author's computer environment «Diagnostic Center»; 3) to create optimal conditions for making managerial decisions of a corrective nature to improve quality.

The technological unit provides an innovative approach to quality management of the educational process and contains a scientifically sound and orderly set of forms, methods and functions of pedagogical diagnostics, principles and means of quality improvement, which allow to implement the tasks of this model. This unit also includes a reasonable selection of quality criteria and parameters that, in accordance with higher education standards, are able to provide quality training to future engineering teachers. It is known that the stability of measurement results depends on the chosen method of pedagogical diagnostics. We propose to actively use the following groups of methods of pedagogical diagnostics according to the classification of O. Yefremova: methods of obtaining diagnostic information; methods of evaluating diagnostic information; methods of presentation and accumulation of diagnostic results; methods of using diagnostic results and methods of assessing the reliability of diagnostic results. The key methods in the proposed model have been statistical and mathematical methods (regression and correlation analysis), and the idea of a cybernetic method (black box model) has been used. In our opinion, these methods allow to asses fully, objectively and reliably, the level of training of future engineering teachers and provide a choice of the best (optimal) ways and methods of solving problems of quality management of the educational process. However, it is very difficult to implement such a model by traditional means, as the set of characteristics and indicators included in the model is too diverse. Therefore, to overcome the difficulties in solving this problem, new approaches are used, which are based on the introduction of the author's computer environment «Diagnostic Center» and regression and correlation analysis. Practice shows that it is more appropriate to use the pedagogical diagnosis in three stages: input, corrective and generalized control.

The effective unit reflects a clear idea of achieving the planned quality of training of future engineering teachers, which is determined by scientifically sound levels and forecasts. It also contains the effectiveness of the quality management system, the effectiveness of the conducted adjustment of management activities and the degree of achievement of the purpose and objectives of the diagnosis. In other words, the effective unit of the model is the expected result as a high level of quality of training at this stage.

Conclusions. The proposed theoretical model is an attempt to improve the quality of training of future engineering teachers. It clearly indicates an action plan to improve quality, helps to systematize the research process and answers the questions: «HOW is the high quality achieved?», «WHAT are the prospects?». The model meets the requirements for the quality of training of modern specialists in the specialty 015 Vocational Education (Computer Technology), is an integral part of the fundamental training of engineering teachers and also has a prognostic and practical orientation. In further research, we will focus on the experimental verification of the theoretical model using the author's computer environment «Diagnostic Center» and the mathematical model.

In conclusion, we would like to emphasize that, today, vocational education is increasingly faced with new challenges due to the growth of digital technologies and mechanisms for remote diagnosis. It is on the verge of the birth of a new type of specialists. In order to keep up with the times, it is not enough for high school teachers to update curricula and content, it is necessary to introduce artificial intelligence technologies, teach and evaluate the results of training students on new platforms / new tools and do it innovatively. In our opinion, it is interesting to know what requirements will be imposed on the engineering teacher in 5-10 years, what level of competencies this specialist must have in the future to perform his work competently (moreover, the demands made for these specialists may not match in the future). The conducted study does not cover all aspects of the voiced problem. The promising areas of further research include the introduction of artificial intelligence to optimize the procedures for comprehensive quality diagnosis, which will allow teachers of higher education institutions to focus more on improving quality without wasting time on long-term diagnosis; to measure quality with high accuracy for more exact diagnosis and to use effective methods of correction; to predict the dynamics of the quality of specialists' training; to promote the development of new models of training future specialists in the short and long term, etc.

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Модель підвищення якості підготовки майбутніх інженерів-педагогів

Оксана Єфремова

аспірантка відділу теорії та історії педагогічної майстерності Інституту педагогічної освіти і освіти дорослих НАПН України

Реферат

Актуальність: вдосконалення системи професійної підготовки майбутніх фахівців неможливо без упровадження інформаційних технологій, нових підходів до вимірювання якості освітнього процесу, інноваційних методів діагностування, а також використання моделей підготовки фахівців як необхідній передумови компетентності випускника.

Мета: розроблено і обґрунтовано теоретичну модель підвищення якості підготовки фахівців, яка відповідає авторському баченню розв'язання цього питання, а також показано її використання в освітньому процесі для підвищення якості підготовки майбутніх інженерів-педагогів.

Методи: теоретичні; емпіричні (праксиметричні (вивчення та аналіз робочих планів, програм підготовки майбутніх інженерів-педагогів, засобів і методів педагогічної діагностики, тестових завдань і методик їх використання); використано ідею кібернетичного метода (модель «чорна скринька»).

Результати: з'ясовано можливості педагогічної діагностики як технології, що сприяє підвищенню якості підготовки студентів інженерно-педагогічного вишу; запропоновано та обґрунтовано теоретичну (структурну) модель підвищення якості підготовки майбутнього інженера-педагога, визначено і описано компоненти моделі та вимоги до її розробки, вдосконалено систему оцінювання і контролю якості результатів навчання у ЗВО. Реалізація оцінювання якості професійної підготовки майбутніх фахівців здійснювалася відповідно до розроблених «теоретичної» та «математичної» моделей, без яких неможливо розв'язати питання управління якістю освітнього процесу. У статті основну увагу і приділено розгляду «теоретичної» моделі підготовки фахівців. У дослідженні запропоновано підхід до моделювання, заснований на концепції пізнання «чорний ящик» та конкретизовано принципи моделі, на яких базується процес професійної підготовки майбутніх фахівців.

Висновки: теоретично доведено, що запропонована «теоретична» модель підвищення якості підготовки фахівців є складовою частиною фундаментальної підготовки інженерів-педагогів, має практично-прикладний характер, а також дає чіткий алгоритм для ефективного вдосконалення якості освітнього процесу.

Ключові слова: *якість підготовки, інженер-педагог, педагогічна діагностика, інноваційні методи діагностування, наукове управління освітнім процесом, теоретична модель якості підготовки фахівців.*

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Part III

FOREIGN AND HISTORICAL ASPECTS OF VOCATIONAL EDUCATION AND TRAINING DEVELOPMENT

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RESULTS OF ANALYSIS OF NATIONAL SURVEY ON CURRENT GOVERNANCE IN VOCATIONAL TEACHERS' EDUCATION IN UKRAINE

Valentyna Radkevych [1], Oleksandra Borodiyenko [2], Viktoriya Kruchek [3], Oleksandr Radkevych [4]

1 doctor of Sciences in Education, professor, academician of the National academy of educational sciences of Ukraine, directorof the Institute of vocational education and training of the National academy of educational sciences of Ukraine, http://orcid.org/0000-0002-9233-5718, e-mail: mrs.radkevich@gmail.com

2 doctor of Sciences in Education, associate professor, corresponding member of the National academy of educational sciencesof Ukraine, head of the foreign VET systems laboratory of the Institute of vocational education and training of the National academy of educational sciences of Ukraine, http://orcid.org/0000-0001-9133-0344, e-mail: oborodienko@ukr.net

3 doctor of Sciences in Education, associate professor, head of the distance vocational training laboratory of the Institute of vocational education and training of the National academy of educational sciences of Ukraine, https://orcid.org/0000-0002-8252-6844, e-mail: kruchekviktoria@gmail.com

4 PhD in Law, senior Research Fellow, Research and Development Department, Institute of vocational education and training of the National Academy of Educational Sciences of Ukraine, http://orcid.org/0000-0002-2648-5726, e-mail: mr.radkevich@gmail.com

Abstract.

Relevance: the system of teacher training for vocational (technical) education lacks interaction between the stakeholders, which causes its inconsistency with the needs of the labor market and reduces the quality of education. At the same time, the development of professional competencies of teachers determines not only the quality of training of applicants for vocational education, but also the entire system aimed at providing the national economy with skilled workers. Mechanisms of governance in vocational teacher education for vocational education and training (VET) institutions need to be reviewed and improved. One of the tools to solve this problem is partnership-based governance and standardization. Therefore, the study of the current state of partnership in vocational teacher education in Ukraine in order to develop new mechanisms is extremely relevant.

Purpose: analysis of the current state of partnership in vocational teacher education in Ukraine.

Methods: theoretical analysis of scientific literature, legislative and regulatory documents – to study current trends in the governance of vocational teacher education in Ukraine; survey method (questionnaire using the web service GoogleForms), the method of expert evaluation, comparative analysis – to determine the current state of partnership in vocational teacher education in Ukraine.

Results: the results of survey of four groups of respondents research and teaching staff of higher education institutions which carry out training of students in the specialty "Professional Education", HEI students in the specialty "Professional Education", teachers and heads of vocational education institutions are presented.

Conclusions: the survey revealed the fact of imperfection of the existing system of vocational teacher education in Ukraine, in particular: unsystematic cooperation of all subjects of the educational process and potential employers, insufficient practical and professional orientation of training, non-compliance with labor market requirements, remoteness from production conditions, non-use of training opportunities for cooperation with international organizations, employment centers, trade unions. To strengthen the quality of training, it is necessary to introduce new mechanisms for governance of vocational teacher education in Ukraine, improving teaching methods, organizing practical training for students and up-skilling training systems through close cooperation, expanding partnerships between vocational, higher education institutions and other stakeholders.

Keywords: *vocational education, teacher of vocational education, partnership, professional training of teachers, management of professional training.*

Introduction. Ukraine is on the way to reforming the educational sector in order to be able to successfully integrate into European educational and economic spaces. The reforms started in 2015 and now have reached the phase of active development and implementation. In 2014, the Law on Education was significantly amended, which affected all sectors of education: secondary, vocational and higher education. However, these reforms need support and facilitation. Vocational education and higher pedagogical education received a particular attention from the side of the government and two strategic documents were developed in 2018 which serve as a legal impulse for the this project application, namely the Concept of Development of Pedagogical Education and a draft Concept regarding th implementation of state policy in the field of vocational education entitled 'Modern vocational education' for the period up to 2027. One of the problems defined in the draft Concept for the implementation of state policy in the field of vocational education is the discrepancy between the content and methods of teaching and the real needs of the modern labour market as well as the needs of individuals.

Another factor is the obvious devaluation of the social status of vocational teachers and trainers. Such a situation is the result of the interplay of complex factors, such as the quality of training which future vocational teachers receive at higher education institutions (HEIs). Vocational schools are the final employers of HEIs' graduates who possess the qualification of a vocational teacher. However, so far there is no clear linkage between these two institutions and makes clear that the relevance and quality provided by HEIs needs to be improved.

In many cases, teaching programs are designed in a way that tends to ignore the specifics of vocational education. There is also evidence that the teaching process lacks the input from vocational schools. International organizations, providing support to the Ukrainian VET, report on the extensive theorizing of vocational teacher training and its inadequacy to the VET realities (European training foundation, 2004).

Ukraine has only recently approved occupational standards for teachers of vocational (technical) education, which are important elements in the interaction of the labor market and education. They should become the basis for the development and assessment of qualifications, a tool for correlating qualifications with the National Qualifications Framework, serve as a guide for the development of educational programs for training and career guidance of citizens. The development and approval of these important regulations opens the way for change, but does not solve all the existing problems. There is a need for a long and active campaign to develop an additional regulatory framework and real mechanisms for their implementation with the involvement of all stakeholders and broad support from government institutions, promotion of reforms among the public as well as discussion on further steps.

The development of school and vocational education, the reform of teacher training and the reform of the teaching profession have been declared as one of the priority areas for the development of the Ukrainian state. Therefore, the study of the current state of partnership in the training of teachers of vocational education in order to develop new mechanisms for governance is extremely relevant.

Sources. The legal framework for the study of problems of vocational teacher education in Ukraine is comprised by the Laws of Ukraine: "On Education" (Верховна рада України, Законодавство України, 2017), "On Higher Education" (ВРУ, Законодавство України, 2014), "On Vocational (Vocational-Technical) Education" (ВРУ, Законодавство України, 1998), "On Professional Development of employees" (ВРУ, Законодавство України, 2012*)* etc. The need to improve the system of training, retraining and advanced training of engineering and teaching staff on the basis of higher and specialized vocational education institutions is emphasized in the National Strategy for Education Development in Ukraine until 2021 (Президент України, 2013*)*. The goals of sustainable development of Ukraine for the period up to 2030 are important guidelines for advanced training of teachers of vocational education throughout life (Президент України, 2019). Increasing the level of readiness of graduates of vocational (technical) education to solve complex economic and technological problems requires the presence of appropriate professional competence of teachers of vocational education, as stated in the Concept of training of specialists in the dual form of education (Кабінет Міністрів України, 2018). An important area stated in the the Concept of implementation of state policy in the field of vocational (vocational-tachnical) education "Modern vocational (vocational-tachnical) education" for the period up to 2027 (КМУ, 2019) is the improvement of training, retraining, internships and training of teachers and heads of institutions of professional (vocational)

education. One of the goals of the Program of Activities of the Cabinet of Ministers of Ukraine until 2025 is to create conditions under which applicants for higher education, including future teachers of vocational education, receive high quality education, which gives them sufficient modern knowledge and skills for further successful professional career (КМУ, 2020).

Theoretical basis for solving problems of improving the quality of vocational teacher education in Ukraine is comprized by theories and concepts of philosophy of education (V. Andrushchenko, I. Zyazyun, V. Kremen, V. Kurilo, V. Lugovyi, V. Ognevyuk, V. Onishchenko etc.). The socio-philosophical essence of the phenomenon of management in the transformation of education, the basic principles of management logic, theoretical principles of modernization of education in Ukraine, synergetic model of education are substantiated in the works of V. Kremen, S. Pazinich, O. Ponomarev (2008; 2009). Onyschenko V. characterized the fundamental pedagogical theories: pedagogical anthropology, pedagogical psychology, pedagogical ethics, pedagogical aesthetics, pedagogical hermeneutics, pedagogical axiology, pedagogical cognitology, pedagogical noetics, pedagogical acmeology (Онищенко, 2014).

Conceptual ideas of continuing professional training are covered in the works of O. Borodiyenko (Бородієнко, 2018), L. Pukhovska (Пуховська, 2017) and others. The modern approach to definition and development of the basic components of the educational program of vocational teacher education on a specialty 015 "Professional education (on specializations)" is substantiated (Коваленко, 2017). Theoretical bases of development of professional competence of future teachers of professional education and development of professional culture of pedagogical workers of institutions of professional (vocational and technical) education are developed by I.Vassilyev, M.Lazarev, P.Luzan, V.Masych, M.Mykhnyuk, O.Shcherbak, etc. In particular, V. Masych theoretically substantiated pedagogical conditions and methodical system of development of productive and creative competence of future engineers-teachers in professional training on the basis of joint creative activity of subjects of educational process (Масич, 2018). I. Vasiliev developed tools for assessment of the performance of teacher training (Васильєв, 2014).

Theoretical and methodological principles of designing the content of education, in particular engineering and pedagogical teachers, are revealed in the works of I. Androschuk, N. Bryukhanova, I. Bendera, R. Gurevich, I. Kankovsky, D. Kovalenko, M. Prigodiya, V. Radkevich and others.

Scientists of the Institute of Vocational Education and Training of the National Academy of Educational Sciences of Ukraine theoretically substantiated and developed methods of training of teachers of vocational education to standardize the content of education, introduction of personal developmental pedagogical technologies, development of electronic textbooks, information resources: "Information and educational data base of vocational school"; "Information and Research Center for Vocational Education", "Virtual vocational education environment", etc. (Радкевич, 2016). Under the scientific guidance of V. Radkevych at the Institute of Vocational Education and Training of the National Academy of Educational Sciences of Ukraine it was developed professional standards of a teacher of vocational training, master of industrial training, methodologist of vocational (vocational-technical) education (Радкевич, 2020).

The development of the readiness of future teachers of vocational education to implement the dual form of education is covered in the works of V. Kovalchuk (Ковальчук, 2014), V. Khomenko (Хоменко, 2015) and others.

In the training of teachers of vocational education it is important to take into account the theoretical foundations and methodological principles of managing the development of vocational education in a market economy, which is revealed in the works of G. Yelnikova, Z. Ryabova, V. Svistun and others. In particular, G. Yelnikova described the patterns and principles of adaptive management of vocational education, as well as market technologies for managing the development of VET (marketing and monitoring research, management decisions) (Свистун, 2014).

Economic aspects of the development of vocational (vocational-technical) education in Ukraine, as well as the theoretical foundations of training of teachers of economic disciplines in higher education on the basis of partnership and standardization are covered in the works of M. Artyushina (Артюшина, 2018), S. Tsymbalyuk (Цимбалюк, 2018) and others. The issues of development of legal culture of pedagogical workers of vocational (vocational-technical) education institutions, use of software for project management in the field of vocational education are covered in the works of O. Radkevych (2019; Радкевич, 2019).

Purpose: analysis of the current state of partnership in vocational teacher education in Ukraine.

Methods: theoretical analysis of scientific literature, legislative and regulatory documents - to study current trends in the governance of vocational teacher education in Ukraine; survey method (questionnaire using the web service GoogleForms), the method of expert evaluation, comparative analysis - to determine the current state of partnership in vocational teacher education in Ukraine.

Results and discussion. To clarify the current state of partnership in the training of teachers of vocational education and develop optimal approaches to the governance of their training in April-May 2020, the Institute of Vocational Education and Training of the NAPS of Ukraine conducted a survey of four groups of respondents: research and teaching staff of higher education institutions which carry out training of students in the specialty "Professional Education", HEI students in the specialty "Professional Education", teachers and heads of vocational education institutions. The survey was conducted online using the web service GoogleForms. This service allows to submit a digital version of the questionnaire in a cloud environment, which makes it available at any time and from anywhere, easily distributed to potential respondents, and it allows to save answers, and to quickly summarize and process the survey results.

At the beginning of the questionnaires, information about the purpose and project within which the survey is conducted was posted. To ensure the objectivity of the answers, the survey was conducted anonymously. The questionnaires contained open-ended and closed-ended questions (some of which provided an opportunity to offer own answers).

The questionnaire for the survey of *research and teaching staff of higher education institutions* that train students in the specialty "Professional Education" included 20 questions related to age, gender, place of residence, place of work, specialization of the educational program, which prepares the level of education, position, scientific and pedagogical experience, an evaluation of the level of cooperation between institutions of vocational education, current and desired areas and forms of partnership, motivation for continuous development of professional and pedagogical competence, participation in training activities on the basis of vocational education institutions, the availability of platforms for professional communication with colleagues from other educational and research institutions.

The questionnaire for surveying *students of higher education in the specialty "Professional Education"* contained 31 questions looking at learning motives, choices of specialty, educational institutions, and the level of student satisfaction with the educational process; moreover, there is a focus on the organization of practical training (training and industrial practice), self-assessment of the level of development of professional competences, the readiness to conduct classes in institutions of vocational education; experience of students' participation in the discussion of directions, and ways to improve the organization of the educational process by teachers and the administration of the educational institution.

The questionnaire for the survey of *teachers of vocational education institutions* included 35 questions, assessing the level of satisfaction with their own theoretical and practical training for teaching, identifying promising areas for improving the training of vocational teachers in higher education institutions, indicating partners in the organization of educational process, evaluating the effectiveness of cooperation with higher education institutions that train teachers of vocational education, and its feasibility. The questionnaire also included questions about the management of the practice of future teachers and the level of professional and pedagogical training of trainee students. A separate block of questions was devoted to forms of professional development, participation of teachers in professional development activities held on the basis of higher education institutions, interest in developing a common platform for professional communication with colleagues of higher education institutions, educational centers, and research institutions.

The last of the four questionnaires was designed to interview the *heads of vocational education institutions* and contained 29 questions. The questions of this questionnaire, in addition to general demographic data, concerned the satisfaction of respondents with the readiness of teachers of the institution to carry out teaching activities; cooperation with educational institutions on various levels, business structures, employment centers, scientific institutions, public authorities, domestic, foreign and international public organizations, as well as the importance of different areas of cooperation and factors that hinder the deepening of partnerships.

More than 3 000 participants took part in the survey. In total, the first survey covered 274 research and teaching staff members from 25 higher education institutions that provide training in educational programs in the specialty "Professional Education"

in 22 specializations out of 24 possible. The respondents were representatives from higher education institutions and different age groups (up to 30 years - 7.3%; from 31 to 40 years - 24.4%; from 41 to 50 years - 37.5%; over 50 years - 30.9%) and different duration of professional activity (up to 3 years - 6.9%; 4-10 years - 15.3%; 11-20 years - 36.0%; more than 20 years - 41.8%). The majority of respondents were women (65.5%), which generally corresponds to the gender structure of the teaching staff of higher education institutions. By positions, respondents were distributed as follows: assistants - 10.58%, teachers - 1.82%, senior teachers - 12.41%, associate professors - 55.84%, professors - 10.22%, heads of departments - 8.39% and others - 0.72% (head of the educational and methodical office, deputy director of the institute etc.). More than half of the respondents (59.6%) are teachers of vocational (professional) training. Disciplines of general education and pedagogical training are taught by 21.5% and 18.9% of teachers respectively who took part in the survey.

The vast majority of surveyed research and teaching staff of higher education institutions that train students in the specialty "Professional Education" indicated that they cooperate with other higher education institutions (73.1%) and vocational education institutions (71.3%). Among the partners were also enterprises, private entrepreneurs (49.8%), research institutions (30.5%), scientific (methodical) centers of vocational education (26.5%), institutions of postgraduate pedagogical education (26, 5%) and institutions of professional higher education (25.5%), professional associations (unions), the Ministry of Education and Science of Ukraine, employment centers, international organizations, legislative and executive bodies.

At the same time, 61.5% of HEI representatives rated cooperation with VET institutions as quite satisfactory, and 0.4% were not satisfied. The average rating score of this type of cooperation is 3.53 (on a 4-point scale). From the point of view of research and pedagogical practice, the most relevant fields for establishing cooperation cover career guidance work (3.76 points), the efficient organization of pedagogical practice for students (3.72 points), and the organization of training and professional development for teachers (3.65 points). These suggestions coincide with the first positions in the evaluation of areas of cooperation that have already been implemented. The joint conducting of classes in the disciplines of vocational (professional) training (3.56 points), the joint implementation of educational (training) projects (3.49 points), and joint organisation of classes in pedagogical disciplines (3.44 points) seem less appropriate.

It should be noted that half of the surveyed teachers (54.2%) believe that it is necessary to involve vocational teachers in conducting classes at HEIs, 19.6% do not approve this idea, while the remaining (26, 2%) did not reply. The idea of involving HEI teachers in conducting classes at VET institutions found much greater support among respondents (76.7%). The share of those who did not answer was also lower - 16.4%.

94.2% of HEI teachers feel the need for continuous development of professional and pedagogical competencies. 67.6% of HEI representatives have some experience of participation in in-service training events held by or at VET institutions. Mostly, these are conferences (70.8%), methodical seminars (58.4%), round tables (43.8%). 96.7% of teachers are satisfied with these trainings. 81.1% of respondents recognize the relevance of participation in in-service training activities held by/at VET institutions. 10.5% of HEI respondents deny such relevance.

Quite comforting is the fact that, according to the respondents, 73.5% of research and teaching staff have the opportunity to constantly communicate on professional issues with colleagues from vocational education institutions (within the framework of joint conferences, vacancy fairs, etc.). At the same time, 9.8% of respondents do not have such an opportunity. A significant proportion of respondents did not reply unanimously, which may indicate a lack of constant use of this opportunity or regular contact with colleagues for various reasons. 89.8% of HEI teachers support creating a specialized online platform for professional and pedagogical communication.

The group of HEI students who took part in the survey numbered 1,277 people. This group consisted of approximately equal numbers of women (51%) and men (49%). More than half of the surveyed HEI students (55%) were young people aged 20-25, 41% of respondents in this group were under the age of 20 - 41%, and 4% over 25. They are students of 25 institutions of higher education, study in educational programs specializing in "Professional Education" with 22 specializations of educational level bachelor (81%) and master (19%). The distribution of respondents by course is quite balanced (from 16 to 26% for each course). Undergraduates of 1 year of study among those surveyed represented 16.7% of the sample, just 1% had spent 2 years of study.

The first block of questions of the questionnaire for students concerned the motives for choosing a study program (specialty) and the educational institution. According to the results of the survey, the main motives for choosing a study program were as follows: advice from acquaintances, friends, or relatives (28.4% of students); desire to teach (27.5% of students); the prospect of a stable income (27.4% of students); employment opportunities, demand in the labor market (24.5%); prestige of the profession in society (23.8%). For most former entrants when choosing an educational institution, the determining factor was the availability of a study program that meets their preferences and interests, and the quality of training.

The level of satisfaction with training was quite high and reaches 3.45 points on a 4-point scale. 92.5% of students are satisfied with their studies at the chosen educational institution, 6% are dissatisfied. Students are most satisfied with the willingness of teachers to answer questions, provide the necessary support during training (average score - 3.48 points), the availability of educational materials (3.38 points), the willingness of the administration to answer questions and provide the necessary support (3.32 points). The lowest scores of satisfaction by criteria were: participation in international projects during training (3.02 points), accessibility and ease of use of dormitories, canteens, sports facilities (3.10 points), a list of elective subjects (3.13 points). The clarity and accessibility of the teaching material was assessed at 3.38 points; interest of students and motivation to study the discipline by teachers - 3.30 points; availability of feedback from teachers and students - 3.42 points; uniqueness of the content of academic disciplines - 3.20 points.

83.6% of surveyed students who had such experience positively assessed their own experience of conducting classes during the internship. The average score of such experience reaches the level of 3.29 points (on a 4-point scale). 33.7% of the respondents of this group mentioned a sufficient level of professional and pedagogical knowledge and skills for proper classes. The share of students who, in their opinion, lacked professional knowledge and skills is higher (38.4%) compared to the share of those who lacked pedagogical knowledge and skills (28%). For more than a quarter of the respondents, it was difficult to determine the answer, which indicates the lack of clear criteria for assessing professional and pedagogical activities. 26.1% of students feel very well prepared for classes, 49.4% indicated that they would be inclined to evaluate their readiness as "rather good". A quarter of respondents feel ill-prepared or have difficulties to answer.

Among the submitted proposals for improving professional training prevail those related to strengthening the practical orientation of the educational process (in particular, increasing the number and scope of special disciplines, practical classes, internships, more active involvement of practitioners in the teaching process at HEIs, establishing permanent cooperation with vocational schools, public and private enterprises, modernization of content, methods and teaching facilities, such as technical support, production equipment, materials, the elimination of duplication of educational contents in various disciplines, their consolidation and reduction in terms of contents, an improvement of research work for students, greater motivation to study, encouraging creativity, strengthening their subjectivity (participation in the discussion of content, teaching methods, expanding the list of elective educational components), improving the learning and living conditions of students (rational scheduling, creating appropriate conditions for sports, nutrition etc.).

The next block of questions was designed to explore the intensity of cooperation and forms of partnerships in which students participate. It turned out that 31.5% of students were often involved in discussions on ways how to improve the organization of the educational process with teachers and the administration of the educational institution, 39.7% sometimes participated in such events. Mostly, it was a discussion initiated by their HEI teacher (52.4% of respondents indicated this form), by the administration of the institution (45.5%) or a student organisation (31.2%); an oral survey conducted by their HEI teacher (36.6%); or correspondence through a trust box (12.7%). 21.7% of students stated that they had no such experience.

The level of satisfaction with cooperation between HEIs and VET institutions was evaluated with 3.38 points. Areas in which it is most appropriate to develop cooperation according to students are: employment of future teachers (47.1%), organization of pedagogical internships (42.3%), conducting classes on professional training (39.2%).

The student questionnaire also contained questions about their current employment, plans for the scope and place of future employment. 31.3% of students involved in the survey constantly combine study with work, 38.9% work from time to time. At the same time, only 22% of participants said that their work fully corresponds to the specialty/study program. The share of students who see themselves

in the future as vocational teachers (47%) exceeds the share of those who do not have such plans (36%), 17% of respondents are undecided. 45% of those who do not plan to work at vocational (technical) education institution indicated that their place of work will not be related to educational activities at all.

1,402 pedagogical staff members of vocational schools took part in our study (teachers of vocational training, deputy directors of educational work, didactical specialists, senior masters of industrial training, masters of industrial training) from 22 regions of Ukraine and city of Kyiv.

The survey of vocational teachers revealed that half of VET teachers (56.2%) are completely satisfied with their level of their education and training. According to the results of teachers' self-assessment, the average assessment rate of readiness reaches the level of 3.55 points on a 4-point scale. Respondents in this group rated the level of theoretical training higher than the level of practical training (3.59 points and 3.48 points, respectively). The survey participants indicated that at the beginning of their career they lacked pedagogical skills (for 32% of respondents), professional skills in the subject taught (20.2%), professionally significant personal qualities (15.7%), pedagogical knowledge (13.6%), professional knowledge of the subject taught (10.9%). 36.2% of respondents believe that they had a sufficient level of training.

Among the areas for improving vocational teacher training at HEIs were the following: creating conditions for continuous self-improvement and self-education of teachers and students; improving the quality of the postgraduate education system, functioning of advanced training courses, internships for HEI teachers who train future vocational teachers, development of platforms for online communication and exchange of experience with colleagues; introduction of innovative learning technologies (in particular, interactive training, e-learning, project-based learning), didactical settings (workshops, webinars) and teaching methods, methods of motivation and stimulation of cognitive activity, digital technologies; constant updating of the content of education, its professional and practical orientation (through constant cooperation with employers on updating educational programs and their compliance with the requirements of the labour market), compliance with the latest achievements in science and education, attention to interdisciplinary links; international partnership, study and implementation of foreign pedagogical experience; strengthening the psychological component of training (age psychology, teamwork, communication skills, inclusion); development of digital competence; improvement of practical training (internships directly at VET institutions and in companies); training and internships in other educational institutions (including foreign), provision of the proper material and technical equipment at VET institutions (modern production equipment, computer equipment, means of communication); strengthening educational work, development of professionally significant personal qualities and the ability to critical thinking and pedagogical creativity.

Regarding partnership issues, the pedagogical staff of VET institutions cooperate to the largest extent with educational and methodical centres (cabinets) of vocational education, and institutions of professional and postgraduate pedagogical education. Only 28.7% of surveyed teachers indicated cooperation with HEIs. At the same time, the average score of cooperation with the HEI is 3.22 points (out of 4 points), which is 0.16 points lower than the score given to this question by HEI staff. According to VET teachers, it is most relevant to develop cooperation with HEIs in such areas as organization of training and professional development of teachers (average score is 3.36 points), career guidance work (3.33 points), professional training (3.32 points). Two of these areas also received the highest marks from representatives of HEIs as worth developing. The least popular are directions of employment of future teachers (2.94 points), joint implementation of educational (training) projects (3.03), joint activities (3.07). 27.4% of respondents participated in the development of educational standards.

45.1% of respondents gave a positive answer to the question about the relevance of involving HEI teachers in conducting classes with VET students. Involvement of VET teachers in conducting classes at HEIs for future vocational teachers was considered relevant by 59.3% of respondents. Support for such exchange is greater among HEI teachers. It should also be noted that those who did not decide on the answer to this question in this group were more than in the group of HEI pedagogical staff.

38.6% of the surveyed VET teachers have the experience of leading the practice of students of HEIs studying in the specialty “Professional Education”. The average rate of satisfaction with the level of professional and pedagogical training of trainee students is 3.08 points (students' self-assessment - 3.29). The average grade of the theoretical component of pedagogical training of trainee students reaches 3.09 points, and the practical component - 3.02 points. Teachers from VET institutions who are

responsible for practical training reported that student trainees lacked pedagogical skills (40.3% of respondents) and professional skills in the subject taught (36.7%) for proper conduct of classes (students mostly noted the lack of professional knowledge and skills). A quarter of respondents (24.8%) indicated that students had a sufficient level of training (in student responses, this figure reaches the level of 33.7%).

The survey participants were also asked questions related to their attitude to professional development and current forms of professional development. The survey discovered that 90.9% of teachers are aware of the need for continuous development of professional and pedagogical competence. 62.7% of respondents took part in different events to improve professional and pedagogical skills organised by HEIs. The most popular forms of in-service training organised by HEIs are in-service training courses, e-learning courses, conferences, workshops. The average score of satisfaction with the result of participation in them is 3.53 points out of 4 points. HEI teachers are most interested in such forms as workshops (average assessment of the degree of interest - 3.56 points), up-skilling courses (3.45 points), training courses (3.28 points).

The possibility of constant communication on professional issues with colleagues from HEIs that train future vocational teachers (within the framework of joint conferences, vacancy fairs, etc.) is reported by 35.8% of respondents (twice as many (73.5%) representatives of HEIs indicated such an opportunity). The share of those who confirmed the feasibility of creating a specialized online platform for such professional communication is 87.4% of the surveyed vocational teachers (among the respondents of the group of HEI academic staff this figure is 89.8%).

The fourth group of respondents included 163 heads of vocational education institutions of various profiles from 21 regions of Ukraine and Kyiv, including: higher vocational schools, vocational lyceums, vocational schools, vocational education centers, interschool educational-industrial plants, vocational schools of social rehabilitation, institutes of professional development, interregional centers of professional retraining, educational centers, private institutions of vocational education.

Heads of vocational education institutions are generally satisfied with the training of vocational teachers (the average score is 3.4 points). At the same time, the assessment of the theoretical component of training (4.18 points) was higher than the assessment of the practical component (3.86 points), which is fully consistent with the self-assessments of teachers (respectively 3.59 and 3.48 points). Respondents of this group believe that young teachers lack most of all pedagogical and professional skills. Only 30.7% of directors indicated that young vocational teachers demonstrate a sufficient level of training.

The most meaningful partners for vocational education institutions are educational and methodological centres (cabinets), enterprises, private entrepreneurs and other vocational education institutions. Cooperation with state and non-state foundations, scientific institutions, and international organizations seems to happen more infrequently. According to the survey participants, such areas of cooperation as the organization of production practice of students, modernization of the material and technical facilities of the institution, employment of graduates, etc. are of great importance.

With regard to cooperation with HEIs which provide vocational teacher education (speciality "Professional Education), the vocational school management rated it with 3.12 points (on a 4-point scale). Vocational teachers rated such cooperation with 3.22 points. Mostly such cooperation concerns career guidance work, professional development of VET teachers, and practical training of HEI students.

According to the survey results, the most relevant seems to be cooperation in the area of organizing events for training and retraining of VET teachers, career guidance work and conducting training sessions. Among the factors that hinder cooperation, the survey participants most often indicated insufficient awareness of opportunities for cooperation (42.3%), lack of initiatives from HEIs (41.1) and territorial remoteness (39.3%).

More than half of the respondents (53.4%) stated that it is relevant to involve HEI teachers in conducting classes in vocational educational institutions. For the group of VET pedagogical staff, this share is 45.1%. The idea of involving vocational teachers in conducting classes at HEIs was supported by even 65% of vocational school directors (in comparison to 50.3% of VET teachers).

57.1% of the heads of vocational educational institutions noted that HEI students can have pedagogical practice at their institutions. The average score of satisfaction with the quality of HEI students' education and training is 2.99 points (on a 4-points scale). The theoretical component of pedagogical and professional training of HEI students was higher evaluated than the practical one, here the points are 3.7 points and 2.08 points respectively.

According to the observations of management staff of vocational educational institutions about students undertaking internships, there seems to exist a lack of pedagogical skills and professional skills in the subjects taught.

More than 95% of the respondents in this group agreed that vocational teachers of their VET institution need continuous development of professional and pedagogical competences. 75.5% of them confirmed that vocational teachers take part in professional development activities held at/by HEIs. Mostly, such cooperation takes place in the form of advanced training courses, e-learning courses and conferences (this was noted by both heads of VET institutions and VET teachers) and is highly valued (average score of satisfaction with the results of participation in such events by managers is 3.47 points (on a 4-points scale), score of pedagogical staff is 3.53 points).

According to the answers of the surveyed VET management staff, it is eminently important to train teachers in up-skilling courses, workshops and internships. Other forms of professional development also received high scores (at least 3.28 points on a 4-points scale).

56.4% of vocational school management staff indicated that they have opportunities to constantly communicate on professional issues with HEI colleagues. The idea of creating a specialized platform for professional communication was supported by 95% of respondents.

Conclusions

In general, the results of the survey showed some imperfections of the existing system of vocational teacher education and training, in particular, at HEIs, and the need to introduce new mechanisms for governance in this area. Despite the fact that quality of such training received high points from HEI students, pedagogical and scientific-pedagogical staff, respondents of all groups noted that there was too much theory involved in the training and pointed to the insufficient level of pedagogical and professional skills of HEI students-trainees and young teachers, which is a consequence of unsystematic cooperation of all subjects of the educational process and potential employers, insufficient practical and professional orientation of training, non-compliance with labor market requirements, remoteness from production conditions, theorized training, outdated material and technical base.

Opportunities for cooperation with international organizations, employment centres, trade unions in such important areas as employment of HEI and VET students, joint implementation of educational projects, exchange of teaching staff, joint training, professional development, teacher training, and the organization of practical training are not fully used. Training, including in the workplace, in order to master future skills of vocational teachers is of great importance. The importance and prospects of these areas are clearly underestimated. At the same time, all groups of respondents are well aware of the need for continuous development of professional and pedagogical competence.

To strengthen the quality of training, it is necessary to improve teaching methods, organize practical training of students and the system of in-service training through close cooperation, expansion of partnerships between institutions of vocational and higher education and other stakeholders. When organizing the educational process under modern conditions and taking into account the specifics of vocational training, it is advisable to create a wide range of selective educational components that would meet the needs of HEI students, involve them in discussing the content and methods of teaching, but also by reducing the share of traditional forms and methods. The importance of good material, the dissemination of the practice of using training technologies, and workshops, webinars, which boost the subjectivity of all participants, were confirmed by the survey results. There is a request from HEI students and vocational teachers to strengthen the psychological component of training, educational work through partnership, the formation of professionally significant personal qualities, the ability to think critically and pedagogical creativity. In addition, the issue of formation of a digital culture, the development of the ability to use modern digital technologies for educational purposes (specialized online courses, webinars, e-learning) is extremely important.

It is important to focus on improving the competence of HEI academic staff who train future vocational teachers of vocational training, and creating conditions for continuous self-improvement and development of professional skills of vocational teachers as well. The mutual professional exchange between experienced teachers and scientists has the potential to lead to and increased motivation of HEI students to pursue a teaching career. The motivational aspect seems to be extremely important as a third of the surveyed students do not see themselves in the teaching profession in the future.

The idea of mutual exchange of pedagogical and scientific-pedagogical staff for conducting classes has significant support among current and future

vocational teachers. Teachers have positively evaluated their experience of participation in in-service training activities, including in-service training courses at/by HEIs, conferences, seminars. It is important to expand and diversify the forms of such work, create an online platform for professional communication, exchange experiences, receive methodological support, study international experience, and find domestic and foreign partners for joint educational projects.

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Результати національного опитування щодо сучасного стану управління підготовкою педагогів професійної освіти в Україні

Валентина Радкевич [1], Олександра Бородієнко [2], Вікторія Кручек [3], Радкевич Олександр [4]

1 доктор педагогічних наук, професор, дійсний член (академік) Національної академії педагогічних наук України, директор інституту професійно-технічної освіти Національної академії педагогічних наук України

2 доктор педагогічних наук, доцент, член-кореспондент Національної академії педагогічних наук України, завідувач лабораторії зарубіжних систем професійної освіти і навчання Інституту професійно-технічної освіти Національної академії педагогічних наук України

3 доктор педагогічних наук, доцент, завідувач лабораторії дистанційного професійного навчання Інституту професійно-технічної освіти Національної академії педагогічних наук України

4 кандидат юридичних наук, старший науковий співробітник лабораторії зарубіжних систем професійної-освіти і навчання Інституту професійно-технічної освіти Національної академії педагогічних наук України

Реферат.

Актуальність: у системі підготовки педагогів для професійної (професійно-технічної) освіти бракує взаємодії між суб'єктами цього процесу, стейкхолдерами та іншими зацікавленими сторонами, що зумовлює її невідповідність потребам ринку праці, закладів професійної (професійно-технічної) освіти, знижує якість освіти. Разом з тим, сформованість професійних компетентностей викладачів визначає не лише якість підготовки здобувачів професійної (професійно-технічної) освіти, але й усієї системи, що спрямована на забезпечення економіки країни кваліфікованими робітничими кадрами. Механізми управління професійною підготовкою викладачів для закладів професійно-технічної освіти (ПТО) потребують перегляду та вдосконалення. Одним з інструментів розв'язання цієї проблеми є управління на основі партнерства та стандартизації. Тому дослідження сучасного стану партнерства у підготовці педагогів професійної освіти заради розроблення нових механізмів управління підготовкою є надзвичайно актуальним.

Мета: аналіз сучасного стану партнерства у підготовці педагогів професійної освіти.

Методи: аналіз наукової літератури, законодавчо-нормативних документів – для вивчення сучасних тенденцій в управлінні професійною підготовкою педагогів; метод опитування (анкетування з використанням вебсервісу GoogleForms), метод експертного оцінювання, порівняльний аналіз – для з'ясування сучасного стану партнерства у підготовці педагогів професійної освіти.

Результати: представлено результати опитування викладачів закладів вищої освіти, які здійснюють підготовку здобувачів за спеціальністю «Професійна освіта», здобувачів вищої освіти, педагогів та керівників закладів професійної освіти.

Висновки: опитування засвідчило факт недосконалості існуючої системи підготовки педагогів професійного навчання, зокрема: несистемної співпраці усіх суб'єктів освітнього процесу та потенційних роботодавців, недостатньої практичної та професійної спрямованості навчання, невідповідності вимогам ринку праці, віддаленості від виробничих умов, затеоретизованості навчання, невикористання усіх потенційних можливостей співпраці з міжнародними організаціями, центрами зайнятості, професійними спілками. Для посилення якості підготовки необхідне впровадження нових механізмів управління цією підготовкою, вдосконалення методики навчання, організації практичного навчання здобувачів освіти та системи підвищення кваліфікації через налагодження тісної співпраці, розширення партнерських відносин між закладами професійної (професійно-технічної), вищої освіти та з іншими зацікавленими сторонами.

Ключові слова: *професійна освіта, педагог професійної освіти, партнерство, професійна підготовка педагогів, управління професійною підготовкою.*

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IMPROVING THE STIMULATION OF PROFESSIONAL TRAINING FOR STAFF

Vasyl Savchenko

ScD in Economics, Professor, Professor Department of Theoretical and Applied Ukrainian State Employment Service Training Institute, https://orcid.org/0000-0002-5836-1277, e-mail: savchenko.vasyl@gmail.com

Abstract.

Relevance: the article is devoted to strengthening the stimulation for continuous vocational training of employees in the workplace by the social partners as an effective measure to overcome the economic crisis to ensure economic growth.

Aim: substantiation of measures to develop an effective organizational and economic mechanism to stimulate staff training in a stagnant and crisis economy and create on this basis the preconditions for economic growth.

Methods: general philosophical, general scientific and special research methods, which include methods of comparative analysis, deduction, concretization and formulation of actual issues, principles of development and historicism.

Results: The analysis of labor costs by enterprises of Ukraine in 1999-2018 identified the reasons that constrain the vocational training of staff. The role of social partners in the process of social dialogue in the implementation of continuous training of employees for the introduction of innovations and high technologies is determined. Measures have been formulated to develop the effective organizational and economic mechanism to stimulate employers and employees to strengthen their interest in learning. The role of the state and other social partners in improving the regulatory and legal support for staff development is substantiated. It is proposed to provide greater tax benefits, dotations and subsidies to organizations that feel the need to train employees.

Conclusions: it is proved that economic growth is possible due to the introduction of the latest high technologies, robotics, digitalization and the introduction of continuous training of employees. However, the existing organizational and economic mechanism doesn't meet these requirements. The proposed mechanism must provide greater tax benefits, dotations and subsidies to businesses for staff training.

Keywords: *training, stimulation, organizational and economic mechanism.*

Introduction. Changes in the market, global competition and the introduction of new technologies lead to increased requirements for staff competence. Therefore, overcoming the current economic crisis and achieving Ukraine's economic growth is impossible without continuous training of employees. Its goal should be to improve the quality of human capital and the competitiveness of enterprises. The importance of these problems is exacerbated by the digital economy, which requires talented professionals, innovators in almost all types of economic activity. Meanwhile, not enough attention is paid to improving the incentives for staff training in Ukraine. Moreover, the situation with the financing of on-the-job training has deteriorated in recent years, and many companies don't have sufficient funds for continuous staff development. Under such conditions, the aims of the study are to substantiate the conceptual foundations of an effective organizational and economic mechanism to stimulate training of employees in the workplace in a stagnant and crisis economy. This determines its scientific novelty. This determines the relevance of increasing the effectiveness of stimulation for staff training by state, employers, employees and other social partners.

Materials. Problems of stimulating the professional staff training attract the attention of foreign and domestic scientists. The theoretical basis of the article is the scientific works of: M. Armstrong, S. Shekshni, V. Gesskov, J. Phillips, G. Dessler, N. Nychkalo, V. Radkevich, L. Pukhovskaya, V. Savchenko, M. Martynenko, V. Brych etc.

M. Armstrong, substantiating the system of wages for the level of competence, notes that this system is aimed at competence, so the increase in wages is tied to the assessment of the level of competence acquired by employees (Armstrong, 2007, p. 596). According to S. Shekshnya, for the system of salary for knowledge is crucial to establish specific knowledge, for the acquisition of which the organization rewards employees (Shekshnya, 2002, p. 281). However, despite the formation of the knowledge economy, pay systems for competence are of limited application in practice.

V. Gesskov's position on the factors hindering learning due to the nature of the market economy deserves attention. Among these factors, he points to the lack of funds for enterprises for training (Gesskov, 2000, p. 8). According to V. Savchenko's research, in Ukraine this reason plays an important role in deterring employers from spending money on employee training (Savchenko, 2015, p. 479).

The situation is changing in countries with innovative economies with a high share of the fifth and sixth technological devices, where significant investments are made in human capital. Determining the effectiveness of these investments is an argument for motivating employers to train employees, choose forms and methods of training. According to J. Phillips, determining the return on investment in training is important for practitioners who provide training; for managers of customer organizations that approve training budgets; for researchers who develop and analyze the effectiveness of learning (Phillips, 2003, X). It is important to transfer the acquired knowledge and practical skills to the workplace. However, according to G. Dessler, less than 35% of trainees transferring what they have learned in the process of training to their jobs a year after graduation [Dessler, 2017, p. 241]. These problems are also relevant for Ukraine.

In Ukraine, sufficient attention is paid to theoretical and methodological issues of vocational training of the adult population. N. Nychkalo considers that the labor market and the development of vocational education and training affect a significant complex of problems, so their research should be based on an interdisciplinary approach (Nychkalo, 2013, p. 24). V. Radkevych to the conditions of realization of abilities for workers in high-tech manufacture refers their interest in the profession, and also effective motivation concerning development of the personnel from the enterprise (Radkevych, 2014, p. 40).

The experience of staff development in the countries of the European Union is reflected in the manual of L. Pukhovska, A. Vornachev and S. Leu. This applies, in particular, to the financial mechanisms for regulating on-the-job training, distributed expenditure on vocational education and training (Pukhovska, Vornachev and Leu, 2015, pp. 107-147).

Among the areas of development the system of organizational knowledge a prominent place is occupied by competence-oriented training of staff. M.V. Martynenko notes that the development of professional knowledge has become relevant not only for representatives of the high technology industry, but also for all other sectors of the economy, including industry (Martynenko, 2016, p. 172). The publications pay attention to the formation of dynamic models of employee training management. V. Ya. Brych and L. Y. Bilous propose to introduce development technologies and diagnostic materials to stimulate staff to learn (Brych, Belous, 2017, pp. 178-180).

However, many issues of staff training incentives remain unresolved. They are mostly viewed from the standpoint of material and intangible incentives for employees in isolation from its stimulation by other social partners. This causes to the continuation of research in this area and the choice of the topic this article.

The article aim is to substantiate measures to develop an effective organizational and economic mechanism to stimulate staff training by the social partners in a stagnant and crisis economy and to create on this basis the preconditions for economic growth.

Methods. The theoretical and methodological basis of the study is general philosophical and general scientific methods. In the process of research used: dialectical method, comparative analysis and synthesis, specification and formulation of the problem, analogies and other methods. During the analysis of the reasons constrain continuous professional training in Ukraine for 1999-2018, the historical-logical method was applied. The use of the problem-solving method allowed justifying measures to develop an effective organizational and economic mechanism to stimulate employers, employees and other social partners to strengthen their mutual interest in staff training. The research is based on the theory of social partnership, concepts of human capital and lifelong learning.

Results. The study found insufficient impact of tax legislation on employers' interest in vocational training. Prior to the adoption of the Tax Code of Ukraine, incentives for enterprises to train employ-

ees were regulated by the Law of Ukraine "On Taxation of Enterprise Profits". According to this Law, the taxpayer's expenses for training were included in the gross expenses in the amount of 3% of the salary fund of the reporting period (Law of Ukraine, 2005, pp. 4-5). Such legislation didn't encourage employers to train employees, didn't comply with the practice of advanced domestic and foreign companies.

To increase the interest of organizations in investing in human capital, the Tax Code has weakened restrictions on their training costs (Tax Code, 2010, pp. 136-137). Article 140 of the Tax Code defined the procedure for recognizing dual-use expenses related to training, liability of a person in case of violation of the obligation to work on the taxpayer after graduation and obtaining a specialty (qualification) for at least three years. The taxpayer's dual-purpose expenditures included expenditures only on training on occupations of workers. The inexpediency of these restrictions was due to the fact that in of rapid change, employers also needed to train managers, professionals and professionals. Therefore, Article 140 § 1.3, was deleted.

Tax Code of Ukraine for 2020 Article 165 § 1.21 stipulates that the amount paid by a legal entity or individual in favor of domestic higher and vocational education institutions for an individual may not exceed three times the minimum wage established by law on January 1 of the reporting (tax) year. This is 14,169 hryvnias for each full or incomplete month of training or retraining of such an individual (Tax Code, 2020). It retains the rule that income that is not included in the calculation of the total monthly (annual) taxable income includes the amount of expenses of the employer in connection with training (retraining) of the taxpayer in accordance with the law (Tax Code, 2020).

The Law of Ukraine "On Education" should promote vocational training. It stipulates that the amount of funds allocated from the state budget for advanced training of pedagogical and scientific-pedagogical employees of state educational institutions may not be less than 2% of the salary fund of these employees (Law of Ukraine, 2017, p. 17). However, the requirements of this law aren't taken into account when adopting state budgets. Until recently, the exception was only individual employees, including medical employees. The intensification of the economic crisis has led to the fact that these funds are no longer provided in the state budget for 2020.

Public-private partnerships should foster organizations' interest in staff training. The government has set the amount of state aid for training that can be provided to reimburse economic entities for training costs, within 50% of such costs. This value may increase, but not more than 70%. In the case of state aid for the training of employees working in the maritime transport sector, the maximum amount may not exceed 100% of the amount of such costs (Cabinet Resolution, 2018). However, the provision of state aid for training is not massive due to limited state resources. Non-implementation or partial implementation by the authorities of regulations on training, insufficient motivation of employers in investing in human capital doesn’t allow increasing the volume and quality of training of employees and ensuring the growth of their productivity labor.

The low level of profitability or unprofitability of many enterprises restrains the increase in the cost of training employees. They cannot fund adequate training. The presence of outdated material and technical base and technologies that don't require employees upgrading or retrain doesn't stimulate employers to develop staff. Domestic enterprises, not having the necessary funds, focus mainly on in-house training in some cases to the detriment of external training of employees in leading domestic and foreign educational institutions, internships abroad. This limits employees' access to the achievements of the world's leading companies in the field of new technologies.

Given the technological backwardness of many sectors of Ukraine's economy, this policy in the field of personnel development is a factor hindering the introduction of high technology. Moreover, due to the coronavirus, companies have to increase the cost of expensive distance and e-learning, which will require significant costs. However, it is difficult for companies to do this due to lack of sufficient funds. Periodic layoffs or absences personnel service from many companies also have a negative impact.

From 1999 to 2018, the State Statistics Service of Ukraine conducted representative sample surveys of enterprises on labor costs. According to the methodology of these surveys, the costs of vocational training include the cost of training employees in educational institutions under agreements between educational institutions and the organization; payment of scholarships to students of preparatory departments, students and graduate students who are trained on a full-time form in the direction of the organization; costs for the maintenance of educational and material base of the enterprise, rent and training and methodological support for training of employees and other costs (Labor costs, 2019, pp. 8-9).

The low motivation of employers to train employees is evidenced by the decrease in the enrollment of students to higher education institutions at the expense of legal entities. Over the past 10 years, the number of such students in Ukraine has decreased threefold and currently does not exceed 0.1% of the total number of first-year higher education institutions admitted. The cost of professional training of employees also includes the payment of trainers who are not in the staff of the organization. However, the payment of trainers who are in the staff of the enterprise, are referred to other groups of labor costs. This underestimates the cost of training.

The results of surveys of enterprises on labor costs in Ukraine for 1999-2018 are shown in *table 1*

Table 1 - Structure of labor costs by enterprises of Ukraine in 1999-2018 per employee in full-time equivalent,% [1]

Indicator	1999	2001	2006	2010	2014	2018
The actual cost of labor	100,0	100,0	100,0	100,0	100,0	100,0
Including Direct wages and salaries	56,4	58,7	60,5	59,9	61,0	68,7
Payment for unworked time	5,6	5,5	5,1	5,3	5,8	6,0
Premium and irregular payments	4,0	4,2	3,3	3,1	3,5	4,8
Wages in kind	2,2	1,0	0,2	0,3	0,2	0,2
Payment for housing	1,6	0,8	0,2	0,2	0,1	0,0
Social security of employees	25,8	25,5	26,9	27,1	26,6	17,8
Vocational training	0,3	0,3	0,2	0,2	0,1	0,1
Maintenance of public services	1,9	1,9	1,0	1,3	0,7	0,5
Expenses not included in other groups	2,2	2,1	2,6	2,6	1,9	1,8

[1] Calculated for: Information and statistical bulletin № 13 (28). - Kyiv: Ministry of Labor and Social Policy of Ukraine, 2000; Labor of Ukraine 2002: stat. coll. / State. committee stat. Of Ukraine. - K., 2003, pp. 386-389; Labor costs for 2006: stat. coll. / State. committee stat. Of Ukraine. - K., 2007, pp. 47-50; Labor costs for 2010: stat. coll. / State. stat. service of Ukraine. - K., 2011, pp. 47-49; Labor costs for 2014: stat. coll. / State. stat. service of Ukraine. - K., 2015, pp. 42-44; Labor costs for 2018: stat. coll. / State. service stat. Of Ukraine. - K., 2019, pp. 41-43.

According to surveys of enterprises' labor costs, payment and social security costs prevail. At the same time, there are very small employers' costs for vocational training. After Ukraine's exit from the protracted economic crisis in 1999 and 2001, these costs remained relatively low, accounting for only 0.3% of total expenditures per employee.

The situation with the costs of enterprises for professional training of staff hasn't changed for the better in the subsequent years. It deteriorated significantly during the economic crisis of 2014-2015. The share of organizations' training expenditures per employee decreased to 0.1%. For comparison, in the countries of the European Union in 2012 this figure averaged 1.0% (Labor cost). Based on the size of labor costs, a number of EU countries spend on training dozens of times more.

The situation with the financing of staff training didn't improve in Ukraine in 2018, even in conditions of economic growth. The share of employer expenditures on training on average per employee was only 0.1% of the total labor costs. The absolute value of the average monthly cost of vocational training of one full-time employee increased from hryvnia 6 in 2014 to hryvnia 14 in 2018 (Labor costs, 2015, p. 37; Labor costs, 2019, p. 36). Taking into account the growth of the price index, it actually decreased. The increase in training costs took place mainly among servicemen of the Armed Forces of Ukraine and some other law enforcement agencies.

In the current crisis, funding for staff training has deteriorated. The low level of competence of employees as a result of insufficient funding for their professional development leads to a decrease in productivity, product quality, hinders the development of innovative models of enterprises. This doesn't meet the requirements of the knowledge economy, the spread of digital technologies, the introduction of technologies of the fifth and sixth technological devices, complicates the way out of the economic crisis.

M.D. Gemma, revealed the impact of the total number of employees who upskilling in Ukraine during 2004-2014 on the gross domestic product. The obtained dependence is close to linear, and more

precisely to piecewise-linear (the presence of a close linear correlation between variables is evidenced by close to 1 value of the correlation coefficient r = 0.83472). The value of the coefficient of determination R^2=0.69677, and the actual value of Fisher's criterion F (1,8) = 18,382 exceeds the critical $F_{crit.}$ (1,8) = 5,317 (Gemma, 2019, pp. 156-157).

By types of economic activity in Ukraine in 2018, higher training costs were found at enterprises producing pharmaceutical products and pharmaceuticals and in organizations for professional, scientific and technical activities. Pharmaceutical and pharmaceutical companies are growing rapidly, and high-tech manufacturing requires innovation, so they have spent more on training. Regarding organizations for professional, scientific and technical activities, the very innovative nature of their staff, the need to meet the latest advances in science and technology determine the cost of training.

The amount of funds spent on staff training is influenced by the size of enterprises. According to the survey of labor costs in 2018 among enterprises with 10-49 employees, the average monthly training costs per full-time employee was hryvnia 9, while in enterprises with 1,000 or more employees this figure was - hryvnia 21 (Costs to work, 2019, p. 40). There are organizations, in particular IT companies, that spend per employee not just a few thousand, but more than 10,000 hryvnia per year.

Among medium and small enterprises, a significant part doesn't provide staff training. This is due not only to the lack of sufficient funds, especially in small businesses and lack of time for employees, but also to the lack of understanding of investing in human capital due to the lack of corporate culture of the self-learning organization.

Discussion. Ukraine hasn't created a favorable institutional environment to stimulate continuous staff training. This has led to a reduction in funding for employee training and coverage of their on-the-job training. As a result, the advantages of having a relatively cheap and still highly skilled labor force to attract investment in high-tech economic activities haven't been used. The exception was mostly the IT industry.

Employers' interest in training highly skilled employees is reduced the caution about investing in the training of those who already have integrated high-tech occupations, due to fear of employment such persons in another employer. The lack of effective social dialogue between the social partners regarding the training of enterprise personnel also plays a significant role.

The General Agreement on the Regulation of Basic Principles and Norms for the Implementation of Socio-Economic Policy and Labor Relations in Ukraine for 2019–2021 provides for the development of mechanisms to stimulate the participation of employers in training staff (General Agreement, 2019). However, it doesn't reveal the essence of this mechanism. Therefore, when adopting general and sectoral agreements, the social partners should develop specific measures to encourage employers to train staff. It is expedient to involve trade unions in the development of mechanisms to stimulate training in order to take into account the wishes of employees in the framework of social dialogue. This will balance the interests of the parties in this area.

Significant is the reluctance of individual employees to undergo training at the initiative of the employer or at their own expense. These are shortcomings in the organization of wages, when the amount of wages doesn't always depend on the level of training of the employee. An important role is played by the lack of prospects in the employee to get a highly qualified job after training or fear of losing their own funds for training or retraining due to dismissal from the company at the initiative of the employer. The lack of own funds for training in employees at their own request, their dissatisfaction with the organization and content of training, hostility to the trainer, the desire to be released from the company of their own volition, etc. can reduce the motivation to undergo training.

Hence, it is important to develop conceptual principles an effective organizational and economic mechanism to stimulate the social partners in their interest in lifelong learning. This mechanism should be based on the concept of balanced development of vocational, higher and postgraduate education. The provisions of the concept must be taken into account when amending the current Tax Code and Budget Code of Ukraine, the Laws of Ukraine "On Professional Development of Employees" and "On Employment", etc. This mechanism should take into account foreign experience in providing tax benefits to employers who train employees. Providing such benefits to support business must play an important role in overcoming the effects of the economic crisis. The current norms of the Tax Code are insufficient to encourage companies to train staff.

The introduction of larger discounts on corporate income taxes in the Tax Code and the Law of Ukraine "Professional Development of Employees" should be regulated by the procedure for determining the upper limit of the cost of training services for organizations. To do this, it is necessary to develop guidelines for the procedure for determining the

amount of funds by organizations for training of employees in the production. If the requirements are met, companies will have the right to reduce their taxes. This will avoid corrupt abuses in the field of employee training. If the cost of training the tax liabilities of the organization is exceeded, it should be entitled to receive compensation due in the form of dotations. Insufficiently profitable, social and non-profitable enterprises should be provided subsidies for their training of employees.

It is important to increase the interest of employees in their on-the-job training, either on the initiative of the employer or at their own expense. In this regard, the tax rebate for training for the taxpayer, a one-time voucher for training for certain categories of the population must be supplemented by individual training accounts of employees. Funds should be transferred to these accounts by the social partners: the state, employers and employees. This will increase financial opportunities for quality education. To this end, it is necessary to make changes to the Budget Code of Ukraine that would allow the social partners to create special funds for staff training in the production (Savchenko, 2015, p. 484).

Conclusions. Overcoming the effects of the economic crisis and ensuring economic growth is possible through the introduction of the latest high technologies, robotics, digitalization and continuous training of employees. However, the existing organizational and economic mechanism doesn't meet these requirements. Its shortcomings are manifested in the low percentage of coverage of employees with vocational training, low expense of employers for these purposes. It is advisable to use the mechanisms of social dialogue, public-private partnership to finance the development of occupational standards, preparation of new and renewing existing educational standards. It is necessary to renew the annual report on labor statistics № 6-PV (annual) "Report on the number of employees, their quality and professional training." To increase the efficiency of spending money on employee training, it is necessary to conduct sample surveys of labor costs once every two years, rather than once every four years. In these surveys, it is advisable to clarify the components of the group of costs for training. To strengthen the interest of the social partners in the implementation of lifelong learning, it is important to deepen research to determine the economic and social effectiveness of staff development in the workplace.

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Вдосконалення стимулювання професійного навчання персоналу

Василь Савченко [1]

1 доктор економічних наук, професор, професор кафедри теоретичної та прикладної економіки Інституту підготовки кадрів державної служби зайнятості України

Реферат.

Актуальність: стаття присвячена посиленню стимулювання безперервного професійного навчання працівників на виробництві з боку соціальних партнерів як дієвого заходу подолання економічної кризи для забезпечення зростання економіки.

Мета: обґрунтування заходів щодо розробки ефективного організаційно-економічного механізму стимулювання навчання персоналу в умовах стагнаційної та кризової економіки і створення на цій основі передумов для економічного росту.

Методи: загальнофілософські, загальнонаукові та спеціальні методи дослідження, які включають методи порівняльного аналізу, дедукції, конкретизації та постановки актуальних питань, принципи розвитку та історизму.

Результати: Аналіз витрат на робочу силу за підприємствами України у 1999-2018 рр. визначив причини, що в стримують професійне навчання персоналу. Визначена роль соціальних партнерів в процесі соціального діалогу у здійсненні безперервного навчання працівників для впровадження інновацій та високих технологій. Сформульовані заходи щодо розробки дієвого організаційно-економічного механізму стимулювання роботодавців і працівників для посилення їх зацікавленості у навчанні. Обґрунтована роль держави та інших соціальних партнерів з вдосконалення нормативно правового забезпечення розвитку персоналу. Запропоновано надання більших податкових пільг, дотацій і субсидій організаціям, що відчувають потребу в навчанні працівників.

Висновки: доведено, що економічне зростання можливе завдяки впровадженню новітніх високих технологій, роботизації, цифровізації та запровадженню безперервного навчання працівників. Однак наявний організаційно-економічний механізм не відповідає цим вимогам. Запропонований механізм має надати більші податкові пільги, дотації та субсидії суб'єктам господарювання для здійснення навчання персоналу.

Ключові слова: *стимулювання, навчання, організаційно-економічний механізм.*

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INTERACTIVE TEACHING METHODS OF ELECTRICAL ENGINEERING IN THE TRAINING OF FUTURE TEACHERS OF LABOR TRAINING AND TECHNOLOGIES

Liubov Pavliuk

Candidate of Pedagogical Sciences (Ph.D), Doctoral Candidate of the Department of Theory and Methodology of Technological Education, Drawing and Computer Graphic, National Pedagogical University named after M.P.Dragomanov, http://orcid.org/0000-0003-0607-824X, e-mail: lubov-vp@ukr.net

Abstract.

Relevance: due to the reform of higher education, there are the growing demands for professional training of graduates of higher education institutions and the need to move from the traditional style of teaching disciplines to innovation.

Purpose: justification and experimental verification of the effectiveness of the application of interactive teaching methods of electrical engineering in the process of professional training of future teachers of labor training and technology.

Methods: analysis of scientific literature, study of pedagogical experience, questionnaires, conversations, oral interviews to identify the effectiveness of innovative teaching methods, data systematization.

Results: there is determined the role of interactive technologies in future teachers training of labor training and technologies; it was found that the organization of education on the basis of the competence approach is relied on strengthening the practical professional orientation of education, development of pedagogical abilities and values of students; it is proved that in lectures it is necessary to give preference to interactive teaching with elements of a problem approach; laboratory classes should be conducted with the help of computer programs for modeling electronic circuits; the system of future teachers training of labor training and technologies at the first (bachelor's) level of higher education on the course "General electrical engineering and workshop on electrical work" developed on the basis of interactive training is presented; the three-component structure of criteria and corresponding indicators of the level assessment of competence formation in electrical engineering is substantiated; an experimental test of the effectiveness of the use of interactive methods of teaching electrical engineering in the training of future teachers of labor training and technologies; it is proved that the use of interactive teaching methods has a positive effect on the dynamics of the formation of competence in electrical engineering.

Conclusions: the training of a modern teacher of labor training and technologies should be carried out with the strengthening of the practical component of educational programs, and will also be effective under the condition of systematic use of interactive educational technologies.

Keywords: *electrical engineering, interactive educational technologies, interactive methods, teacher of labor training and technologies, lecture and laboratory work.*

Introduction. The objective process of modern development of the country puts forward new criteria for the quality of education: modern approaches to assessing the organization of labor and the use of energy resources require young professionals to prospects and breadth of their professional education. In modern institutions of higher education, the arsenal of learning tools used by teachers in pedagogical activity has significantly expanded.

Sources. The introduction of innovative forms and methods of teaching was considered in the

works of V. Andrushchenko, I. Dychkivska, V. Kremen, A. Kuzminskyi, V. Luhovyi, V. Morozov, P. Saukh, T. Turkot, D. Chernilevskyi, and others.

In particular, V. Andrushchenko (2014) analyzes the relationship between the necessary innovations and the traditional component in education, which requires radical changes in the education sector. I. Dychkivska (2004) notes that innovative learning is based on the development of various forms of thinking, creative abilities, high social and adaptive capabilities of the individual. V. Luhovyi (2011) clearly agrees on the conceptual and terminological apparatus for innovative types of educational activities in the context of the competency approach.

Purpose: to substantiate and experimentally verify the effectiveness of the application of interactive teaching methods of electrical engineering in the process of professional training of future teachers of labor training and technologies.

Methods: analysis of scientific literature, study of pedagogical experience, questionnaires, conversations, oral interviews to identify the effectiveness of innovative teaching methods, data systematization.

Results and discussion. Qualitative training of students requires a creative approach of teachers to the choice of content, forms, methods and means of teaching, maximum use of the achievements of modern pedagogical science, new pedagogical and production technologies. The educator should be focused not on the transfer of ready-made knowledge, but on the formation of a set of personal qualities of the student, the organization of cooperation and self-expression in activities, creativity and understanding and recognition of another point of view.

The quality of education and training of highly qualified specialists depend on the content of education, modern teaching methods, and ways to achieve this goal. Modern requirements for the quality of professional training in higher education, changes in teaching methods, introduction of new ideas, the use of interactive technologies determines the success and adaptation of the student in modern society. For example, to implement this requirement, the lecture should be taught with elements of problem situations, in addition, significantly increased interest in non-traditional, creative tasks, and laboratory work with elements of independent, interactive, research experiment have a positive effect on students. During the general technical training of students, the main function of the teacher is to organize the acquisition of theoretical knowledge by students and the formation of the ability to apply this knowledge in practice (Yashchuk, 2015).

Studying the experience of foreign scientists on the methods of teaching electrical engineering, we note that the educational curricula included problem lectures. As a result of the study, the authors found that students gained better knowledge in teaching problem lectures than by traditional methods. Students who participated in the survey reported that problem-based lectures provided them with self-confidence, personal abilities, and ways to solve problems, prepared them for future careers, and improved their interpersonal and community skills (Bizjak, 2008).

K. Ribeiro (2008) conducted research on student assessment after listening to a course of problem lectures on electrical engineering. As a result, it was found that this technique is more attractive and interesting for students, as it allowed to construct their own knowledge instead of the absorbed words of the teacher, which led to an independent search for information to solve problems. Students also reported that they developed specific practical skills, such as: the ability to research, express ideas, communicate and work effectively in a team.

Methods of teaching lectures on electrical engineering with elements of a problem-based approach are an effective pedagogical tool to increase students' interest in better learning. Problem presentation of the lecture changes the role of the teacher and transforms him from a traditional lecturer who takes over the whole system of knowledge on the chosen topic, to a teacher-mentor who forms and supports self-confident and self-sufficient modern professionals who make the most of opportunities and learn from different experience for self-development.

The organization of interactive learning involves modelling life situations, conducting interactive lectures, role-playing games, creating problem situations, conducting pair and group discussions, includes mandatory independent work, the use of moderation techniques, "round table", "brainstorming", case method, etc.

Issues of the basic requirements for the lecture, its varieties and methods have been the subject of research by many scientists, including A. Aleksiuk, M. Bulanova-Toporkova, S. Honcharenko, V. Holovenkin, D. Hubar, O. Zavalevska, V. Kolisnyk-Humeniuk, O. Kozakevych, A. Kuzminskyi, T. Nepomnyashcha, N. Pobirchenko, O. Pometun, O. Priadko, B. Sus, O. Furman, L. Chernyshova, V. Yahupov and others.

In the research of A. Didyk it is determined that the alternative to the usual lecture is an active model of learning – an interactive lecture that combines the leading role of the teacher with high activity of students based on the involvement of scientific interactive technologies. The essence of interactive learning is joint and mutual learning, in which the student and the teacher are equal subjects of activity. A. Didyk (2018) notes that electrical engineering and electronics contain sections, the study and understanding of which require figurative thinking, the ability to analyse and compare. Many years of experience show that students do not always have the necessary mental skills for a deep understanding of the phenomena, processes described in the sections of these disciplines. In such situations, modern interactive teaching tools come to the teacher's aid.

The interactive lecture differs from the traditional two-way flow of information, contains problematic questions from the teacher (lecturer), is distinguished by a heuristic type of learning, allows interruption of the teacher's story and discussion of topics that caused difficulties for understanding or interest students. An interactive lecture allows for impromptu speeches by a student or several students on the topic of the lecture. The purpose of an interactive lecture is to convey information and actively assimilate it by students, not to exchange views. The lecture form in the transition to the next stages of learning should be consistently replaced by discussions, reports or other forms of learning that make the process of acquiring knowledge and skills much more active and transfer some of the functions of learning management in the hands of learners.

The introduction of modern teaching methods is important, because training in high school is carried out on interactive learning technologies, so in higher.

According to I. Petrytsyn (2013), improving the quality and level of knowledge of students is possible with the use of a virtual laboratory workshop. In addition, it provides the ability to simultaneously control knowledge, which leads to improved performance.

In the research of M. Pryhodii (2018), it is noted that there is a problem of unpreparedness of a significant number of scientific and pedagogical workers to use information and computer technologies, in particular modern information and communication resources in their own educational practice.

The methodical approach of I. Petrytsyn (2013) to the teaching of laboratory work in electrical engineering with the help of computer technology deserves attention. The scientist believes that in the study of electrical engineering it is advisable to use electronic circuit simulation programs, such as: Electronics Workbench, Multisim, Circuit Maker, etc., which have a user-friendly interface, a large library of components and are easy to use.

Let's take a closer look at computer programs for laboratory work in the preparation of students in electrical engineering.

The program-radioconstructor (emulator of electrical circuits and circles) is an electronic design tool that allows you to simulate on the monitor screen the processes of assembling electrical circuits, to explore the features of their work, to measure electrical quantities as it is done in a real physical experiment.

With the help of the design tool you can:

– to study the dependence of the resistance of conductors on the resistivity of its material, length and cross section;

– study the laws of direct current (Ohm's law for a section of a circle and Ohm's law for a complete circle);

– study the laws of series and parallel connection of conductors, capacitors and coils;

– to study the principles of application of fuses in electronic circuits;

– to study the laws of heat energy release in electric heating and lighting devices, the principles of coordination of current sources with load;

– to get acquainted with the principles of current and voltage measurements in electronic circuits with the help of modern measuring devices (multimeter, two-channel oscilloscope), to observe the type of alternating current on individual elements, phase shift between current and voltage in alternating current circuits;

– to study the influence of capacitive and inductive resistances in alternating current circuits, their dependence on the frequency of the alternating current generator and denominations of parts;

– to study the power distribution in alternating current circuits;

– to study the phenomenon of resonance in circles with series and parallel oscillatory circuit.

In the researches of A. Matviichuk, V. Harkushevskyi, V. Stinianskyi, V. Zabolotnyi, V. Sumskyi the methods of using computer programs in performing virtual laboratory works on electrical engineering and heat engineering is considered. Thus, when studying the section "Three-phase AC circuits" A. Matviichuk (2009) proposes to use the program 3DMax, as well as laboratory classes using the program EWB in the discipline "Physics". The

system of virtual laboratory works on general electrical engineering on the basis of the EWB program provides high-quality training of future teachers of labor training and technology during full-time and part-time education.

Circuit modeling programs of analog, digital and analog-digital circuits allow during the laboratory workshop to make an equivalent circuit of the device using library components, to simulate almost any electrical or electronic circuit, change the denominations of its elements with performance testing, show on the monitor real signals at any point in the circuit. It is possible to demonstrate simulated circuit errors and their impact on certain parameters of the electrical circuit.

The disadvantage of these computer programs is the inability to conduct real research of electrical circuits and radio components, which affects the ability of students to follow safety rules when working with live electrical equipment. At the same time, a conventional computer in combination with auxiliary devices can be used as a powerful research laboratory. Using computer programs of the oscilloscope, pulse generator, millivoltmeter, spectrum analyzers and microphone input of the sound card, it is possible to carry out a lot of real laboratory work, without spending considerable material resources (Matviichuk, 2009).

In order to improve the teaching methods of the discipline "General Electrical Engineering and Workshop on Electrical Works" were created virtual laboratory work on the DCACLab platform. With the help of a user-friendly interface, students have the opportunity in their free time to compose, simulate, study electrical circuits. When performing virtual laboratory work, they take readings of devices, experiment with electrical circuits, which does not lead to real emergency modes of operation and failure of devices. Performing virtual laboratory work requires from 10 minutes to 15 minutes, which requires a rational distribution of time and a certain level of theoretical training.

A questionnaire was issued to check the effectiveness of the use of interactive educational technologies and modern methods in the training of future teachers of labor training and technologies. Respondents were asked to evaluate the effectiveness of interactive methods, in particular, during the study it was necessary to solve the following tasks: to find out students' interest in virtual laboratory work, attitude to interactive lectures; determine what skills they have after taking a virtual course; to establish the level of competencies formation in electrical engineering; identify a systematic approach to electrical training of future teachers of labor training and technologies.

The central position of the experimental study was to determine the impact of the developed methods of interactive laboratory classes and interactive lectures on the level of competence formation in electrical engineering of future teachers of labor training and technologies. An experimental group was created at the beginning of the experiment. Students from another subgroup acted as a control group.

At the ascertaining stage of the experimental research, a control section was conducted with the help of test tasks and a survey of students on the main basics of electrical engineering (material of physics and labor training of secondary education).

The effectiveness evaluation of interactive educational technologies and modern methods of electrical engineering, used by future teachers of labor training and technologies, was carried out on the basis of a three-component structure of criteria and relevant indicators of competence in electrical engineering. They are: cognitive (knowledge of electric circuit, DC and AC machines); activity (possession of basic laws and ability to solve technical problems); personal (interest in technical activities as an important component of future training, interest in increasing knowledge and skills in the field of electrical engineering).

Four levels of competence assessment in electrical engineering of teachers of labor training and technologies were used, namely:

- ✓ elementary – the student has partial knowledge of the basic concepts in the study of electric and magnetic circuits, linear circuits of single-phase current, the main components of machines of direct, alternating currents, knows the laws of transition from a real electric circuit to a calculated one;
- ✓ low – the student can distinguish a simple electrical circuit from a complex one, uses devices for measuring electrical and non-electrical quantities, has mastered the basic methods of calculating simple circuits, has some skills in building electrical circuits;
- ✓ middle – the student knows the basic concepts of the basic laws of electrical engineering, knows the basic parameters of electrical circuits, performs simple calculations, is able to build volt-ampere characteristics of nonlinear elements;
- ✓ high – has knowledge of the principle of transformers operation, DC and AC machines, low-voltage switching equipment, is able to make electrical circuits, explores the modes of operation of

electrical equipment, is able to build vector diagrams, knows the method of calculating AC and DC circuits.

The obtained test results (*Fig. 1)* made it possible to draw a number of conclusions: first, the level of competence formation in electrical engineering in the control and experimental groups are statistically the same; secondly, students of the experimental and control groups in the vast majority have a low level of competence in electrical engineering; thirdly, the main reason for the low level of competence in electrical engineering of students is the lack of mechanisms for their involvement in electrical engineering activity in the classroom.

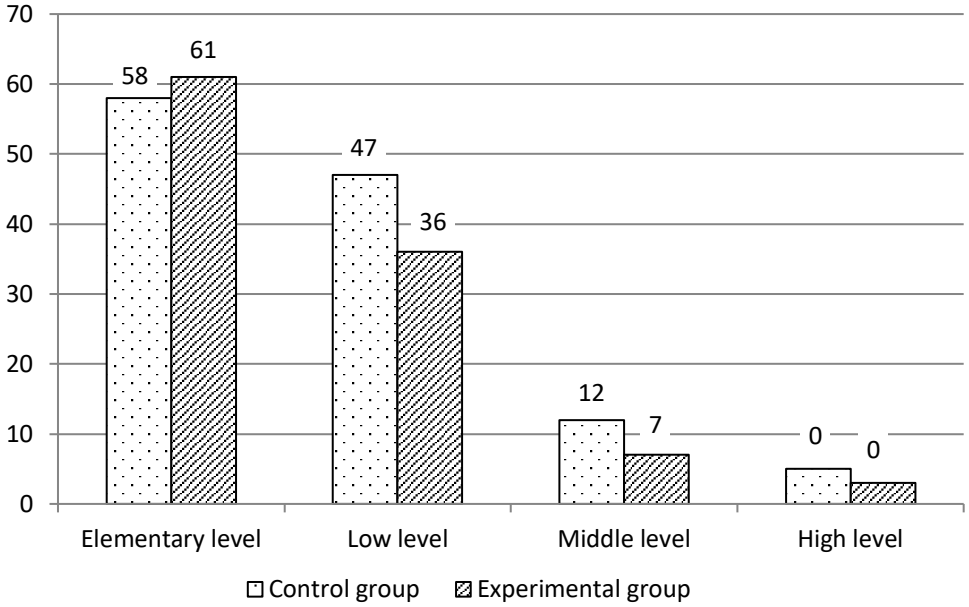

Fig. 1. Levels of competence formation in electrical engineering of future teachers (ascertaining stage)

At the formative stage, students of the experimental group were given interactive lectures and prepared for laboratory classes by independently performing work in a virtual laboratory with subsequent implementation in the workplace.

At the end of the experiment (after the final certification in the discipline "General Electrical Engineering and Electrical Workshop"), a control test was conducted, which showed an improvement in the level of competence in electrical engineering in both control and experimental groups. However, the indicators in the experimental group are higher than in the control one (*Fig*. 2).

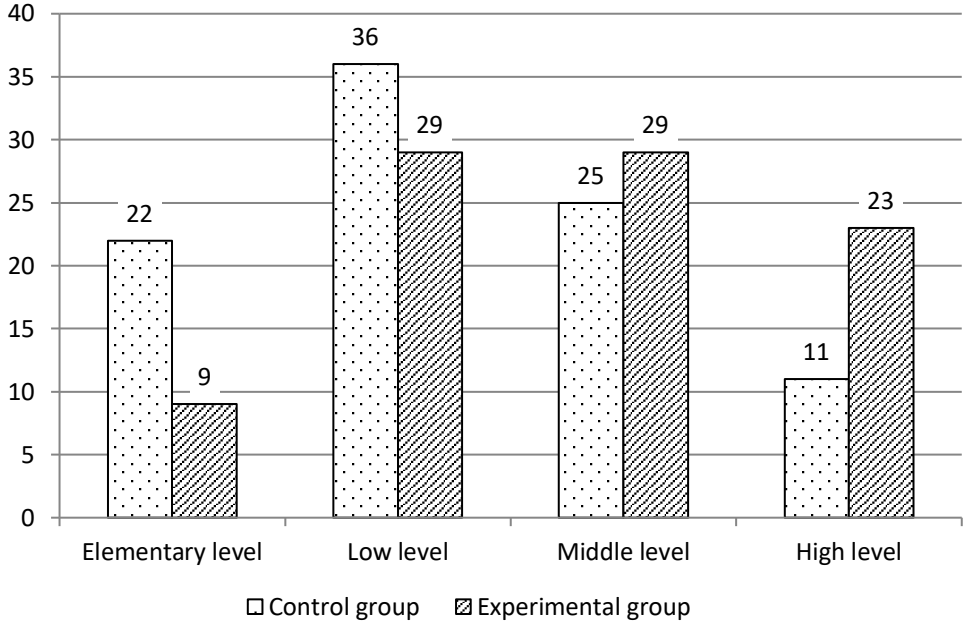

Fig. 2. Levels of competence formation in electrical engineering of future teachers (formative stage)

According to certain indicators of the competence formation in electrical engineering when using interactive teaching methods, the effectiveness of a sound method of conducting virtual lectures and laboratory classes in electrical engineering has been confirmed.

Conclusions. Interactive teaching methods contribute to the improvement of the educational process, have a positive effect on the quality of competence formation in electrical engineering. Multimedia tools modernize learning, make it visual. Conducting laboratory classes in electrical engineering will be effective only if you combine a real experiment with a virtual one. In turn, the use of virtual laboratory work allows to increase the number of works performed within one academic hour. In addition, due to the perfect theoretical training, it is possible to combine and perform several laboratory works. Successful mastery of interactive methods and their effective use becomes the most important task of preparation of future teachers of labor training and technologies.

Prospects for further research are associated with the justification and development of a methodical system for the competence formation in electrical engineering of future teachers of labor training and technologies.

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Застосування інтерактивних методів навчання електротехніки у процесі підготовки майбутніх учителів трудового навчання і технологій

Любов Павлюк

кандидат педагогічних наук, докторант кафедри теорії і методики технологічної освіти, креслення і комп'ютерної графіки, Національний педагогічний університет імені М.П. Драгоманова,

Реферат.

Актуальність дослідження зумовлена реформою вищої освіти, зростанням вимог до професійної підготовки випускників закладів вищої освіти, потребою переходу від традиційного стилю викладання дисциплін до інновацій.

Мета: обґрунтування та експериментальна перевірка ефективності застосування інтерактивних методів навчання електротехніки у процесі професійної підготовки майбутніх учителів трудового навчання і технологій.

Методи: аналіз наукової літератури, вивчення педагогічного досвіду, анкетування, бесіди, усне опитування з метою виявлення ефективності застосування інноваційних методів навчання, систематизація даних.

Результати: визначено роль інтерактивних технологій у підготовці майбутніх учителів трудового навчання і технологій; з'ясовано, що організація освіти на основі компетентнісного підходу базується на посиленні практичної професійної спрямованості навчання, розвитку педагогічних здібностей і ціннісних орієнтирів студентів; доведено, що на лекційних заняттях перевагу варто надавати інтерактивному навчанню з елементами проблемного підходу; лабораторні заняття доцільно проводити за допомогою комп'ютерних програм з моделювання електронних схем; презентовано розроблену на засадах інтерактивного навчання систему підготовки майбутніх учителів трудового навчання і технологій на першому (бакалаврському) рівні вищої освіти з курсу «Загальна електротехніка та практикум з електромонтажних робіт»; обґрунтовано трикомпонентну структуру критеріїв та відповідних показників оцінювання рівня сформованості компетентності з електротехніки; здійснено експериментальну перевірку ефективності застосування інтерактивних методів навчання електротехніки

при підготовці майбутніх учителів трудового навчання і технологій; доведено, що використання інтерактивних методів навчання позитивно впливає на динаміку сформованості компетентності з електротехніки.

Висновки: підготовка сучасного вчителя трудового навчання і технологій повинна здійснюватися з посиленням практичної складової освітніх програм, а також матиме ефективність за умови системного використання інтерактивних освітніх технологій.

Ключові слова: *електротехніка, інтерактивні освітні технології, інтерактивні методи, вчитель трудового навчання і технологій, лекція і лабораторна робота.*

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EFFECTIVE USE OF OPEN ONLINE RESOURCES IN DISTANCE LEARNING

Lydia Humenna [1], Oleksandr Humennyi [2]

1 junior researcher of the laboratory of foreign systems of vocational education and training of the Institute of Vocational Education of the National Academy of Pedagogical Sciences of Ukraine, https://orcid.org/0000-0003-3813-5894, e-mail: red-ipto@ukr.net

2 Associate Professor of Vocational and Higher Education of the Central Institute of Postgraduate Education DZVO "University of Education Management", https://orcid.org/0000-0001-6596-3551, e-mail: gumenniy7@gmail.com

Abstract.

Relevance: rapid development of technologies causes the development of intellectual management of education and changes in approaches to competence development and self-development of the individual in modern transformations of the educational system, namely: the transition to the latest psychological and pedagogical technology – creating open intellectually rich educational information environments.

When considering educational services, in accordance with modern industry requirements and individual needs of specialists, the social order will be understood as a set of social requirements, in particular: the effective use of open online resources for the development of creative and critical thinking; universal system knowledge, high adaptability and self-development; key ICT competencies; decision-making ability and social responsibility; ability to manage dynamic processes and work with projects; ability to work in the group (team) and ensure high productivity. To increase the effective use of open online resources, it is important to use virtual reality with its dual nature both to recreate the real environment and create new scenarios, which, in turn, allows you to combine and recombine methods of implementing VR in learning and entertainment.

Purpose: substantiation of modern approaches to the effective use of open online resources in distance learning.

Methods: analysis of scientific literature to clarify current trends in the effective use of open online resources in distance learning; comparative analysis, synthesis and methods of expert evaluation for the selection of 'keys' to learning in the Internet environment; methods of analysis and synthesis for the formation of the best practices for effective work of teachers on the Internet.

Results: 'keys' for the use of open online educational resources are selected, ten best practices of effective work of teachers on the Internet are formulated.

Conclusions: modern approaches to the effective use of open online resources in distance learning are identified.

Keywords: *effective methods, smart-complexes, quasi-neural network, Socrates method, online-resource.*

Introduction. The transition of mankind to an innovative type of progress at the beginning of the third millennium was marked by the transformation of the post-industrial society into an information society, which, in the long run, will become a knowledge society. And the main value of it will not be knowledge per se, but a person as its producer, consumer and modernizer, because knowledge is becoming increasingly obsolete and eventually loses its relevance. That is why, the goal of the learner is not the acquisition of as much knowledge as possible, but the ability to constantly update and replenish it, that is, lifelong learning.

Sources. Speaking at the Global Education and Skills Forum in Dubai (United Arab Emirates) in April 2019, Andreas Schleicher (2019), Head of Education at the Organization for Economic Co-operation and Development, noted that both the Global Education Rating System and the PISA (International Student Assessment Program) is changing to focus more on measuring the 21st century skills such as creativity and digital literacy. He also stressed

that no one pays a person for what he knows (because Google knows everything), but one pays for what he is able and can do with knowledge, i.e. for his/her competence. As a result, education in the knowledge society is becoming a theory and practice of training knowledge worker (cognitive workers who have information, have knowledge and know how to apply it in practice).

The scientific works of V. Bykov (2013), O. Vysotska (2013), O. Zakharova, M. Kademiia (2008), L. Kartashova (2018), O. Korzhylova, O. Korolyova, V. Lupanova (2008), V. Oliynyk, O. Spirin (2009), V. Soldatkina (2001), V. Sokolova; D. Bornstein, G. Gutek, J. Holt and etc. are devoted to the study of the problems of open education. The analysis of the source base of the research testifies to the significant interest of domestic and foreign scientists in the development of open education as a global educational system, substantiation of its essential characteristics, determination of tendencies of functioning in modern conditions and so on.

The purpose of the paper is to substantiate and highlight the effective use of open online resources in distance learning, highlight new methods of teaching subjects in the Internet environment, effective use of the method of Socrates for holding dialogue between students for whom truth and knowledge are not presented in the finished form, but they are a solvable problem that involves searching through forums in the online environment.

Results and discussion. The human brain receives more than 400 billion bytes of information every second. And only 2,000 of them are deliberately worked out, because most of what we are constantly faced with cannot become stable knowledge without proper mental motivation or a certain emotional significance.

Learning should be equated with relatively constant changes in behavior and thought processes. In other words, if you do not remember something, you will not learn about it and not develop the proper skills, which means you will not be able to effectively apply the acquired knowledge and skills.

As educational institutions increasingly use the Internet environment in distance learning, new teaching methods are needed, and first of all:

• **lectures should last 18 minutes or even less:** talking for 45 minutes tires students and does not create the proper learning effect. Most of this voluminous material is not memorable, and as the auditory learning modality tends to have the least number of mentions, online conversations usually last 15-20 minutes. Preparing a teacher for such a lecture requires both deep thinking and conscientious implementation of presentations. We recommend dividing the lecture into small time segments, 18 minutes or less, to develop logical transitions between them, emphasizing their importance and forming the emotional appeal of the educational design environment for each student.

In the online environment, the development of 18-minute lectures is always a complex process, as it is necessary to balance the flow of educational information so that the effectiveness of its assimilation gives the greatest result, which is an important condition for achieving the best practice;

• **create conditions for meaningful learning:** for learning to be meaningful, the teacher needs to gather an investment portfolio with data that relates to personal goals, core values and interests of students. It is important to consider the motivation of students enrolled in the course, as well as the specific skills they want and need to develop, and the preferences of the learning method available in this resource.

Using the information gathered, the teacher can easily establish a link between the course material and the interests and needs of students.

There is more space and time in the online environment for students who can supplement their personal resources. The teacher can collect and analyze such information contained in the cadastres, effectively developing the training course;

•**apply a selective approach to content delivery:** everyone prefers certain learning styles (the method of receiving and remembering new information) when it comes to ways of learning or communicating. Some learners store information better and show increased understanding of it if it is obtained visually, others trust vision or kinesthetic methods more, and some learners – auditory ones.

In online communication, adaptation to the desired method of the receiver contributes to its effectiveness. In an online learning environment, it is necessary to adapt the presentation of content to perform tasks by students (in a virtual classroom or group), which helps to better remember information.

Of course, information on student teaching methods should be available. To do this, the teacher needs to determine the educational level of students, pre-assessing their learning tests, and, making a linguistic analysis of them, conduct a psychometric assessment. That is why, the introduction of language and information methods for diagnosing student achievement is relevant. These include methods and means of automated control of knowledge, able to process and evaluate the answers given in *any* form.

And it is much easier to analyze it in the Internet environment, because each student provides the teacher with more written materials than in a regular classroom, where, mostly, auditory information is available.

After analyzing the way students are taught, lectures and activities should be designed to reflect the study of the material in different ways. For example, if the group employs students with the perception of visual information, the widespread use of visual tools will greatly facilitate involvement in learning;

• **develop incentive measures:** adaptation of classes in classrooms to the learning environment on the Internet requires some creativity and understanding of the tools used to create interactive exercises, tests, games, crossword puzzles; smart-complexes of academic disciplines; interactive books (manuals) for computers, tablets, smartphones; dynamic presentations; boards with stickers, etc. For example, one of the actions that is always convenient for assessing students' understanding of the material is the presentation before the study group. This can be done by 1) asking a few students to display, on a virtual board, their understanding of the development of the learning project so that everyone else can see or 2) inviting participants to a dialogue with different points of view, which will develop the purpose of their activities in divergent thinking. The proposed idea should be used in the environment of creative self-realization of the smart-complex of the discipline (*Fig. 1*).

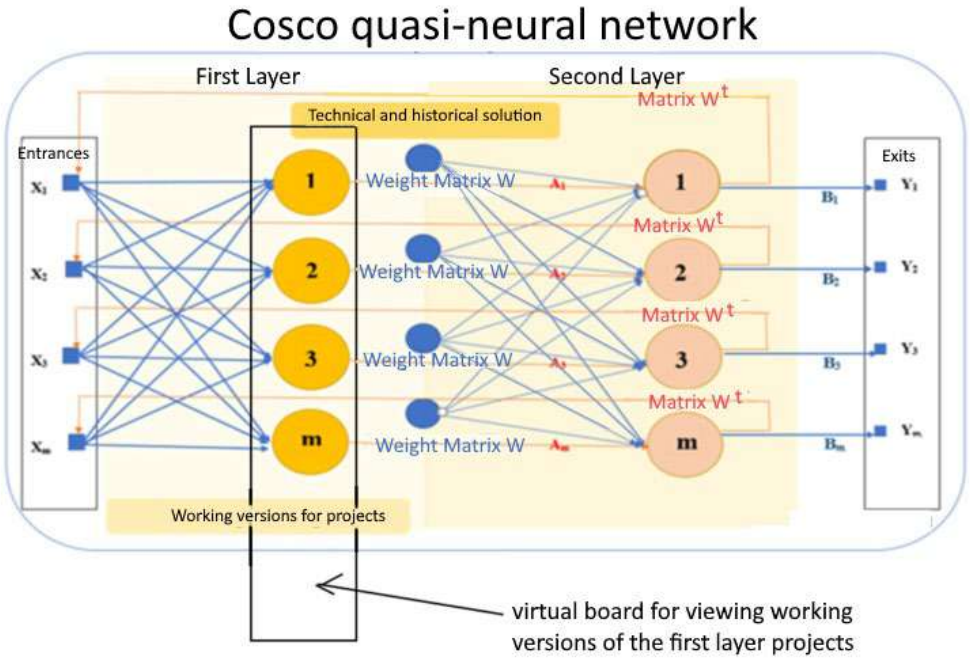

Fig.1. The use of virtual board in a Cosco quasi-neural network

Such activity should directly relate to both the content of the discipline and the interests of students, their motivation to master the discipline. They should perceive these activities as difficult ones, but necessary to acquire new knowledge, and not just as another training exercise.

At the end of the lesson, the teacher should synthesize all the ideas into a real pedagogically sound form, which illustrates convergent thinking – linear thinking, which is based on the gradual implementation of the task in accordance with algorithms;

• ***effective use of the Socrates method*** (*Fig*. 2): the use of interesting questions improves learning and makes it much more effective. In the online environment, this can be done through discussion forums in which each student can participate. The Internet environment is the best for the practical application of effective methods of Socrates, because it is convenient to use a discussion forum.

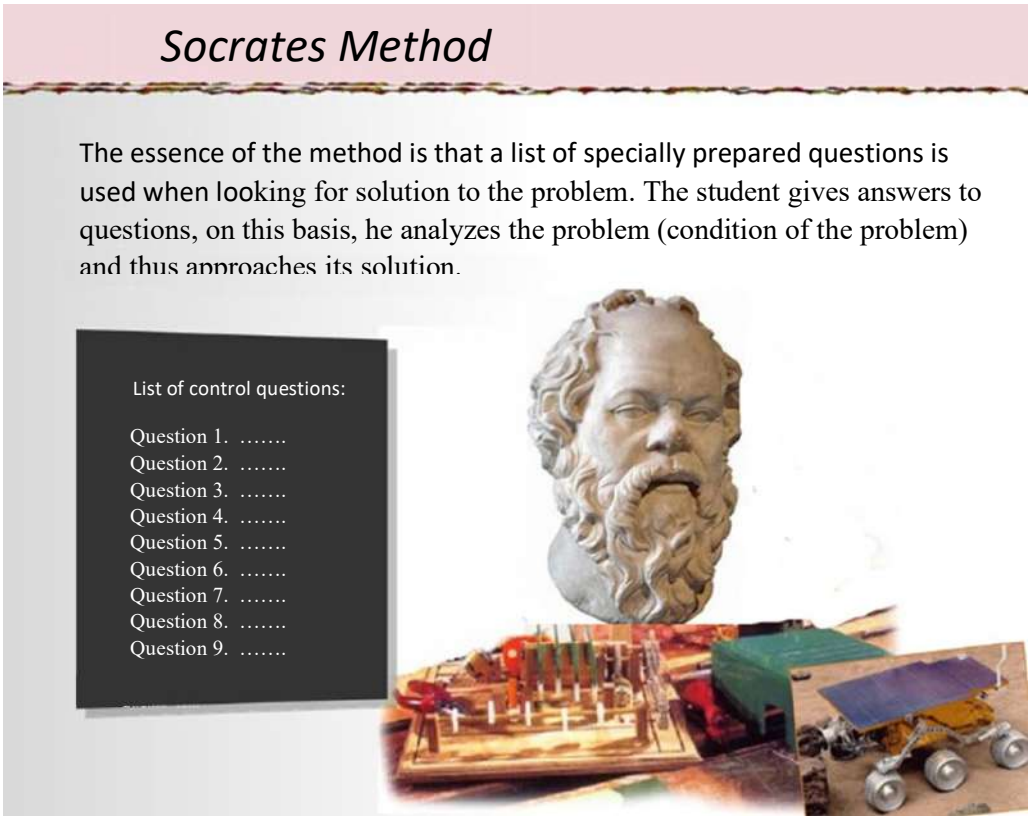

Fig.2. Socrates Method

Tips for using the Socrates method:

1. Set spoken instructions:

* remember the names of students, and let the students know each other's names too;

* explain that participation requires listening and active involvement, and that it is not enough to just insert one comment in class and then be silent until the end;

* emphasize that learners should focus their comments on concepts and principles, not first-person stories.

2. Ask questions and be able to listen to them. Your silence is also productive. There is no need to fill the void with conversation, silence also creates useful tension. Give students the opportunity to consider the answer. Use the 'ten-second wait' rule before attempting to rephrase your questions.

3. Find ways to create 'productive discomfort' in small groups so that students can communicate freely in the online environment.

4. Build a chain of questions correctly and consistently, use their logical connection. Offer students to respond to them on their own, expressing their own opinions, rather than reading reference material.

5. Always strive to learn something new. Be prepared to say, 'I don't know the answer to this question right now, but we'll talk about it next time'.

6. Welcome an unexpected idea that gives a new perspective on the topic and promotes its creative development, but abandon incompatible ideas.

7. Conciseness and short remarks of the teacher are often perceived. However, do not allow long morals and speeches, or long lectures.

8. Find a space in communication that encourages creative interaction.

9. Use small groups at work, their activities are always more productive.

The theoretical foundations of these innovative practices originate from pedagogical psychology, constructivism and andragogy (adult education).

The difficulty of creating an attractive learning environment on the Internet is to comply with the system of online learning to structure knowledge in the mind according to the scheme: basic scientific concepts – basic provisions – consequences – applications. Best practices work in harmony with each other as musicians in an orchestra. Educational institutions can create systems that provide the conditions for the development of such skills and programs in the context of learning, because systematic

thinking in developing the desired educational environment on the Internet to achieve significant learning success is crucial during and after the pandemic.

It is no secret that the effectiveness of classroom learning is potentially provided by an innovative teacher, so in online learning, the principles and teaching methods he uses are very important.

Experience confirms that the best ratio of material in the course is as follows:

· 34% of communication of the pedagogical worker with students;

· 33% of students' communication with each other (communication);

· 33% of students' work with resources.

Conclusions. Thus, the use of open educational resources in postgraduate education can significantly expand the educational environment, ensure the formation and use of open educational content for all consumers of information. It opens additional opportunities for the development of key competencies of educational customers and stakeholders. It is in the system of distance learning that conditions are created for continuous professional development of specialists throughout life, accessibility in obtaining knowledge, compliance with the demands and needs of the individual and society, as well as changing the attitudes of participants in educational activities. The introduction of virtual reality (VR) – a relatively new technology that has mastered the world of e-learning with incredible speed, creates the preconditions for improving the efficiency of open online resources in postgraduate education.

Prospects for further research. The study does not cover all aspects of quality assurance of educational services for students based on open content and educational resources of open education, but indicates the need for further study and development in the following promising areas: analysis of modern scientific approaches, trends, directions, conditions and technologies of realising principles of open education in Ukraine; development of information and digital competence of the teacher of the New Ukrainian school in the conditions of formal and non-formal education. The study of the outlined problems will be the subject of subsequent scientific research of the authors.

(Continuation of the article will be submitted in the next issue)

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Ефективне використання відкритих online-ресурсів у дистанційному навчанні

Лідія Гуменна [1], Олександр Гуменний [2]

1 молодший науковий співробітник лабораторії зарубіжних систем професійної освіти і навчання Інституту професійно-технічної освіти НАПН України

2 доцент кафедри професійної та вищої освіти Центрального інституту післядипломної освіти ДЗВО «Університет менеджменту освіти»

Реферат.

Актуальність: стрімкий розвиток технологій спричиняє розвиток інтелектуального менеджменту освіти та зміни у підходах до компетентнісного розвитку й саморозвитку особистості в умовах сучасних трансформацій освітньої системи, а саме: переходу до новітньої психолого-педагогічної технології – створення відкритих інтелектуально-насичених освітніх інформаційних середовищ.

При розгляді освітніх послуг, відповідно до сучасних галузевих вимог та індивідуальних потреб фахівців, під соціальним замовленням будемо розуміти певну сукупність суспільних вимог, зокрема: ефективне використання відкритих online-ресурсів для розвитку творчого і критичного мислення; універсальні системні знання, високу адаптивність та саморозвиток; ключові компетентності в галузі ІКТ; здатність до прийняття рішень та соціальна відповідальність; уміння управляти динамічними процесами і працювати з проєктами; уміння працювати в колективі (команді) й забезпечувати високу продуктивність роботи. Для підвищення ефективного застосування відкритих online-ресурсів важливо використовувати віртуальну реальність з її подвійною природою як для відтворення реального середовища, так і для створення нових сценаріїв, що, в свою чергу, дає можливість комбінувати й рекомбінувати методи реалізації VR у навчанні й розвагах.

Мета: обґрунтування сучасних підходів ефективного використання відкритих online-ресурсів у дистанційному навчанні.

Методи: аналіз наукової літератури для з'ясування сучасних тенденцій ефективного використання відкритих online-ресурсів у дистанційному навчанні; порівняльний аналіз, синтез та методи експертного оцінювання для добору «ключів» до навчання в Інтернет-середовищі; методи аналізу і синтезу для формування найкращих практик ефективної роботи педагогічних працівників в інтернеті; Метод Сократа.

Результати: дібрано «ключі» для використання відкритих освітніх online ресурсів, сформульовано десять найкращих практик ефективної роботи педагогів в інтернеті.

Висновки: визначено сучасні підходи ефективного використання відкритих online ресурсів у дистанційному навчанні.

Ключові слова: *професійна освіта, smart-комплекси, квазінейронна мережа, метод Сократа, online-ресурс.*

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DEVELOPMENT OF COMMUNICATIVE COMPETENCE AS A COMPONENT OF TEACHER PROFESSIONAL GROWTH AT PROFESSIONAL EDUCATION INSTITUTIONS

Olena Mymrenko

graduate student of the Institute of Vocational Education National Academy of Pedagogical Sciences of Ukraine, Deputy Director for Educational Work Bila Tserkva College of Service and Design
https://orcid.org/0000-0002-8897-8964, e-mail: esmadonna@ukr.net

Abstract.

Relevance: In professional activities, the teacher is an active subject of communication: transmits and receives information from students, establishes contacts with them, builds relationships based on dialogue, seeks to maximize the abilities of each and ensure their emotional comfort in the educational process through a competency approach. Therefore, an important component of professional growth of a teacher is the development of his communicative competence, and one of the priority tasks in the education system is the development of professional and pedagogical communicative competence of a teacher, as it is a spiritual and moral factor and scientific content of the educational process. The problem of development of communicative competence of teachers is relevant, because it is from pedagogical communication, or rather from the level of development of communicative abilities of teachers depends on the formation of professional competence of the future specialist.

Objective: to identify and analyze the main aspects of the development of communicative competence as a component of professional growth of teachers of vocational education institutions

Methods: definition and analysis of theoretical researches, scientific and methodical literature of forecasting of possible forms and methods of development of communicative competence of pedagogical workers of colleges, pedagogical supervision over professional activity of teachers, retrospective analysis of own experience.

Results: the analysis of the basic scientific works on development of communicative competence is carried out; the main aspects of the development of communicative competence as a component of professional growth of pedagogical workers of vocational education institutions are highlighted; the components of this competence are identified (cognitive, communicative-speech, social-perceptual, interactive); the results of research of the level of communicative competence of pedagogical workers of colleges are described; formulated recommendations to the heads of colleges on the professional development of teachers and the development of their communicative competence; It was found that teachers, usually successfully having a significant amount of theoretical knowledge in their disciplines, at the same time experience significant difficulties in the process of effectively bringing them to the minds of students.

Conclusions: it is shown that the effectiveness of pedagogical activity depends on the level of formation of communicative competence of teachers; it was found that the formation of this competence in colleges should be organized on the basis of a systematic approach; the development of communicative competence of teachers should take place in several stages (diagnostic, theoretical-educational, practical-educational, control-reflexive); it is proved that for the development of communicative competence it is necessary not only to provide knowledge, but also to ensure the formation of skills and abilities; the pedagogical conditions important for formation of communicative abilities and skills (increase of motivation of teachers to professional self-development; increase of their activity; introduction of innovative educational technologies) are allocated; emphasis is placed on the importance of ensuring the humanistic orientation of the process of formation of communicative competence of teachers.

Keywords: *competence, communicative competence, professional growth.*

Introduction. A teacher striving for self-development and professional growth is a formed personality who can improve professional skills and abilities. A pedagogical specialist of professional educational institution who growing professionally is able not only to increase his potential as a teacher, but also to improve the quality of the educational process. As all are aware, a teacher is an active subject of communication in professional activity: transfers and receives information from students, reaches out to them, builds relationships based on dialogue, aims at the fullest possible of implementation abilities of everyone and gives emotional comfort in educational process through competency-based education. An important component of teacher professional growth is development of communicative competence and one of the priority tasks in the education system is development of professional and pedagogical communicative competence of a teacher because it's a spiritual and moral factor, the scientific content of the educational process.

The problem of developing teacher communicative competence is actual because professional competence of a future specialist depends on pedagogical communication, especially the level of teacher communicative abilities.

Sources. Analyzing the research of scientists about professional features of teacher activities in modern society it is worth mentioning the scientific contribution of different scientists like Yu. Vavylov, V. Kovalchuk, E. Klymov, V. Kovalov, V. Miroshnichenko, I. Palyshkova and others.

The issue of development communicative competence (Maksymova, 2006) was widely developed by scientist among them O. Bieliaiev, A. Bohush, M. Vasylieva, M. Vashulenko, L. Vyhotskyi, N. Volkova, Ye. Holoborodko, Yu. Yemelianov, Yu. Zhukov, I. Zymnia, V. Kan-Kalyk, A. Kapska, T. Ladyzhenska, L. Matsko, N. Pashkivska, L. Petrovska, S. Savinon, O. Savchenko, H. Sahach, O. Skvortsova and others. However, due to the increasing requirements of teacher processional level the searches of communicative competence development don't stop and are marked by persistent relevance.

The question of development communicative competence of pedagogical specialists of professional educational institutions is a problem and has an importance in pedagogical activity in general. Although it has already explored by different scientists, this question continues to be actual in our days (Sahanets, 2016a; 2016b).

N. Kuzmina (1990) defines competence as personality traits and divides them into several types based on human maturity in professional activity:

- socio-psychological competence which defines as feature of individual effectively interacts with other people in system of interpersonal relationships (to be capable of responding quickly to social situations, to choose appropriate way to communicate with others etc.);
- communicative competence should be understood as conglomerate of knowledge, verbal and nonverbal communication skills;
- professional and pedagogical competence as ability of productive communication in conditions which are defined by the pedagogical system.

Pedagogical activity, pedagogical communication, teacher's personality are included in professional competence of a teacher as content blocks which are divided in: professional knowledge; necessary for self-diagnosis and self-formation professional skills; professional psychological positions; psychological characteristics which provides realization of this aspect of work; psychological neoplasms occurring during its implementation; psychological map of this side of work state.

The purpose of the article. The purpose of our article is the definition and the analysis of the main aspects of communicative competence development as a component of teachers professional growth at professional educational institutions, definition of system of communicative competence development. This gives us an opportunity to define main tasks to be implemented in the article: to analyze the state of problem solution of teacher communicative competence development at colleges and to determine the main aspects of its improvement; to substantiate the structure and content of teacher communicative competence at colleges; to explore the level of communicative competencies development; to prepare methodical recommendations about improving the development system of teacher communicative competence at colleges.

Methods. To solve certain tasks and achieve the purpose of the article provides for the use of such research methods: definition and analysis of theoretical research, scientific and methodical literature forecasting of possible forms and methods of communicative competence development of pedagogical specialists at colleges, pedagogical observation of teacher professional activities, retrospective analysis of own experience.

Results and discussion. Exploring this problem it is necessary to highlight the structural elements of communicative competence.

Among the components of communicative competence scientists (Korniiaka, 2011) define: cognitive, communicative-speaking, social-perceptual, interactive (table 1).

Table 1

Structural components of competence

№ p / p	Structural components	Contents of components	Indexes
1	Cognitive	Knowledge of communica- tion psychology; ability to self-knowledge and self-understanding of the person of the communicative character- istics; readiness for commu- nicative and mental activity.	Communicative knowledge; experience (knowledge and skills) of communication; knowledge of situational norms of greeting, ad- dressing and attracting attention; knowledge of moral norms of communicative behavior; ration- alism in the communicative sphere; the orienta- tion of the commune commune to its "I", to com- munication and to business.
2	Communica-tive-speech	The communicator's ability to use verbal and nonverbal means to perform the communicative functions of professional activity	ability to speak (the ability to form and formulate thoughts. adequate to the situation of interaction; the ability to listen (the ability to correctly and in- depth understanding of the position of a communi- cation partner and the condition for achieving mu- tual understanding); non-verbal communication skills (ability to have intonation, voice, pauses, pantomime skills, the ability to avoid unnecessary movements).
3	Socio-perceptual	The ability to understand the psychological essence of the communication partner, the ability to create a holistic image for the organization of their own communicative actions.	Possession of internal means of regulation of communicative actions (empathy, reflection); ability to adequate interpersonal perception; the ability to regulate the emotional state in interaction.
4	Interactive	ways of behavior in interaction; ability to adapt individual communicative characteristics to the requirements of professional communica- tion.	organization of interaction; ability to interact effectively; ability to behave adequately and constructively in conflict situations; ability to control the communication process; ability to dialogical style of interaction in professional and communi- cative situations.

To study the system of development of communicative competence of pedagogical workers as a component of professional activity, we have chosen such institutions of vocational education as colleges. During the study of this issue, we got acquainted with the system of development of professional competencies in these educational institutions, analyzed observational data on this process, determined that college management is directly focused on improving communication skills of teachers (Fetiskin, 2002).

However, observing the pedagogical process, we noticed that although the development of communicative competence in the college is carried out at a high level, but, the communicative competences of teachers differ in quality with the abilities of masters of industrial training.

Thus, according to the study, we see that teachers working in colleges are characterized by mostly medium and high levels of these properties, however, it should be noted that there are a small

number of respondents with low and below average.
Percentages can be seen in *Fig. 1.*

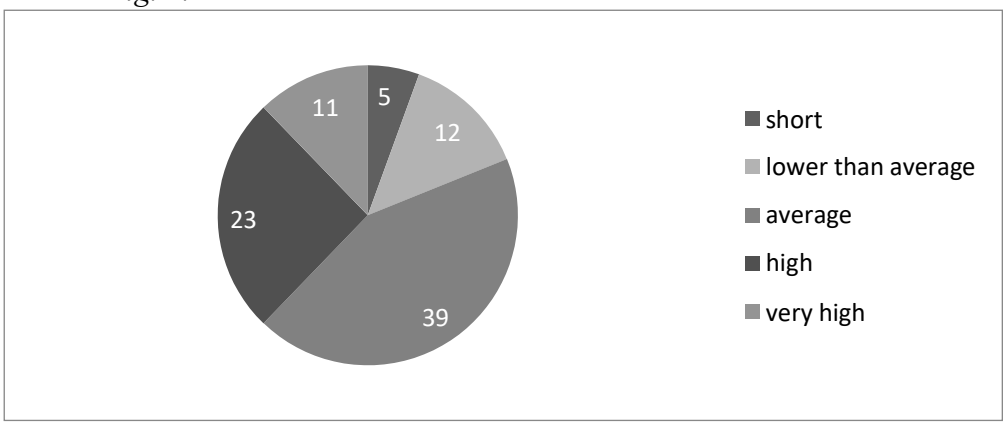

Fig. 1 Indicators of communicative abilities of teachers

According to the results of the study, we have summarized the indicators of the formation of communicative competence among teachers during the experiment. Based on this, the level of mastery of communicative competence by teachers working in colleges was identified (table 2).

Table 2

Indicators of the levels of formation of communicative competence among teachers during the experiment

Indicators of respondents	degree		
	high	average	short
Formation of communicative competence	32%	51%	17 %

Thus, we see that the level of formation of communicative competence in teachers who have studied has different indicators.

We observe that mostly teachers with an average level of development of communicative competence work in colleges. The third part of the respondents has a high level of communicative competence, which indicates a positive performance. However, there is a small percentage of those who still have a low level of communicative competence. Graphically, these results are shown in *Fig 2*.

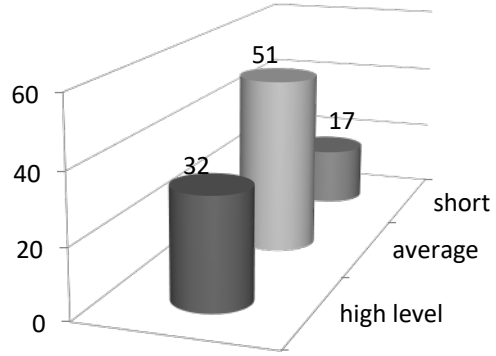

Fig. 2. Differences in the levels of formation of communicative competence.

Thus, each of the following groups of respondents has a certain level of development of communicative competence, which deserves more attention. Thus, teachers of special disciplines, general course disciplines, masters of industrial training and other pedagogical workers have different indicators of their inherent communicative competencies.

The results of the obtained data on the levels of development of communicative competence in percentage, depending on the subtypes of activity of

pedagogical staff of colleges are observed in the table. 3

Table 3

Levels of communicative development competencies by groups of respondents

Indicators of respondents	Levels of formation of communicative competence		
	high	average	short
Teachers of special disciplines	71%	18%	11%
Teachers of general education courses	34%	64%	22%
Masters of industrial training	17%	45%	38%
Other pedagogical workers	39%	48%	23%

Indicators of the development of communicative competence in respondents, by specialization are observed in *Fig.3.*

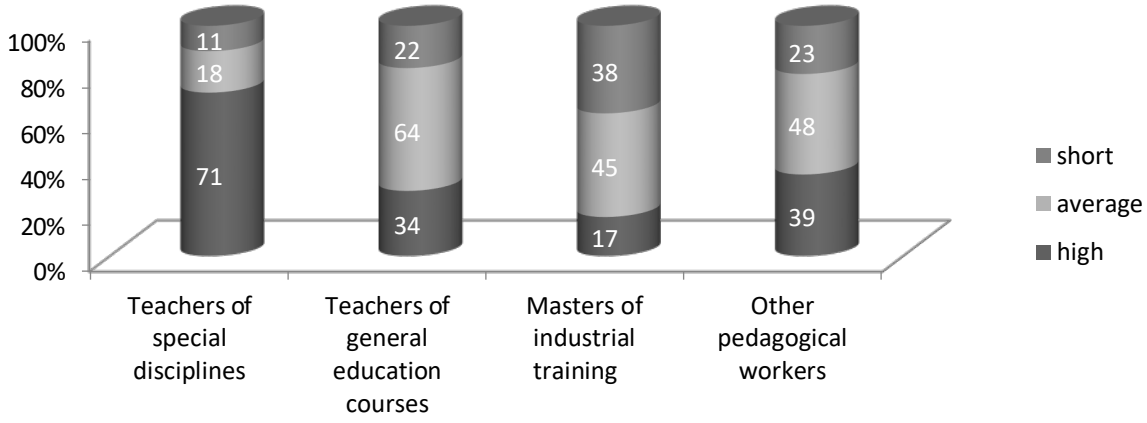

Fig.3 Indicators of development of communicative competence in teachers depending on specialization

Note that the level of development of communicative competence is very different for teachers and depending on their professional experience. According to the results of the research, young "inexperienced" teachers have lower rates than those who have a long teaching experience. However, respondents with an average level of communicative competence, relatively, the same percentage is available among both "young" and experienced teachers. Comparative indicators are shown in table 4.

Table 4

Indicators of levels of development of communicative competence in teachers by experience

Indicators of respondents	Levels		
	high	average	short
Inexperienced teachers	12%	46%	43 %
Experienced teachers	28%	55%	17%

According to the results of the research, mostly colleges employ experienced teachers with a medium and high level of communicative competence, but teachers with a high level of competence development are slightly less, although it actually exceeds the indicator of low level of development. As for teachers with little experience in teaching, the indicators of low and medium level in this group of respondents are almost the same. But the respondents with a high level of development of the studied competence were very few.

These results motivate us, first of all, to continue research on this topic, to work on improving this skill in teachers. In order to improve the system of development of communicative competence of pedagogical staff of colleges as a component of

professional growth, we offer the following methodological recommendations for the development of communicative competence of teachers.

1. Communicative competence of teachers is undoubtedly necessary for effective pedagogical activity, and therefore in colleges due attention should be paid to its development throughout the professional activity of a teacher, and not only during the educational teaching of educational material to students.

2. The development of this type of competence of specialists in colleges must be carried out through a systematic approach that can be implemented in the educational institution at all stages of professional activity of teachers.

3. The process of developing communicative competence in colleges should be divided into stages:

1) diagnostic, during which it is advisable to find out the presence of such characteristic features of teachers as: communication skills; communicative potential; the degree of initial language formation of novice teachers; relevance and importance for teachers of the development of their communicative competence as a condition for successful pedagogical activity;

2) theoretical and educational, which should provide for the acquisition by teachers of communicative knowledge, representing the generalized experience of mankind in the field of communicative activities; reflection in the minds of the bearers of knowledge of communicative situations with their causal relations and relations;

3) practical and educational, which should be aimed at the development of communicative skills of automated conscious actions, which contribute to the rapid reflection in the minds of teachers of communicative professional situations; determine the success of perception, understanding of the world and the corresponding impact on it in the process of pedagogical communication. This stage takes place in practical classes during the implementation of training courses and workshops;

4) control-reflexive, during which various forms of testing and analysis of acquired communicative competence are carried out, the success of teaching is assessed.

4. It is necessary to understand that communicative knowledge and skills for professional activity, pedagogical workers, are not enough. That is why it is expedient in colleges to provide teachers not only with certain knowledge and skills, but also communication skills, the development of which is facilitated not only by practical classes, but also by constant presentations to the audience, which is part of the educational process.

5. For the purpose of efficiency of process of development of communicative competence of pedagogical workers as a component of professional growth, it is expedient to provide realization of the corresponding pedagogical conditions: increase of motivation of teachers to professional self-development; increasing their activity; enrichment of the content of implemented technologies for the development of their communicative competencies.

6. We recommend to develop communicative competence in teachers not superficially, stimulating only its external aspects, but deeply, through value orientations: communicative competence should become a component of spiritual position and culture of a specialist and help to identify his humanistic professional activity.

7. The process of development of communicative competence of teachers in colleges should be carried out not only during their main activity - teaching disciplines, but also during the forms and methods of development of their competencies offered to teachers by different departments of the college.

Conclusions. The analysis of the basic scientific works on development of communicative competence is carried out. The main aspects of the development of communicative competence as a component of professional growth of pedagogical workers of vocational education institutions are highlighted. The components of this competence (cognitive, communicative-speech, social-perceptual, interactive) are determined. The results of the research of the level of communicative competence of pedagogical staff of colleges are described. Recommendations for college leaders on professional development of teachers and the development of their communicative competence have been formulated. It was found that teachers, usually successfully possessing a significant amount of theoretical knowledge in their disciplines, at the same time experience significant difficulties in the process of effectively bringing them to the minds of students.

It is shown that the effectiveness of pedagogical activity depends on the level of formation of communicative competence of teachers. It is noted that the formation of this competence in colleges should be organized on the basis of a systematic approach, and the development of communicative competence of teachers should take place in several stages (diagnostic, theoretical-educational, practical-educational, control-reflexive). It is proved that for the development of communicative competence

it is necessary not only to provide knowledge, but also to ensure the formation of appropriate skills and abilities. The pedagogical conditions important for formation of communicative abilities and skills (increase of motivation of teachers to professional self-development; increase of their activity; introduction of innovative educational technologies) are allocated. Emphasis is placed on the importance of ensuring the humanistic orientation of the process of formation of communicative competence of teachers.

It is expected that the use in practice of colleges obtained results and proposed recommendations for the development of communicative competence of teachers will help solve the problem, especially relevant in the modernization of the education system of Ukraine – improving scientific and methodological support of the educational process.

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Розвиток комунікативної компетентності як складової професійного зростання педагогічних працівників закладів професійної освіти

Олена Мимренко [1]

1 аспірантка Інституту професійно-технічної освіти Національної академії педагогічних наук України, заступник директора з виховної роботи Білоцерківського коледжу сервісу та дизайну

Реферат.

Актуальність: У професійній діяльності педагог виступає активним суб'єктом спілкування: передає та приймає інформацію від здобувачів освіти, установлює контакти з ними, будує взаємовідносини на основі діалогу, прагне до максимальної реалізації здібностей кожного та забезпечення його емоційного комфорту в освітньому процесі шляхом компетентнісного підходу. Відтак важливим складником професійного зростання педагога є розвиток його комунікативної компетентності, а одним із першочергових завдань в системі освіти – розвиток професійно-педагогічної комунікативної компетентності педагога, оскільки вона виступає духовно-моральним чинником і науковим змістом освітнього процесу. Проблема розвитку комунікативної компетентності педагогів є актуальною, оскільки саме від педагогічного спілкування, а точніше від рівня розвитку комунікативних здібностей викладачів залежить становлення професійної компетентності майбутнього фахівця.

Мета: визначення та аналіз основних аспектів розвитку комунікативної компетентності як складової професійного зростання педагогічних працівників закладів професійної освіти

Методи: визначення та аналіз теоретичних досліджень, наукової і методичної літератури прогнозування можливих форм і методів розвитку комунікативної компетентності педагогічних працівників коледжів, педагогічне спостереження за професійною діяльністю педагогів, ретроспективний аналіз власного досвіду.

Результати: здійснено аналіз основних наукових праць із розвитку комунікативної компетентності; висвітлено основні аспекти розвитку комунікативної компетентності як складової професійного зростання педагогічних працівників закладів професійної освіти; визначено компоненти даної компетентності (когнітивний, комунікативно-мовленнєвий, соціально-перцептивний, інтерактивний); описано результати дослідження рівня комунікативної компетентності педагогічних працівників коледжів; сформульовано рекомендації керівникам коледжів щодо професійного вдосконалення педагогів та розвитку в них комунікативної компетентності; з'ясовано, що педагоги, зазвичай успішно володіючи значним обсягом теоретичних знань зі своїх дисциплін, водночас відчувають суттєві труднощі в процесі ефективного донесення їх до свідомості здобувачів освіти.

Висновки: показано, що ефективність педагогічної діяльності залежить від рівня сформованості комунікативної компетентності педагогів; з'ясовано, що формування даної компетентності в коледжах має бути організоване на основі системного підходу; розвиток комунікативної компетентності педагогів повинен відбуватися у кілька етапів (діагностичний, теоретично-навчальний, практично-навчальний, контрольно-рефлексивний); доведено, що для розвитку комунікативної компетентності потрібно не лише надавати знання, але й забезпечувати формування умінь і навичок; виокремлено педагогічні умови, важливі для формування комунікативних умінь і навичок (підвищення мотивації педагогів до професійного саморозвитку; підвищення їх активності; запровадження інноваційних освітніх технологій); акцентовано увагу на важливості забезпечення гуманістичної спрямованості процесу формування комунікативної компетентності педагогів.

Ключові слова: *компетентність, комунікативна компетентність, професійне зростання.*

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PEDAGOGICAL TECHNOLOGY OF FORMATION OF INTEREST IN ENTREPRENEURIAL ACTIVITY AMONG STUDENTS OF PROFESSIONAL (VOCATIONAL) EDUCATIONAL INSTITUTIONS

Andriy Patoka [1], Valery Baidulin [2]

1 junior researcher of IVET NAES of Ukraine, https://orcid.org/0000-0001-5146-0136, e-mail: patokannc@gmail.com
2 researcher of IVET NAES of Ukraine, https://orcid.org/0000-0002-8176-4445, e-mail: valbay@ukr.net

Abstract.

*Relevance***.** The development of professional interest in entrepreneurship is one of the key principles of building a modern market economy in Ukraine, focused on Western values and European integration. The use of innovative pedagogical technologies in the process of forming entrepreneurial competence of future specialists promotes human capital development, growing interest of students of professional (vocational) education in entrepreneurship, increasing their business activity, forming traits and qualities important for shaping the modern generation of Ukrainian entrepreneurs.

*Purpose***:** to characterize the pedagogical technology of formation of interest in entrepreneurial activity among students of professional (vocational) educational institutions.

*Methods***:** analysis and synthesis – in order to determine the state and level of development of the outlined problem; comparison – to study the features of the researched phenomenon functioning in Ukraine and in countries with a significant share of small business in the structure of GDP, generalization – to draw conclusions about the possibility of using appropriate technologies in VET institutions.

*Results***:** based on the analysis of scientific sources, it is found that the formation of students' interest in entrepreneurship lacks innovative technologies developed or adapted for students of VET institutions; the example of Japan, as a country with a large share of small business in GDP, shows, how, with the financial and administrative support of educational institutions, innovative pedagogical technologies contribute to the formation of students' interest in entrepreneurship, high business culture and social responsibility; the pedagogical technology of formation of interest in business activity among students of domestic establishments of professional (vocational) education is characterized on an example of creation of the business plan of the future business (cafe); the stages of work on the introduction of this technology and the content of each stage of the event are substantiated.

*Conclusions***:** the use of innovative pedagogical technologies in the formation of interest in entrepreneurship among students of vocational (professional-technical) education will enhance the entrepreneurial activity of students, increase their social status and ensure the achievement of social effect –creating new jobs through employment, tax increases, improving the quality of goods and services.

Keywords: *pedagogical technology, business planning, professional interest, human capital, entrepreneurship.*

Introduction. Entrepreneurship is an independent, initiative, systematic, (at one's own risk) economic activity carried out by business entities (entrepreneurs) in order to achieve economic and social results and make a profit (1, Article 24). This is the first task, and at the same time – the goal of entrepreneurship. Entrepreneurial activity enriches society, its individual segments, physical or legal persons. Entrepreneurs provide for themselves and their families and contribute to the growth of the country's

welfare. Small and medium-sized businesses become guarantors of stability and sustainable development of both the state and civil society; both economic and political components of the lives of their citizens.

At the same time, many Ukrainians still have no practical business experience and spend most of their lives working in public and private enterprises. In doing so, due to staff reductions, because of war, pandemic and economic crisis, they face unemployment, the need of finding jobs and retraining.

The way out of this situation may be the timely preparation of students of vocational (professional-technical) education (hereinafter – VET institutions) to solve the problems they may face after graduation, such as the need to create a job for themselves and additional working places for employed persons. This can be achieved by the use of innovative pedagogical technologies that can increase the interest of students in the training of future entrepreneurs.

Pedagogical technology is a set of psychological and pedagogical attitudes that determine a special set and layout of forms, methods, techniques, teaching methods, educational tools; it is an organizational and methodological tool of the pedagogical process (Likhachev, 1991, p.104).

Sources. Problems of professional interest in entrepreneurship are studied by many domestic scientists. Historical and psychological-pedagogical aspects of preparing schoolchildren for entrepreneurial activity in Ukraine are studied by S. Alekseeva, L. Bazil, M. Vachevsky, I. Hrytsenok, V. Dryzhak, L. Yershova, D. Zakatnov, S. Melnykov, V. Orlov, N. Pobirchenko, R. Pustoviit, K. Starchenko, M. Tymenko, O. Topol. The formation of interest in a particular type of professional activity, along with other elements that regulate the behavior of the individual in the process of choosing a profession were considered in the works of B. Afanasyev, O. Bodalev, L. Vygotsky, M. Dobrynin, D. Elkonin, V. Ivanov, O. Leontiev , N. Morozova, L. Rubinstein.

Theoretical and practical issues of introduction of technological approaches to the modernization of the education system are reflected in the scientific works of Yu. Babansky, V. Bespalko, P. Halperin, P. Erdniev, L. Zorina, M. Clarin, L. Landa, I. Rachenko, N. Talyzina and others. Studies of N. Abashkina, K. Bakhanov, V. Bondar, B. Bloom, S. Goncharenko, O. Savchenko, T. Selevka, V. Korneeva, O. Pometun and others are also devoted to the analysis of the essence of the concept ‘pedagogical technology’.

We will focus on several basic definitions of the concept of ‘learning technology’. In particular, S. Honcharenko (1997, p. 225) emphasized that it is ‘a systematic method of creating, applying and defining the whole process of learning and acquiring knowledge, taking into account technical and human resources and their interaction, which aims to optimize education’. D. Yarmachenko considered pedagogical technology as ‘a set of means and methods of reproduction of theoretically substantiated processes of teaching and education, which allow to successfully realize the given educational goals’ (2001, p.359). Other educators believe that pedagogical technology is a clear scientific design and accurate reflection of pedagogical actions that guarantee success (Kryvshenko et al., 2006, p. 318). According to O. Padalka and A. Nisimchuk (1995, p. 9), pedagogical technology is a foreseen model of the system of actions of teachers and students, which must be implemented in an optimally organized educational process in order to form high professionalism.

The application of technological approaches to education is mainly considered in the formation of general education subjects at the school level. There is a clear lack of innovative technologies developed or adapted for the formation of entrepreneurial competence of students of VET institutions (Alekseeva ta Sokhatska, 2020).

Attempts to adapt modern pedagogical technologies for the formation of entrepreneurial competence for certain professions are found in separate methodological manuals prepared by engineering and pedagogical staff and teachers of certain disciplines of VET institutions. However, they do not have a sound scientific research base, and the effectiveness of their application is of local importance.

The purpose of the article is to characterize the pedagogical technology of formation of interest in entrepreneurial activity among students of vocational (professional and technical) educational institutions.

Methods: analysis and synthesis – in order to determine the state and level of development of the outlined problem; comparison – to study the features of the researched phenomenon functioning in Ukraine and in countries with a significant share of small business in the structure of GDP, generalization – to draw conclusions about the possibility of using appropriate technologies in the VET institutions

Results and discussion. To form the most effective technologies for training future entrepreneurs and increase interest in entrepreneurship, it is necessary to take into account the experience of

highly developed countries with a significant share of small business in the structure of GDP, such as Japan. It is a country where small and medium-sized businesses thrive alongside international giant corporations. There are a large number of small businesses in this country. Almost all the first floors of private houses are occupied by workshops, small factories, shops, restaurants, printing houses, dry cleaners, gas stations and outpatient clinics, which employ 3-5 people. These workers are usually members of the same family. Family dynasties pass on their jobs, professionalism and reputation from generation to generation. And the most importantly – big and small businesses do not interfere with each other, big business depends largely on small one, forming a single thing.

Small business in Japan can be divided into three categories: family farms (about 32% of the total number of small businesses in the country), legal entities (20%) and private entrepreneurs (48%). Japan's small business employs between 6 and 12 million companies (the exact figure is difficult to name, as even one private hairdresser is already a small business). This is more than 90% of the total number of enterprises in the country. They employ 80% of all people employed in the economy (Japan's population as a whole is 127 million people). Japanese manufacturers are known abroad for the brands of several dozens of the largest corporations, but a huge contribution to the Japanese economy is made by small businesses. We can say that it is the basis of the country's prosperity. Small businesses account for more than 53% of Japan's GDP (Delo, 2015).

Figures for comparison: in Japan, the share of small business is 53% of GDP; and in Ukraine – 12%. The difference is quite significant. The formation of interest in entrepreneurial activity arises mainly in the family environment, and the educational institution through the use of innovative technologies should promote its development and the formation of readiness for entrepreneurial activity.

Practical implementation, formation of interest in entrepreneurial activity combines pedagogical technology of project-based learning with mass cultural events. Every autumn, a ‘cultural festival’ called ‘bunkasai’ is held in Japanese schools. During the festival, schoolchildren and students have the opportunity to demonstrate their talents: each class or school club prepares some kind of entertainment program. Clubs usually stick to their theme. For example, a craft club can teach everyone the craft and sell wares during the festival, and a music club can delight visitors with a concert. Junior and high school students are required to participate in this event, and this is voluntary for high school students. Most schools hold the festival in late October or early November. It lasts from one to three days, but the preparation takes a week or more. At the time of preparation, training is suspended and participants spend days inventing costumes and decorations, drawing advertising posters, agreeing with the school board on the timing of events and etc. Students are even allowed to spend the night at school to have more time to prepare.

Working groups are created with the following structure: the head, his deputy and officials (from different classes), namely: the executive committee (chairman of the student council and his deputy); general management group; exposure group; group for making booklets, leaflets and posters; a group that deals with street tents; food organization group; group for preparation of platforms for performances. The school allocates money from the budget in the amount of 30,000 yen per class (makes branded T-shirts), and if something more is needed, students invest their money. The funds are used to purchase paints, paper, and other props (Syrix, 2013).

Practical implementation of pedagogical technologies in Ukrainian VET institutions on the example of creating a business plan for future business (coffee house)

There are already enough ready-made business plans for future business on the Internet, so the use and preparation of a training event will not be as difficult as it may seem at first glance.

Stages of work on the introduction of technology:

- determining the level of readiness of education applicants to draw up a business plan (to begin with, the student must understand the following economic categories – competitors, target audience, revenue, costs, staff, marketing, profits, payback period);

- formation of a business template, the complexity of which is determined by the teacher of economic disciplines depending on the level and degree of training of the education applicant (business template should be easy to understand, contain a minimum amount of theoretical material and calculations, have a ready-to-solve algorithm, concise design, have illustrations and links for a better idea of what a business should look like);

- distribution of education applicants by appropriate groups: risk managers, accountants, director and his deputies (2 persons), bartender, waiters, cleaners, catering, group for the production of booklets, leaflets and posters, site preparation group).

Certain groups receive topics of abstracts in the areas of their activities in the future practical event. In addition, a seminar is planned to discuss the topics that have been researched.

Event (project) to increase interest in business on the example of 'Coffee House'

The theme of the cafe depends on the specialization of students of the educational institution: cooks, cooking (in addition to coffee, home-made dishes can be served); designers; tailors (can prepare costumes for the future cafe, create outdoor advertising); car service (to decorate a coffee house for a workshop).

Distribution of responsibilities among students.

First of all, regardless of the specified staff of the cafe, all students of the group where the event will be held should take part, idle students will be a strong demotivating factor for those who work.

Typical staff: director – 1 person; deputies – up to 4 people; accountant; cashier; barista; waiters; cook (if the direction of VET institution - cooking); marketers (design, advertising); interior designers; others – application, decoration of the premises, creation of the appropriate atmosphere, agitation, creation and distribution of advertising leaflets in the educational institution.

Stages of preparation for the event.

1. Planning stage (September) – creation of the necessary methodological base:

- development of an action plan, preparation of handouts, tasks for staff, definition of staff responsibilities, etc.;
- registration, approval of the action plan with the deputy director of the educational institution;
- students' fulfillment of homework, essays on the topic (duties of the director of the cafe, the accountant of the cafe, the profession of 'barista', etc.);
- preparation of an abstract of 1-2 pages (the text should be concise and accessible so that the reader can easily understand the main functions of the director, accountant of the cafe and other members of the team.

After checking and discussing homework, the prepared methodical material is distributed: for the director – functional responsibilities; for deputies – delegation of part of the duties of the director in functional areas: personnel, advertising, finance, art design; for accounting – the creation of a financial plan (simplified scheme, table of income); for the cashier – the book of the account of incomes.

2. Preparatory stage (October) – creation of material base: equipment (coffee maker, kettle, thermos, water bottles – reserve); menu creation; consumables (coffee, sugar, coffee sticks, candies, paper cups, napkins, gloves); creation of flyers; making a banner with the name of the cafe; applique and toys to decorate the cafe.

3. The final stage (November) – the implementation of the event in the educational institution.

It is very likely that the student will remember well the event in the form of creating own business 'Coffee House', but the theory without further consolidation will be forgotten by 80% in three months. To stimulate interest, it is also possible to distribute revenue among the participants or a cultural event can be done in the form of a trip to the museum or exhibition for the money earned.

Conclusions. Based on the analysis of scientific sources, it is found that the use of innovative pedagogical technologies is mostly considered through the formation of the content of general education subjects at the school level. Obviously, there is a lack of innovative technologies developed or adapted for the formation of entrepreneurial competence among students of VET institutions. Attempts to adapt modern pedagogical technologies for the formation of entrepreneurial competence for certain professions are found in separate methodological manuals prepared by engineering-pedagogical staff and teachers of certain disciplines of VET institutions. However, they do not have a sound scientific research base, and the effectiveness of their application is of local importance.

The example of Japan, as a country with a large share of small business in GDP, shows how innovative pedagogical technologies contribute to the formation of students' interest in entrepreneurship, the formation of a high culture of business and social responsibility. Emphasis is placed on the fact that pedagogical technologies are organically combined with the implementation of planned mass events of a particular educational institution, and young students of primary and secondary levels are required to participate in them. Proof of the high motivating effect of such activities is the high percentage of high school students who participate in them, despite the fact that these events are no longer mandatory for high school students. It is emphasized that educational institutions financially support the implementation of such motivating activities and allocate certain training time for their preparation.

The pedagogical technology of formation of interest in entrepreneurial activity among students of domestic institutions of vocational (professional-

technical) education is characterized on the example of creating a business plan for future business (coffee house). The stages of work on the introduction of technology and the content of each stage of the event are substantiated.

It is proved that the application of innovative pedagogical technologies of formation of interest in entrepreneurial activity among students of vocational (professional-technical) educational institutions will promote the intensification of entrepreneurial activity of students, increase their social status and ensure the achievement of social effect – creation of new jobs, increase of tax amounts, improving the quality of goods and services.

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Педагогічна технологія формування в учнів закладів професійної (професійно-технічної) освіти інтересу до підприємницької діяльності

Андрій Патока [1], Валерій Байдулін [2]

1 молодший науковий співробітник, Інститут професійно-технічної освіти НАПН України
2 науковий співробітник, Інститут професійно-технічної освіти НАПН України

Реферат.

Актуальність. Розвиток професійного інтересу до підприємницької діяльності є одним із ключових принципів побудови сучасної ринкової економіки в Україні, орієнтованої на західні цінності та Європейську інтеграцію. Застосування інноваційних педагогічних технологій у процесі формування підприємницької компетентності майбутніх фахівців, сприяє розвитку людського капіталу, зростанню інтересу учнів закладів професійної (професійно-технічної) освіти до підприємницької діяльності, підвищенню їх ділової активності, формуванню рис та якостей, важливих для формування сучасного покоління підприємців України.

Мета: охарактеризувати педагогічну технологію формування в учнів закладів професійної (професійно-технічної) освіти інтересу до підприємницької діяльності.

Методи: аналізу й синтезу – з метою визначення стану й рівня розробленості окресленої проблеми; порівняння – для вивчення особливостей функціонування досліджуваного феномену в Україні та в державах зі значною часткою малого бізнесу в структурі формування ВВП, узагальнення – для формування висновків щодо можливості застосування відповідних технологій у закладах ЗП(ПТ)О.

Результати: на основі аналізу наукових джерел, з'ясовано, що для формування в учнівської молоді інтересу до підприємницької діяльності бракує інноваційних технологій, розроблених чи адаптованих для учнів ЗП(ПТ)О; на прикладі Японії, як країни з великою часткою малого бізнесу в структурі ВВП, показано, як за фінансової та адміністративної підтримки закладів освіти інноваційні педагогічні технології сприяють формуванню інтересу учнів до підприємницької діяльності, формуванню високої культури бізнес-діяльності та соціальної відповідальності; охарактеризовано педагогічну технологію формування інтересу до підприємницької діяльності в учнів вітчизняних закладів професійної (професійно-технічної) освіти на прикладі створення бізнес-плану майбутнього бізнесу (кав'ярня); обґрунтовано етапи роботи над упровадженням даної технології та зміст кожного етапу проведення заходу.

Висновки: застосування інноваційних педагогічних технологій формування в учнів закладів професійної (професійно-технічної) освіти інтересу до підприємницької діяльності сприятиме активізації підприємницької

активності здобувачів освіти, підвищенню їхнього соціального статусу та забезпечуватиме досягнення соціального ефекту – створенню через зростання самозайнятості нових робочих місць, зростанню обсягів податків, підвищенню якості товарів і послуг.

Ключові слова: *педагогічна технологія, бізнес-планування, професійний інтерес, людський капітал, підприємництво.*

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FEATURES OF DEVELOPMENT OF ELECTRONIC MANUALS ON SEWING PRODUCTION PROFESSIONS

Evelina Tsareva

Director of the State Educational Institution «Khmelnytsky VET Service Industry Center»,
https://orcid.org/0000-0001-9929-6670, e-mail: evelina76@ukr.net

Abstract.

The relevance of the study is due to: the active entry of distance and blended learning in the modern educational process, the restrictions imposed in many countries in connection with the pandemic situation; low level of readiness of the pedagogical community and students to effectively interact in conditions of a mixed or distance model of education; the conditions of the educational environment formed as a result of the introduction of blended and distance learning technologies; the need to find new approaches to the development of effective didactic and methodological tools for the formation of professional competencies of students of vocational education; creation of optimal pedagogical conditions for training working personnel for sewing industry, taking into account the rapid pace of introduction of the latest production technologies.

Purpose: substantiation of the relevance of the development of electronic teaching aids for the sewing industry professions and the selection and structuring of the content of the manual 'Technologies for making blouses', taking into account innovative production technologies.

Methods: theoretical (analysis, synthesis and generalization of scientific and pedagogical works on textbook creation, development of electronic manuals); empirical (study and analysis of pedagogical experience, working plans, training programs for future skilled workers in the garment industry and the results of their activities).

Results: an electronic educational publication 'Blouse Manufacturing Technologies' has been developed and introduced into the educational process of training working personnel in the sewing industry professions.

Conclusions: the relevance of the development of electronic learning tools for the sewing industry professions is substantiated; the content and structure of the manual 'Technologies for making blouses' are characterized; the expediency of its use to increase motivation, formation of professional competences of vocational education students and develop ICT competences of professional training teachers and industrial training masters of sewing manufacture professions is shown; the main tasks of digitalization of the process of training skilled workers are outlined.

Keywords: *vocational education, vocational education students, teachers and masters of industrial training, electronic educational publication, educational content.*

Introduction. Active development of production technologies, introduction of unprecedented social restrictions in connection with the pandemic situation in Ukraine and the world and the resulting comprehensive virtualization and digitization of education and digitalization of many areas of activity highlight the need to develop, test and implement the adequate (to time requirements) electronic learning tools and manuals, open online courses, interactive textbooks and workbooks. Under such conditions, vocational education requires the accumulation of efforts of teachers and directs them to the development and use (in everyday professional activities) of high-quality digital educational product, which will provide favorable conditions for vocational school students to acquire professional skills. The development of e-learning tools requires thorough training from teachers, in particular, masters of industrial training, who must master digital, design, information and media competencies. The tasks set by the modern educational process are solved during the implementation of professional development and self-improvement of teachers and masters of industrial training.

Due to this, teachers of vocational education institutions already have considerable positive experience in the development of e-learning tools, because the development and implementation in the educational process of vocational education institutions, which are modern providers of quality services in training working personnel and developing e-learning tools, are a requirement today. Therefore, creative teachers of one of the leading VET institutions in Khmelnytsky region – state educational institution 'Khmelnytsky VET Service Industry Center' – has been working in this direction for a long time. Teachers of this institution joined the project realization 'Profession to create fashion', which is a platform for distance education, expanding horizons and raising the prestige of light industry professions and organized by the Public Association 'National Branch Partnership in Light Industry of Ukraine, 'Fashion Globus Ukraine' and the Association of Sewing Schools of Ukraine on support of the Ukrainian Cultural Foundation. The initiator, organizer and leader of the project is the Chairman of the Presidium of the Public Association 'National Branch Partnership in Light Industry of Ukraine, Fashion Globus Ukraine' is Golda Vynogradska. Teachers of state educational institution 'Khmelnytsky VET Service Industry Center', Kyiv Higher Vocational School of Technology and Clothing Design, state educational institution 'Regional Center for Vocational Education of Garment Production and Service Industry of Kharkiv Region', Khust Vocational Lyceum of Service Industry took part in this project. Teachers of state educational institution 'Khmelnytsky VET Service Industry Center' developed an electronic manual 'Blouse Manufacturing Technologies'. The introduction of this manual in the educational process of training workers in the garment industry has yielded positive results.

Thus, there is no doubt about the need to develop and implement e-learning tools in vocational education institutions that provide the opportunity to implement professional training of working personnel in both full-time and distance or blended learning.

Sources. The development of the electronic manual has actualized the need to take into account aspects of ICT competence of teachers (Kononets, 2019), the use of information resources to update knowledge in the information society, increasing the motivation of teachers (Polukhtovych and Melnychuk, 2020), the approval of the image of the electronic manual as a mandatory element of modern educational environment (Kolosova, 2019), understanding the e-learning means as the main prerequisite for modern quality vocational education (Vnukova, Mishchanchuk and Kulenyuk, 2019), the positive impact of e-learning publications on the development of vocational education students, increasing the motivation during distance learning, providing access to modern knowledge and data presentation formats, development of creativity and cognitive activity (Motalo and Gomenyuk, 2020), requirements to the structure and functions of the electronic manual (Puzikov, 2018).

When developing electronic manuals, we took into account the theoretical and applied aspects of the creation and operation of the e-book, its interactivity and hypertextuality (Diner, 2016, p. 74; Markova, 2009, p. 69-74), technological characteristics, social functions (Maistrovich, 2007, p. 51), stages of e-book creation: information-content (selection of material), illustrative (selection of audiovisual means), design (interface development), functional (Kovalchuk, 2015, p. 400), requirements for the components of the electronic edition (Onyshchuk, 2019).

The article aims to substantiate the relevance of the development of electronic teaching aids for the garment industry professions and the selection and structuring of the content of the manual 'Technologies for making blouses' taking into account innovative production technologies.

Methods: theoretical (analysis, synthesis and generalization of scientific and pedagogical works on issues of textbooks creation, development of digital learning resources); empirical (study and analysis of pedagogical experience, working plans, training programs for future skilled workers in the garment industry and the results of their activities).

Results and discussion. In the course of the research, it has been proved that the use of the electronic manual has a positive effect on the process of professional training of working personnel in the garment industry professions and contributes to the growth of ICT-competence of masters of industrial training, teachers of professional training when working with the electronic manual. In addition, the use of the manual makes it possible to modernize the educational and methodological base of the educational institution in the training of working personnel in the field of sewing. The manual is developed in accordance with the professional standards of the professions 'Seamstress', 'Tailor', 'Cutter', which are based on a modular competence. While developing this electronic manual, we took into account the specifics of work of modern equipment and means of small mechanization used in garment enterprises;

modern innovation and production technologies used in garment enterprises in the manufacture of products, which is important for the organization of quality training of skilled workers.

The manual is based on the analysis of practical experience of teachers, the content of current printed manuals and electronic sources. While developing the concept of electronic textbook we took into account didactic and methodological recommendations for the design and creation of electronic textbooks, the basic principles of development of modern electronic textbooks and their use in the educational process. When designing and visualizing the manual registration, the peculiarities of the subject content and ways of presenting educational tasks in the electronic textbook were taken into account (Guralyuk et al., 2014).

The e-textbook developed by us can be used for the following forms of study: full-time, part-time, distance, dual and individual. The electronic edition provides continuity and ease of access to educational information, autonomy of work of the subjects of the educational process with the manual. The content presented in the textbook is built in a logical sequence, on the principle of general to partial one. The material of the publication is accompanied by instructional and technological cards of the sequence of product components processing; video materials (personal demonstration of the teacher); color photographic materials; color images of technological schemes of processing of components with the provision of the sequence of machine operations; tables; text material; webinars.

The electronic edition developed by us provides a control apparatus: questions for self-examination after each section, test tasks, task cards, reproductive exercises to consolidate knowledge. The content about outstanding specialists of Ukrainian fashion, fashion (in general) and its creators, video-fashion stories, quotes of outstanding fashion designers, interesting shows in history of Ukrainian designers, interesting information about fashion in the electronic manual contributes to the expansion of cognition.

A creative group of talented, creative teachers, professionals who are constantly improving their level and engaged in self-education, internships at leading companies, improving their knowledge and skills, worked on the creation of the electronic textbook 'Technologies for making blouses'. The development and implementation of the manual has been carried out during the implementation of professional training of working personnel in the sewing production professions in the Scientific Research Center of Modern Sewing Technologies, which operates on the basis of the educational institution. Scientific Research Center is equipped with the most modern sewing, cutting, ironing equipment and CAD software 'Giulivi'.

The content of the textbook describes the features of selection of materials, methods of construction and modeling of blouses, offers modern equipment and the latest methods of processing knots, reveals the history of occurrence of women's blouses, current trends in fashion; types and classification of women's blouses by silhouette, types of sleeves, collars, fasteners, style. The structural components of the manual 'Choice of fabric for different styles of blouses', 'Measurement for the construction of blouses', 'Additions', 'Construction of the design of blouses' have a purely practical direction.

Much attention is paid to modeling, namely, the disclosure of different ways of transfer of leaks, the formation of basic structural lines, modeling blouses by parallel and conical expansion of patterns, modeling of different styles. Working with our proposed e-learning tools, students can also get acquainted with the choice of equipment and features of its purpose, because the publication reveals the classification of sewing machines, modern sewing equipment and means of small mechanization, which can be used in the manufacture of women's blouses.

Diverse educational content of the publication covers all types of work used in the manufacture of garments, directly the technology of manufacturing the product (processing of basic parts, fasteners of blouses, production of collars and sleeves of blouses, finishing and repair of finished products). The final section is the publication part 'Creating own collections of blouses', which provides step-by-step detailing of the creation of collections of blouses and allows students of vocational education to practically realize their competencies in the manufacture of their own products.

The use of the electronic manual developed by us in pedagogical activity opens to teachers and masters of industrial training additional opportunities to increase the efficiency of preparation of working personnel, namely, the content and the organization of training; allows to dynamically supplement or change text, video or illustrative material; visually present all the didactic materials at group and individual lessons; gives the opportunity to structure the student's work, with specific tasks, requirements for their implementation and assessment criteria; allows to use means and methods of differentiation and individualization of training through the possibility of

choosing the content of educational material, pace and mode of study and effectively combine the use of new and traditional learning technologies based on the use of ICT.

The introduction of the electronic manual in training the staff for state educational institution 'Khmelnytsky VET Service Industry Center' makes it possible to make sure that the use of this manual increases the level of motivation of students to study; opportunities for independent work are created; professional competencies are improved; conditions are created for active participation in the process of acquiring knowledge, skills and abilities and for design and research work on the creation of clothing collections; visual, creative thinking through the use of digital elements is developed.

The result of using the electronic textbook was the training of a skilled garment worker, able to apply advanced methods of designing and modeling clothes, work with modern sewing, ironing, cutting equipment and use means of small mechanization; use traditional and innovative production technologies in the manufacture of products; motivated to prolong the increase of own professional level.

The main tasks of digitalization of the process of training skilled workers are outlined: development of high-quality content of e-books of educational and reference nature (creation of e-books, which is relevant in connection with the active introduction of distance, blended learning in the coronavirus pandemic in Ukraine and the world); active introduction of electronic educational and methodical publications into the educational process; creation and distribution in educational network pedagogical communities of motivational and advertising trailers for new electronic textbooks; involvement of professional education seekers in the diversification of educational content of electronic publications.

In the future we will present the results of approbation of this electronic textbook in vocational education institutions of the sewing profile.

Conclusions. The relevance of the development of electronic teaching aids for the garment industry professions and the selection and structuring of the content of the manual 'Technologies for making blouses', taking into account innovative production technologies, is substantiated. It is noted that the use of electronic textbooks is designed to increase the motivation and professional competencies of vocational education students and teachers of state educational institution 'Khmelnytsky VET Service Industry Center'. It helps for the subjects of educational activities to rethink the role in learning; develop qualities and technical skills for effective use of ICT in the learning process.

The main tasks of digitization of the process of training skilled working personnel are outlined: development of high-quality content of e-books of educational and reference nature (creation of e-books, which is relevant in connection with the active introduction of distance, blended learning in the conditions of coronavirus pandemic in Ukraine and the world); active introduction of electronic educational and methodical publications into the educational process; creation and distribution of motivational and advertising trailers for new electronic textbooks in educational network pedagogical communities; involvement of vocational education students in the diversification of educational content of electronic publications.

In the future it is planned to present the results of approbation of this electronic textbook in vocational education institutions of the sewing profile.

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Особливості розроблення електронних посібників з професій швейного виробництва

Євеліна Царьова

директор Державного навчального закладу «Хмельницький центр професійно-технічної освіти сфери послуг»

Реферат.

Актуальність дослідження зумовлена: активним входженням дистанційного та змішаного навчання у сучасний освітній процес, обмеженнями, уведеними у багатьох державах світу у зв'язку із пандемічною ситуацією; низьким рівнем готовності педагогічної спільноти, здобувачів освіти до ефективної взаємодії в умовах змішаної або дистанційної моделі освіти; умовами освітнього середовища, що утворилося у результаті впровадження технологій змішаного і дистанційного навчання; необхідністю пошуку нових підходів до розробки ефективного дидактико-методичного інструментарію для формування фахових компетенцій здобувачів професійної освіти; створенням оптимальних педагогічних умов підготовки робітничих кадрів для швейного виробництва із урахуванням стрімких темпів упровадження новітніх виробничих технологій.

Мета: обґрунтування актуальності розроблення електронних засобів навчання для професій швейної галузі та відбору і структурування змісту посібника «Технології виготовлення блузи» з урахуванням інноваційних виробничих технологій.

Методи: теоретичні (аналіз, синтез та узагальнення науково-педагогічних праць із питань підручникотворення, розробки електронних посібників); емпіричні (вивчення та аналіз педагогічного досвіду, робочих планів, програм підготовки майбутніх кваліфікованих робітників швейного виробництва та результатів їхньої діяльності).

Результати: розроблено й упроваджено в освітній процес підготовки робітничих кадрів з професій швейного виробництва електронне навчальне видання «Технології виготовлення блузи».

Висновки: обґрунтовано актуальність розроблення електронних засобів навчання для професій швейної галузі; охарактеризовано зміст і структуру посібника «Технології виготовлення блузи»; показано доцільність його використання для підвищення мотивації й формування фахових компетенцій здобувачів професійної освіти, розвитку ІКТ-компетентностей викладачів професійної підготовки і майстрів виробничого навчання професій швейного виробництва; окреслено основні завдання цифровізації процесу підготовки кваліфікованих робітничих кадрів.

Ключові слова: *професійна освіта, здобувач професійної освіти, педагоги та майстри виробничого навчання, електронне навчальне видання, навчальний контент.*

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COMMUNICATION IN PROJECT ACTIVITIES OF THE TEACHING STAFF IN VOCATIONAL EDUCATION INSTITUTIONS

Oleksandr Radkevych

PhD in Law, senior Research Fellow, Research and Development Department, Institute of vocational education and training of the National Academy of Educational Sciences of Ukraine, http://orcid.org/0000-0002-2648-5726, e-mail: mr.radkevych@gmail.com

Abstract.

Relevance. Project communication aims to ensure constant interaction among the teaching staff of vocational education institutions during the implementation of project objectives. Project management communication presupposes that all project participants are aware of the requirements and progress of step-wise execution of tasks within a project. Project activities ensure communication by implementing the functions and principles of project interaction.

Purpose. To describe modern approaches to the organisation of communication in project activities of the teaching staff at vocational education institutions.

Methods. Theoretical analysis in order to explore the research problems in the scientific literature and the status of project communication at vocational education institutions and to define research avenues; comparison in order to investigate different scientific approaches to resolving the problem; analysis and synthesis in order to justify the functions of communication and forms of project interaction.

Results. Communication in project activities of the teaching staff at vocational education institutions plays an important role, especially in coordination and project interaction. Communication in project activities takes the forms of project interaction, namely: functional, social, legal, administrative, associative, territorial, forced, dependent and tangent. The quality of project outcomes is affected by conflicts that may arise during the interaction among project participants and managers concerning the following issues: work schedule, financing, workload distribution, project management, technical (technological) support, task priority, distribution of resources, overload of project participants, etc. Project communication is based on the consideration of the following principles of project management: transparency of the project throughout its lifecycle; cooperation in the project environment (functional, social, legal, associative, territorial, tangent, hierarchical, etc.); project parties' responsibility for the quality of their work.

Conclusions. Communication in project activities of the teaching staff at vocational education institutions is ensured by project participants along with the parties involved and stakeholders. The success of a project depends on the competence of its managers and their expertise: technical knowledge, critical thinking, communicative skills, ability to cooperate, teamwork and project coordination skills, experience of resource management, personal qualities, etc.

Keywords: *project activities; interaction; communication principles; communication; teaching staff; vocational (vocational and technical) education institutions.*

Introduction: Communicative interaction between participants aimed to ensure successful execution of project tasks plays an important role in the organisation of project activities. Thus, project communication does not only concern the development of an action plan, but it also involves constant interaction between the teaching staff of vocational education institutions and the parties involved, including stakeholders. The function of communication in project management presupposes that all communication parties are aware of project requirements and progress. Participants, or beneficiaries, must be informed, directly or indirectly, about the ways and forms of project interaction.

Sources. The theoretical background of research on project communication of the teaching staff at vocational education institutions includes

works by Ukrainian and foreign scholars: O. Borodienko, V. Radkevych, Z. Riabova, N. Kulalaieva, M. Korets, P. Klish, A. Vysotskyi, N. Petrenko, L. Kustrich, M. Homeniuk, H. Osovska and others.

The aim of the article is to justify modern approaches to the organisation of communication in the project activities of the teaching staff at vocational education institutions.

Methods: theoretical analysis and overview of scientific literature in order to explore the status of the research problem and define research avenues; comparison in order to investigate different scientific approaches to resolving the problem; analysis and synthesis in order to justify communicative competence.

Results and discussion. *Team communication* is crucial for project activities. Each research task directs the team to perform actions (what needs to be done, when and how), in other words it is instructions for actions. Therefore, project aims must be communicated to project participants clearly and consequently. The aims must be realistic and attainable. A reasonable approach to communication needs to be adopted in project activities.

A considerable part of communication duties is vested on project managers. For this purpose, they need to possess:

– technical knowledge (results of the cognition of technical and technological environment and its adequate reflection in the human's consciousness in the form of ideas, concepts, judgements, and theories. Technical knowledge includes: knowledge of basic technical and technological concepts: engineering, technology, technological process, technological culture, technical aesthetics, technical and technological environment, etc.; concept of technosphere; concept of engineering and technology as a result of human's intellectual and professional activity; knowledge of the key tendencies of engineering development and prospective technologies in the material sphere; concept of the relation and mutual development of the engineering, natural and mathematical domains of knowledge; understanding of the positive and negative impact of engineering and technology on humans and general rules of safe transformation; knowledge of the basic economic principles of engineering and technologies [1, p. 161-162]);

– critical thinking (a system of judgements used to analyse objects and events and produce justified conclusions, which allows people to formulate justified judgements and interpretations and correctly apply the obtained results to situations and problems [2, p.222]);

– communicative skills (integrated personal quality covering certain communication methods and techniques using which partners enter communicative situations, establish and maintain contacts and purposeful relations and achieve goals [3, p.17]);

– ability to cooperate (the ability of two or more members of a project team to work together to achieve project aims);

– coordination skills (coordinating the actions of team members or subdivisions as is necessary to achieve aims and direct individual efforts towards attaining a common goal [4]);

– teamwork skills (a group of people structured according to project activities with each member mutually complementing other members in project activities);

– experience of resource management (one of the main subsystems of project management, which includes planning, procurement, supplies, distribution, accounting, and control of resources. The notion of "resource" in project management methodology is interpreted as everything that a project possesses, including labour force, financial, material and technical resources of the project team, time (duration, deadlines), information, knowledge, and technologies [5]);

– leadership (an essential component of manager's activity, his/her purposeful influence on the behaviour of individuals or an entire workgroup; the tools of this influence include the manager's communicative skills and personal qualities corresponding to the group's external and internal needs [6, p. 369-370]. In other words, it is the ability to influence individuals and project teams motivating them to work for the achievement of previously set aims.

Communication networks must be open throughout the project's lifecycle in order to ensure *successful project communication*. In addition to internal communication, proper external communication networks must be created (arranged, consulted) for project team members. In this regard, project managers must possess:

– optimism about the project and avoid openly criticising project outcomes both with project contractors and persons not involved in the project;

– a positive attitude and constructive encouragement of project contractors for the successful execution of important project tasks;

– the ability to use communication matrix as an element of motivating responsibility;

– the ability to simplify the multi-channel communication interface, which enables project

contractors to directly approach project managers with propositions;

– the ability to define and use internal and external project communications;

– the ability to prevent or resolve organisational conflicts within project teams;

– the ability to encourage formal and informal relations within the project.

It should be noted that collaboration among project participants is necessary for *project cooperation*. It must be clearly presented as it is not sufficient just to express one's consent to participate in the project. Nowadays, it cannot be a guarantee of full-fledged cooperation. Project participants and beneficiaries must be convinced of the advantages of the project. For this, they need to meet, communicate and discuss positive and negative project outcomes. Some factors that impact cooperation in the project environment include project participants' needs, availability of resources, availability of the project budget, previous experience of project activities, occurrence of conflicts and lack of stable organisational support. A structured approach to communication must seek cooperation by taking into account the following factors: use of joint efforts; precedents for future projects; consequences of the lack of cooperation; the critical role of cooperation in project success; organisational influence of cooperation; establishing project deadlines; awards and bonuses for successful project activities.

Most of the projects fail due to the lack of cooperation between its participants as compared to other project factors. In order to ensure and preserve the cooperation of project participants, it is necessary to elicit the first positive reaction to the project in the process of communication. In this respect, the most positive aspects of the project can be ensured by communication. In project management, there are different types of cooperation, including *functional cooperation.* It is cooperation driven by functional relations between two groups of project participants. They can require respective functions that can be executed only by collaboration; *social cooperation.* It is cooperation based on social relations between two groups. Social relations mostly motivate cooperation that can be useful for carrying out project activities; *legal cooperation.* This type of cooperation is imposed by certain authoritative requirements. IN this case, project participants can have no choice but to cooperate; *administrative cooperation.* It is cooperation driven by administrative requirements that are necessary for two project groups to work together towards a common goal; *associative cooperation.* This type of cooperation can also be called collegial. The level of this cooperation depends on the association between two groups; *territorial cooperation.* This is cooperation based on geographical proximity. If two groups are close to each other, they are bound to work together; *dependent cooperation.* This cooperation is due to the fact that one project group depends on the other group within an important project activity. This dependency is usually bilateral. One group depends on the other for some results, while the second group depends on the first one for other results; *forced cooperation.* In this type of cooperation, "external agents" must be involved to stimulate cooperation between two project groups. It applies to situations when two groups have no common ground for cooperation; *tangent cooperation.* It is cooperation with direct partners of approximately the same age. Based on tangent cooperation, project participants can be easily motivated to work as the existing tangent relations create an environment that contributes to project cooperation; *vertical (hierarchical) cooperation.* It means cooperation that follows the hierarchical structure of the project. For example, subordinates expect cooperation with their immediate superiors; *commitment.* Cooperation is based on the support of project ideas. Project participants are willing to assume responsibility, they readily and actively spend time on the project. The provision of resources (financial, productive) is one of the ways for the managers to express their commitment to the project and its team.

In the case of simultaneous implementation of several projects, relative priorities must be set for all project teams at the vocational education institution. Ensuring cooperation in most of the projects involves: establishing attainable project aims; clear-cut description of the necessary project activities; integration of project activity priorities with the existing priorities; elimination of fear of losing one's job due to industrialisation; avoidance and elimination of potential sources of conflict; adoption of the "open door" policy to resolve project participants' complaints; elimination of scepticism, promotion of project benefits, etc.

Coordination plays an important role in the project management at vocational education institutions and is part of the project pyramid (communication, cooperation and coordination). Thus, after the functions of *communication* and *cooperation* have been successfully initiated, the efforts of project contractors must be coordinated with each other, with the overall objective of the project activity and with the project aim in general.

In this respect, it seems reasonable to design a project responsibility diagram. The diagram must

be designed using a responsibility chart, which is a matrix consisting of columns and rows including information about activities and contractors. The cells in the matrix are filled with codes (abbreviations) denoting the roles of responsibility for each project activity. The matrix helps to avoid neglecting important communication requirements and responsibilities within the project team. It also helps resolve the following questions (Who deals with what kind of work? How long will it take? Who must inform whom and on what matters? Whose approval is required for particular actions? Who is responsible for what results? What staff changes/transfers are necessary? What kind of support is required from whom and when? Who will regulate conflict resolution?, etc.) *(Table 1).*

Table 1

Project responsibility matrix

	Roles of responsibility			
Activity	Project executive	Project manager	Project contractors	Reporting specialist
Action coordination		ОК	ОК, ТК, ЗІ, ММ, СК, ДС	
Action plan		ОК		ВА
Task execution			ТК, ЗІ, ММ, СК, ДС	
Project budget	АЛ	ОК		ВА
Plan approval	АЛ	ОК		ВА

(AL, OK, TK, MM, etc. in the table are conditional reductions of performers)*

It should be noted that there are conflicts in any project activities, which are due to different views on the development, execution, financing, etc. of actions within project tasks. It is also important to take into account the human factor as conflicts can be intentional and unintentional. Their occurrence creates obstacles to achieving maximum benefits from the project. The combination of communication, cooperation and coordination helps avoid conflicts in project activities. Thus, open and direct communication between project participants, collaboration, and continuous coordination of project activities have a positive influence on successful completion of project tasks. It is proposed to focus on several sources of conflicts. For example, *the scheduling conflict.* Conflicts may arise due to improper scheduling or sequencing of project activities. It is especially common in projects with a large number of project tasks or with two mutually dependent groups of contractors. Improper distribution of time for particular project actions cause discrepancies in project schedules (an example is the activity of international teams, when the start of work at 9 a.m. makes it impossible to collaborate with other project contractors due to different time zones in other countries). Project coordination can help avoid conflicts related to the scheduling of project tasks.

The *financial conflict* is no less important as the project cost may be unacceptable for the customers or end users. It will lead to the conflict of interests within the project. Even if the initial cost of the project was acceptable, lack of control over expenses in the process of execution and implementation of project outcomes may lead to a conflict. It is due to improper allocation of the budget and lack of research on the financial justification of particular expenses. Communication and coordination can help avoid most of the negative consequences of conflicts related to expenses. If there are no clear requirements to key features of the project in general and project contractors and teams (groups), there will arise conflicts related to the efficiency of individual project contractors and teams (groups). Lack of clear-cut effectiveness (success) standards of project activities make each person assess their activities based on subjective judgements, which do not usually correspond to the collective opinion. Effectiveness (success) standards must be introduced in order to properly assess work and monitor the project progress.

To avoid the *management conflict*, there must be a bilateral union between the managers and the project team, which suggests that the managers should understand the team's needs and requirements as well as the managers' requirements. If no such compromise can be achieved, project management conflicts will arise. Lack of multilateral interaction can cause strikes and labour violations that lead to unachieved project aims. Communication, cooperation and coordination of project participants help create a favourable environment for an internal dialogue between the managers and project contractors.

If the technical component of the project activities is unproductive, the *technical conflict* may

occur in the project. It is particularly relevant to industrial projects because project actions greatly depend on the technological component. It should be noted that lack of thorough research on the technical justification of the project will cause internal problems and a failure. Before starting a project, all the necessary resources, including computer equipment must be identified and the level of project contractor's informational culture must be determined for them to be able to carry out project activities.

Another type of conflicts is the *priority conflict.* It may arise when improperly set project aims are used within the entire project. In other words, it means that a value pyramid of project activities from primary to secondary ones has not been built. Thus, lack of a clearly defined sequence of project activities may force each project participant to set their own objectives that run counter the project aim. Lack of coordination of project aims among its contractors is another potential source of priority conflicts. To avoid this, it is necessary to build effective bi- or multilateral communication between the executives, managers, and project contractors. It should be noted that communication helps resolve priority conflicts at all project levels.

In each project, there are problems with *resource distribution*, which is the main source of conflict in project management. There arises the so-called "competition for resources", including personnel, tools, equipment, software, etc. Wrong and unequal distribution of resources leads to unsatisfied contractors and other project participants and sometimes disputes between project participants. To avoid this, it is necessary to discuss all project actions and the amount of resources required for the implementation at the beginning of the project. Besides, it is necessary to have approximately ~10-20% of reserves for force majeure situations.

Internal policy is important in project activities and demonstrates the distribution of project responsibilities among the executives, managers, and contractors. It should be mentioned that project responsibilities in the project must be clearly divided by internal project control so that none of the project participants could abuse their position. We shall note the incongruencies that may arise when project participants may gain some preferences unavailable to other participants as a result of personal relations with the executives. Such project contractors may be involved in a larger number of project activities regardless of their actual (low) or non-existent project experience (authority). To avoid this, it is necessary, before the beginning of the project, to specify project contractors, managers and list of works to be executed by people with respective education, certificates and skills. It will help to determine a distinct project leader.

A common problem in project activities is the *personal conflict.* The larger the project the more different people take part in it. It also increases the size of the management team required to continue successful work. It may cause internal competition when project contractors, managers, and executives are trying to reach understanding. To resolve this situation, it is necessary to indicate the spheres of interest and the fields of work assigned for execution. Thus, communication and distributed cooperation contribute to a decrease in conflict situations during project execution.

The communicative function suggests familiarisation of all people involved with *project requirements*. In this respect, project contractors and stakeholders must be expressly informed of the following: project scope; expected staff contribution for successful project completion; expected project cost in terms of human efforts and materials; project advantages; project implementation plan; possible adverse consequences of the project in case of its failure; alternatives, if any, for achieving the project aim; potential direct and indirect benefits of the project both for the organisation and individuals, etc. Taking into account the above guidelines concerning internal communication, the risk of wrong interpretation will be minimized within the project system. Precise communication contributes to understanding between the managers and project contractors, which increases the potential of cooperation. Communicative approval of resource spending on the project improves communication, cooperation and coordination. It positively affects the achievement of project effectiveness.

In the process of communication, such concepts as "monitoring" and "control" are used that are unreasonable in the context of modern project activity. In the traditional understanding, "monitoring" and "control" were common, but modern working environment requires a loyal rather than strict approach, which is accompanied by authoritative control. Morphologically, the word "control" elicits a negative attitude in the person who executes control. For this reason, the terminologically neutral concept of project "tracing" or "reporting" is used in internal communication. Taking this into consideration, communication in project activities must become a basis for corrective control. In fact, initiative and preventive communication can help reduce the need for strict control over project team members.

Conclusions. In summary, project communication is crucial for the organisation of project activities of the teaching staff at vocational education institutions, in particular with regard to coordination and project interaction. In project communication, the forms of expressing project objectives are important as they influence the quality of relations among the teaching staff at vocational education institutions. They can be structurally divided into *functional, social, legal, administrative, associative, territorial, forced, dependent and tangent.* Thus, project communication is implemented vertically or horizontally. At the same time, it should be noted that different conflict situations may arise during project communication in connection with work scheduling, financing, load distribution, project management, technical (technological) support, task priorities, distribution of resources, overload of project participants, etc.

The principles of successful project communication include project transparency throughout its lifecycle; cooperation in the project environment (functional, social, legal, associative, territorial, tangent, hierarchical, etc.); project contractors' responsibility for the quality of their work.

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Комунікація в проєктній діяльності педагогічних працівників закладів професійної освіти

Олександр Радкевич

кандидат юридичних наук, старший науковий співробітник лабораторії зарубіжних систем професійної освіти і навчання Інституту професійно-технічної освіти Національної академії педагогічних наук України

Реферат.

Актуальність. Проєктна комунікація спрямовується на здійснення постійної взаємодії педагогічних працівників закладів професійної освіти під час реалізації завдань проєктів. Комунікація в управлінні проєктною діяльністю передбачає усвідомлення всіма учасниками проєктної діяльності вимог та прогресу поетапного виконання проєктних завдань. Проєктна діяльність передбачає забезпечення комунікації шляхом реалізації функцій та принципів проєктної взаємодії.

Мета. Розкрити сучасні підходи до організації комунікації в проєктній діяльності педагогічних працівників закладів професійної освіти

Методи. Теоретичний аналіз – для з'ясування проблеми дослідження у науковій літературі та стану проєктної комунікації в закладах професійної освіти, визначення напрямів наукового пошуку; порівняння – з метою вивчення різних наукових підходів щодо розв'язання проблеми; аналіз і синтез – для обґрунтування функцій комунікації та форм вираження проєктної взаємодії.

Результати. Комунікація в проєктній діяльності педагогічних працівників закладів професійної освіти посідає важливе місце особливо в частині координації та проєктної взаємодії. Комунікація в проєктній діяльності реалізується через форми вираження проєктної взаємодії, а саме: *функціональну, соціальну, юридичну, адміністративну, асоціативну, територіальну, нав'язану, залежну та дотичну.* На якості результатів проєктної діяльності позначаються конфліктні ситуації, що виникають під час взаємодії учасників і керівників проєкту: *розклад роботи, фінансування, розподіл навантаження, проєктне управління, технічне (технологічне) залучення, пріоритетність виконання, розподіл ресурсів, надмірне навантаження учасників проєкту* тощо. Проєктна комунікація ґрунтується на врахуванні положень таких принципів організації проєктної діяльності: відкритість проєкту упродовж усього життєвого циклу; співпраця (кооперація) в проєктному середовищі (функціональна, соціальна, юридична, асоціативна, територіальна, дотична, ієрархічна тощо); відповідальність проєктних виконавців за якість виконання завдань.

Висновки. Комунікація в проєктній діяльності педагогічних працівників закладів професійної освіти забезпечується учасниками проєкту спільно із заінтересованими сторонами та стейкхолдерами. Успіх проєкту залежить від компетентності їх керівників та наявності в них: технічних знань, критичного мислення, комунікативних навичок, здатності до співпраці, навичок роботи в команді та координації виконання проєктних завдань, досвіду управління ресурсами, лідерських якостей та ін.

Ключові слова: *проєктна діяльність; взаємодія; принципи комунікації; комунікація; педагогічні працівники; заклади професійної (професійно-технічної) освіти.*

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Part II

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PROBLEMS OF PROFESSIONAL ORIENTATION OF YOUNG STUDENTS IN RESEARCH BY SCIENTISTS OF NAES OF UKRAINE

Dmytro Zakatnov

Candidate of Pedagogical Sciences, Senior Researcher, Deputy Director for Research of the V.O. Sukhomlynskyi State Scientific and Pedagogical Library of Ukraine, https://orcid.org/0000-0002-4130-089X, e-mail: 23dazkum@ukr.net

Abstract.

Relevance: Solving the problem of improving the quality and balancing the structure of human capital by social institutions' implementation of a number of measures, including the professional orientation of young students.

The purpose of the article is to analyze the modification of the paradigm of professional orientation in the researches of scientists of the National Academy of Educational Sciences of Ukraine.

Methods: theoretical analysis, comparative, structural and functional methods; analysis, synthesis and generalization were used to determine the level of elaboration of the problem.

Results: in accordance with the changes in the socio-economic conditions of society development, the paradigm of professional orientation of young students was modified. Psychological and pedagogical research clearly traces the change in the purpose of career guidance work with young people, which has been modified in the following sequence: the formation of readiness to choose a profession → the formation of readiness for professional self-determination → the formation of career competence. The modification of the career guidance paradigm was significantly influenced by the researches of scientists of the National Academy of Educational Sciences of Ukraine. In the scientific institutions of the National Academy of Educational Sciences of Ukraine, research was carried out on both theoretical-methodological and organizational-methodological foundations of career guidance work with young students, which were the basis of its legal and psychological-pedagogical support.

Conclusions: Problems of professional orientation of young students have been the object of scientific researches of researchers of scientific institutions of the National Academy of Educational Sciences of Ukraine since its inception. Analysis of researches on professional orientation shows that Ukrainian scientists have proposed ways to solve a set of psychological, pedagogical, philosophical, socio-economic aspects of this problem. Scientists from the National Academy of Educational Sciences of Ukraine have made a significant contribution to the theoretical-methodological and organizational-methodological support of modernization and reform of education in this direction.

Keywords: *young students, professional orientation, professional self-determination, professional career, NAES of Ukraine.*

Introduction. Improving the quality and balancing the human capital structure is one of the conditions for effective socio-economic development of the country. The solution to this problem involves the implementation of a number of measures by social institutions, including the professional orientation of the population. It is considered as a set of actions of psychological, pedagogical, medical, etc., aimed at identifying person's tendencies and abilities to certain types of professional activities, providing assistance to a person in choosing a career path and its implementation. Professional orientation as a system of scientifically substantiated measures originated at the beginning of the twentieth century and is widely used today, especially in economically developed countries. It is obvious that during the existence of professional orientation, its humanistic, theoretical-methodological and organizational-methodological principles have undergone significant changes due to radical changes in society, the development of science and technology, globalization processes, etc. In modern socio-cultural and socio-

economic conditions of society development, professional orientation is considered as one of the means to achieve a balance between professional plans of the individual and the current-future personnel needs of the economy.

Professional orientation has been the subject of scientific researches by domestic researchers since the late 1920s. However, the results of research, optimized for the needs of the planned economy, could not be extrapolated to new socio-economic realities, determined by Ukraine's acquisition of sovereignty and the development of a new market-oriented economic base, which led to intensification of psychological and pedagogical research of a number of problems, connected with professional orientation of the population. At the same time, significant contribution to the solution of theoretical-methodological and organizational–pedagogical problems (determined by the need for professional orientation implementation of young students) was made by scientists of the Academy of Pedagogical Sciences of Ukraine, established in 1992 (since 2010 – the National Academy of Educational Sciences of Ukraine).

Sources. The complex of problems related to the professional orientation of young people has been considered in scientific researches in various fields of knowledge (philosophy, sociology, economics, medicine, etc.), but the greatest attention is paid to the array of research in psychology and pedagogy. Theoretical and methodological aspects of professional orientation are revealed in the works of G. Kostyuk, E. Pavlyutenkov, B. Fedoryshyn and other domestic researchers. Peculiarities of preparing young students for choosing a profession in conditions of the market economy are reflected in the works of J. Virna, O. Ihnatovych, V. Madzihon, M. Piddyachy, N. Pobirchenko, V. Rybalka, V. Timenko, V. Synyavsky and others. Peculiarities of professional orientation of young students, who study in accordance with the competence paradigm of education are highlighted in the studies of L. Basil, L. Yershova, D. Zakatnov, J. Morhun, V. Orlov and others. However, the modification of the paradigm of preparation of young students for employment by means of professional orientation and scientific achievements of scientists of scientific institutions of the National Academy of Educational Sciences of Ukraine on this issue is not fully covered in the pedagogical literature.

Methods. The methodological basis is general scientific and special research methods. The main research methods have been the methods of theoretical analysis, comparative, structural and functional, etc., which have been used as complementary. Analysis, synthesis and generalization have been used to determine the level of elaboration of the problem. Comparisons have been used to compare the theoretical approaches of different researchers to solve the problem and the directions of their practical implementation.

The purpose of the article is to analyze the modification of the paradigm of professional orientation in the researches of scientists of the National Academy of Educational Sciences of Ukraine.

Results and discussion. The problem of professional orientation of young people is a problem for domestic science, which has been studied with varying degrees of intensity since the late 1920s. Thus, in the 1920s the Ukrainian Research Institute of Pedagogy published the journal ‘Ukrainian Bulletin of Experimental Pedagogy and Reflexology’, which, in particular, covered the results of research of domestic and foreign scientists on professional orientation (Tkhorzhevskyi et al., 1994). It was in the 1920s and 1930s when the theoretical foundation was laid, adequate to the state of development of psychology and pedagogy of that time. Besides, organizational and pedagogical conditions for career guidance work with young students were developed and tested (Zakatnov, 2009). However, after the adoption of the resolution of the Central Committee of the CPSU (b) of July 4, 1936 ‘On pedagogical distortions in the system of People's Commissariats’, the study of professional orientation was stopped, and career guidance work in schools was curtailed.

The resumption of research on the problems of professional orientation of young students, especially schoolchildren, took place in the late 1950s. By the mid-1980s, the gradual and selective introduction of professional orientation to the practice of work was carried out in, mainly, secondary schools.

In the theoretical and methodological aspect, the definition of professional orientation as a system of state measures aimed at forming young students’ psychological readiness to choose professions based on the needs of society, taking into account the interests and aptitudes of the student (Titma, 1975) prevailed. Under this approach, the key elements of professional orientation were recognized as public administration of the process of preparing young students for the choice of profession. The orientation of such management to the administratively defined range of professions and industries was foreseen. Taking into account individual needs and psychological characteristics of the individual (de facto) was a secondary element of professional orientation (Zakatnov, 2012).

The last stage in the development of professional orientation in the Soviet period was initiated by the reform of secondary and vocational schools, the implementation of which began in the second half of the 1980s. In particular, the subject 'Fundamentals of production. Choosing a profession' for young students of 8th-9th grades, was developed. The appropriate methodological support for teaching this course and the implementation of career guidance work in school were also done by Ukrainian scientists (Timenko, Savchenko and Ilyuk, 1988).

Ukraine's independence in 1991 necessitated the creation of a new educational paradigm relevant to the new socio-economic conditions and prospects for society. The reorientation of the economy to market conditions has highlighted the need to develop a new system of career guidance work with the population. Scientists of scientific institutions of the Academy of Pedagogical Sciences of Ukraine (since 2010 – the National Academy of Educational Sciences of Ukraine) took an active part in solving this topical socio-economic problem.

Research of a complex of problems related to the professional orientation of young students and the implementation of their results in the practice of educational institutions in the National Academy of Educational Sciences were carried out in several areas. Approval of the Concept of profile education in high school by the Ministry of Education and Science of Ukraine (Decision of the Board of the Ministry of Education and Science of Ukraine 'On approval of the Concept of profile education in high school', 2003), which was developed at the Institute of Pedagogy of the Academy of Pedagogical Sciences of Ukraine, and which created regulatory conditions to the introduction of professional orientation work into practice of work of general secondary education institutions. Scientists of NAES also took an active part in the development of the Concept of the state system of professional orientation of the population (Resolution of the Cabinet of Ministers of Ukraine 'On approval of the Concept of the state system of professional orientation of the population', 2008).

However, the main contribution of the researchers of scientific institutions of the National Academy of Educational Sciences of Ukraine was made in the development of theoretical–methodological and organizational–pedagogical aspects of career guidance work with young students and other categories of the population. First of all, they made a significant contribution to the modification of the essence of the concept of 'professional orientation', the definition of its purpose and objectives, and so on. In the Soviet period, the essence of professional orientation was determined by ideological attitudes, and it was seen as a system of state measures aimed at forming young students' willingness to consciously choose professions based on the needs of society, taking into account the interests and aptitudes of the young student (Titma, 1975). It was defined as a means of preparing the individual for professional self-determination, but the needs of society prevailed over the needs of the individual (Platonov, 1978).

In contrast to such approaches, Ukrainian researchers (G. Kostyuk, B. Fedoryshyn, etc.) have developed fundamentally new approaches to defining the essence of professional orientation. The starting point was the vision of the individual not primarily as an object, but as a subject of self-development, and the process of self-development was the basis of the formative functions of career guidance. In this approach, the individual in professional orientation acts as a subject of activity, the essence of which is to prepare for professional self-determination, and the means of professional orientation play the role of favorable conditions that stimulate the individual to career guidance and, through it, to self-knowledge, self-creation and self-development, focusing on the optimal solution of own life problems (Melnyk, 2009). Conscious professional self-determination involves the analysis of the individual's subjective and objective conditions of professional self-determination, followed by free, independent decision-making on a specific choice of profession (direction of vocational education). Based on such positions, B. Fedoryshyn (1996) defined professional orientation as a scientific and practical system of preparing a person for conscious professional self-determination, the result of which is the formed readiness for professional self-determination.

In the scientific institutions of the National Academy of Educational Sciences, the considerable attention has been and is given to the solution of theoretical and applied problems of professional orientation and professional self-determination. Laboratories (departments) have been established in some institutes of the NAES system of Ukraine (Institute of Pedagogy, G.S. Kostiuk Institute of Psychology, Ivan Ziazun Institute of Pedagogical Education and Adult Education, Institute of Educational Problems, Institute of Vocational Education and Training, etc.). whose activities have been the study of theoretical–methodological and organizational–methodological aspects of preparing young students for the choice and implementation of the professional path.

These problems have not been left out of scientific research and other scientific institutions of the NAES of Ukraine. Thus, researchers of the Institute of Social and Political Psychology of the National Academy of Educational Sciences of Ukraine during 2008-2009 conducted an all-Ukrainian monitoring of the level and factors of the prestige of professions, which is one of the factors, significantly influencing human decision to choose a profession (Naidonov & Hryhorovska, 2009). Bibliographic support of research on the problems of preparing young people for a conscious choice of future professional path is carried out by the State Scientific and Pedagogical Library of Ukraine named after V.O .Sukhomlynskyi. For example, the library specialists prepared a scientific and auxiliary bibliographic index 'Development of professional orientation in Ukraine' (2009), published a number of abstracts of publications on relevant issues, etc.

Socio-economic changes that have taken place in Ukraine in recent years have intensified the transformation processes taking place in the education sector. One of their consequences was the introduction of the competence paradigm of education, focus on the values of a society of sustainable development and training of a competent member of society, able to be successful in this society and, in turn, contribute to the formation and development of this society. The implementation of this paradigm involves the formation of a number of individual's competencies, including career competence. This term has appeared in the scientific space recently, and the essence of the concept of 'career competence' is still at the stage of meaningful formation, but scientists of the National Academy of Educational Sciences of Ukraine carried out scientific research in this promising area, in particular – the formation of career competence by means of career consultancy. Methodical support for preparing young students for career choice at the stage of optation was developed by scientists of the Laboratory of Labor Education and Career Guidance (now – the laboratory of education of readiness for the labor market) of the Institute of Education Problems of the National Academy of Educational Sciences of Ukraine. In particular, they prepared a program-methodical complex 'Building a career' for young students of 10th – 11th grades of secondary schools (On the laboratory of education of readiness for the labor market). Methodical support for the preparation of young students for the selection and implementation of professional careers at the stage of professional training was developed by scientists of the laboratory of professional careers of the Institute of Vocational Education and Training of the National Academy of Educational Sciences of Ukraine. It is realized in the aspect of formation by means of professional orientation, for pupils of establishments of vocational (professional and technical) education of career competence. In the practical manual 'Career Counseling', prepared by scientists from the Department of Occupational Psychology of Ivan Ziazun Institute of Pedagogical Education and Adult Education of NAES of Ukraine, the approach to career counseling as a component of professional orientation is represented, features of carrying out career counseling concerning various social and age groups of the population, in particular, pupils of establishments of general secondary and vocational (professional and technical) education, students of establishments of higher education are considered (Zaiets and others, 2019).

It is difficult to establish the exact number of publications prepared by scientists of the National Academy of Educational Sciences of Ukraine on issues related to the preparation of young people to choose a future profession, construction and implementation of educational and professional trajectory by means of professional orientation. However, the number of works uploaded to the Electronic Library of the National Academy of Educational Sciences of Ukraine (EB) on the relevant topic indirectly testifies to the journalistic activity. So, for example, scientists of the laboratory of labor education and professional orientation (since 2020 – the laboratory of education of readiness for the labor market) of the Institute of Education Problems of the National Academy of Educational Sciences of Ukraine published and placed 225 works in the EB, the total number of downloads consisted 11000 on the first of November, 2020. Researchers of the laboratory of professional career (until 2015 – the laboratory of professional orientation and education) have placed more than 330 works in the EB, which have been downloaded more than 99,000 times. Out of 110 dissertations on problems of professional orientation, professional self-determination and professional career of young students, which are included in the consolidated database of dissertations on education, pedagogy and psychology of the State Scientific and Pedagogical Library of Ukraine named after V.O Sukhomlynskyi, 63.6% of them were prepared and defended in scientific institutions of the National Academy of Educational Sciences of Ukraine.

Conclusions. Problems of professional orientation of young students have been the object of

scientific research of researchers of scientific institutions of the National Academy of Educational Sciences of Ukraine since its inception. The study of the theoretical and methodological foundations of professional orientation in accordance with the peculiarities of the socio-economic development of Ukraine led to the modification of its paradigm in relation to its goals. If the goal of career guidance was determined mainly by the formation of readiness for a conscious choice of profession in the 90s, then later it was modified into the formation of readiness for professional self-determination, and today the main purpose of career guidance in a number of researches of scientists of NAES of Ukraine is career competence development. Analysis of researches on career guidance shows that Ukrainian scientists have proposed ways to solve a set of psychological, pedagogical, philosophical, socio-economic aspects of this problem. The scientists from the National Academy of Educational Sciences of Ukraine have made a significant contribution to the theoretical-methodological and organizational-methodological support of modernization and reform of education in this direction. In terms of implementing the competence paradigm of education, we see promising research of theoretical-methodological and organizational-methodological foundations of career competence of young students in educational institutions of various types, creation of a system of psychological and pedagogical support for this process at all stages of professional development.

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Проблеми професійної орієнтації учнівської молоді в дослідженнях науковців НАПН України

Дмитро Закатнов

кандидат педагогічних наук, старший науковий співробітник, заступник директора з наукової роботи Державної науково-педагогічної бібліотеки України імені В. О. Сухомлинського, https://orcid.org/0000-0002-4130-089X, e-mail: 23dazkum@ukr.net

Реферат.

Актуальність: Розв'язання проблеми підвищення якості та збалансованість структури людського капіталу, здійснення соціальними інституціями низки заходів, до числа яких відноситься й професійна орієнтація учнівської молоді.

Мета статті – проаналізувати модифікацію парадигми професійної орієнтації в дослідженнях науковців НАПН України.

Методи дослідження: теоретичний аналіз, порівняльний, структурно-функціональний методи; аналіз, синтез та узагальнення використовувалися з метою визначення рівня розробленості проблеми.

Результати: відповідно до змін соціально-економічних умов розвитку суспільства модифікувалася парадигма професійної орієнтації учнівської молоді. У психолого-педагогічних дослідженнях чітко прослідковується зміна мети профорієнтаційної роботи з молоддю, яка модифікувалася у такій послідовності: формування готовності до вибору професії → формування готовності до професійного самовизначення → формування кар'єрної компетентності. На модифікацію парадигми профорієнтації значною мірою вплинули дослідження науковців Національної академії педагогічних наук України. У наукових установах НАПН України здійснювалися дослідження як теоретико-методологічних основ, так й організаційно-методичних засад профорієнтаційної роботи з учнівською молоддю, які було покладено в основу її нормативно-правового та психолого-педагогічного забезпечення.

Висновки: проблеми професійної орієнтації учнівської молоді є об'єктом наукових розвідок дослідників наукових установ НАПН України із часу її створення. Аналіз досліджень, присвячених професійній орієнтації, свідчить про те, що українські вчені запропонували напрями розв'язання комплексу психолого-педагогічних, філософських, соціально-економічних аспектів цієї проблеми, при цьому значний внесок у теоретико-методологічне та організаційно-методичне забезпечення модернізації та реформування освіти за цим напрямом зробили вчені Національної академії педагогічних наук України.

Ключові слова: *учнівська молодь, професійна орієнтація, професійне самовизначення, професійна кар'єра, НАПН України.*

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USING DISTANCE LEARNING TECHNOLOGIES FOR TRAINING FUTURE TEACHERS OF PROFESSIONAL TECHNICAL COURSES AT THE UNIVERSITIES OF THE REPUBLIC OF POLAND AND UKRAINE

Vladyslav Belan

Junior Research Fellow, Laboratory of Electronic Educational Resources, Institute of Vocational Education and Training of National Academy of Educational Sciences of Ukraine, http://orcid.org/0000-0002-7015-6508, e-mail: vladyslavbelan91@gmail.com

Abstract.

The relevance of the study is determined by the need of Ukrainian society to study and use the positive experience of distance learning in the training of teachers for the vocational education system in the Republic of Poland.

Aim: to identify the priorities of the European Union policy in the field of education informatization in the context of the implementation of the program 'Education and Training 2020'; to analyze the peculiarities of the application of distance learning in Polish higher education; to develop recommendations for using its experience to modernize the Ukrainian education system.

Methods: analysis of the legal framework for informatization of higher and basic secondary education in the Republic of Poland – to clarify the state of research on the problem of professional training of future teachers of vocational subjects in universities of the Republic of Poland; questionnaire of students – to identify the attitude of students of higher education institutions of Ukraine and Poland to the use of distance learning in their training.

Results: the European strategy of education informatization is characterized, the normative-legal base of informatization of higher and basic secondary education in the Republic of Poland is analyzed, the Polish experience of standardization of digital competence of future teachers of vocational subjects and development of their readiness to use distance learning technologies is considered; a comparative analysis of the survey results among Polish and Ukrainian students on their attitude to the use of distance learning technologies in training the future teachers for vocational education institutions is presented.

Conclusions: The study has identified the following priorities of the European Union policy in the field of education informatization in the context of the program 'Education and Training 2020': the formation of readiness of teachers to education informatization and standardization of their digital competence; use of digital technologies in the educational process; creation of distance learning courses for teachers; technological effectiveness and internationalization of European higher education; development of online in-service training programs for teachers in certain disciplines. The peculiarities of the application of distance learning technologies in Polish higher education, in particular, during the coronavirus pandemic, are analyzed. Recommendations for the use of Polish experience in the use of distance learning technologies in the training of future teachers of vocational subjects for the modernization of the Ukrainian education system have been developed.

Keywords: *higher education of the Republic of Poland and Ukraine, vocational education, future teachers of vocational subjects, distance learning technologies.*

Introduction. Modern Ukraine seeks integration into the EU not only in economic, political, but also in educational aspects, which, in our opinion, can be done by modernizing the content of higher education, restructuring its system as a priority condition for forming a new society, introduction of new technologies into an educational process, in particular, information and technical ones, and improvement of the learning process based on the use of the latest scientific approaches.

The agenda of Ukraine in the field of development and introduction of information and communication technologies or ICT in Ukrainian education is due to the new tasks and opportunities of these technologies to maximize the preparation of young people for life and activity in the modern world. The innovative potential of ICT cannot be overestimated, as they provide at least three functions: computer literacy, individualization and intensification of the educational process, as well as a new type of educational activity – e-learning.

The successful solution of problems of education informatization in Ukraine, in particular, vocational and higher ones, is considered in the context of realization of the European choice of our country, integration of its educational system into the European educational space. In our opinion, the biggest need of Ukrainian education in foreign experience requires an analysis of strategic guidelines for education informatization in EU countries, defined in the comprehensive strategy of its development 'Europe 2020' (Education and Training in Europe 2020: Responses from the EU Member States. Eurydice Report, 2013) and in flagship initiatives for its implementation, in particular, such as the 'Digital Agenda for Europe' etc.

Sources. The theoretical analysis of the studied problem has been carried out on the basis of scientific works of Polish scientists who studied the problems and achievements of distance education in the Republic of Poland (K. Chmelewski, M. Andrzejewska, M. Machinko-Nagrabecka, F. Zeńkowski, G. Karwasz etc.). Their works are an important source of information for comparative analysis, in order to justify the use of valuable ideas of the Polish experience of distance learning in Ukraine.

The scientific achievements of such Ukrainian scientists as: V. Bykov, V. Kukharenko, N. Morze and others, who studied the development of distance learning in Ukraine, have been also analyzed for comparative analysis. Analysis of foreign experience in distance learning is explored in the scientific studies of such Ukrainian scientists as: M. Leshchenko, O. Ovcharuk, I. Androshchuk, Ye. Gromov and others.

The article aims to get acquainted with the priorities of the European Union policy in the field of education informatization in the context of the program 'Education and Training 2020', as well as to consider the main features of distance learning in Polish higher education and use its experience to modernize Ukrainian system of education.

Methods: theoretical – analysis of scientific literature, analogy, structural, system-structural analysis, formulation of research tasks; bibliographic method of studying sources on the research problem – to clarify the state of research of the problem of professional training of future teachers of vocational subjects in the universities of the Republic of Poland; empirical: diagnostic (interview, questionnaire of students of higher education institutions of Ukraine and the Republic of Poland) – to empirically test the hypothesis about the effectiveness of professional training of future teachers of vocational subjects in universities of the Republic of Poland; comparative: translation of authentic literature, comparative analysis.

Results and discussion. Recently, distance learning has been actively used in the educational system of the Republic of Poland. Modern Polish legislation states that distance learning is a component of innovative learning technologies used in Polish higher education institutions. This is stated, in particular, in art. 164, §3 of the Higher Education Act (Prawo o szkolnictwie wyższym, Ustawa z dnia 27 lipca 2005), which states that student learning can be carried out 'using distance learning technologies'.

On 25th of September, 2007 The Resolution of the Minister of Science and Higher Education of the Republic of Poland sets out the conditions to be provided for lessons using distance learning technologies, namely: a higher education institution or HEI must provide the direct and indirect interaction of students and teacher; HEI should provide the student with the opportunity to personally consult with the teacher in the premises of the educational institution; distance learning allows the predominance of distance learning over the traditional one; the HEI should ensure continuous monitoring and verification of students' progress in education, including examinations on the premises of the educational institution; HEI should also prepare a series of training courses for students who participate in activities with the use of distance learning technologies (Rozporządzenie Ministra Nauki i Szkolnictwa Wyższego z dnia 25 września 2007 r. w sprawie warunków, jakie muszą być spełnione).

The latest resolution of the Minister of Science and Higher Education of the Republic of Poland of November 2, 2011 stipulates that the share of distance learning in the HEI may not exceed 60% of the total time specified in the curriculum. At the same time, the Minister said that laboratory studies, independent studies and workshops, that focused on practical skills, should be with the direct

participation of teachers (real conditions) (Rozporządzenie Ministra Nauki i Szkolnictwa Wyższego z dnia 2 listopada 2011 r. zmieniające rozporządzenie w sprawie warunków, jakie muszą być spełnione, aby zajęcia dydaktyczne na studiach mogły być prowadzone z wykorzystaniem metod i technik kształcenia na odległość).

In turn, distance learning has recently become popular due to the epidemiological situation that occurred in the first half of 2020 due to the worldwide spread of the coronavirus pandemic. Therefore, on March 2, 2020, the Sejm of the Republic of Poland adopted the Act 'On Specific Decisions Related to the Prevention, Prophylactic measures and Control of COVID-19, Other Infectious Diseases and Crisis Situations Caused by Them', which amended the article 51a of the Higher Education Act, which states that: 'in cases justified by extraordinary circumstances threatening the life or health of members of the university community, the Minister or the Commissioner for Higher Education and Science, through regulations, may temporarily limit or temporarily suspend the operation of the university within the country or part of it, taking into account the degree of danger in the region, due to which students were actually forced to study at home (remotely) (Ustawa z dnia 2 marca 2020 r. o szczególnych rozwiązaniach związanych z zapobieganiem, przeciwdziałaniem i zwalczaniem COVID-19, innych chorób zakaźnych oraz wywołanych nimi sytuacji kryzysowych).

Specialized e-learning (distance) centers in technical universities play a special role in the development of distance education and training and, in particular, its introduction into the higher education system of the Republic of Poland. Some of them train future teachers of vocational subjects with the use of such distance learning technologies as: e-Learning Center of the Silesian University of Technology, Center for Continuing Education and Training of the Kielce University of Technology, Center of Informal Education of Gdańsk University of Technology, e-Learning Center of Jagiellonian University, Virtual University of the Institute of Vocational Education and Training in Warsaw, e- Learning Center of the Warsaw University of Technology, e-Learning Center of the AGH University of Science and Technology in Krakow, the Higher School of Vocational Training in Przemyśl and the e-Learning Center of the Pawel Wlodkowic University College in Plock.

The most famous universities in Ukraine, which train future teachers of technical disciplines with the use of distance learning technologies are: Laboratory of Distance Learning of Sumy State University, Center for Distance Learning of Vinnytsia M. Kotsiubynskyi State Pedagogical University, Regional Scientific and Methodological Center for Distance Learning NAES of Ukraine of O. Honchar Dnipro National University, P. Tychyna Uman State Pedagogical University and the training center for distance learning of Khmelnytskyi National University. According to the ranking of countries in the world by the level of development of information and communication technologies, which are structurally related to distance learning technologies (index of information and communication technologies in the world or ICT Development Index), our country ranks 79th among 176 countries as of 2017 (ICT Development Index 2017. World ranking).

The experience of Central European countries, in particular, the Republic of Poland, which ranks much higher than 49th in this ranking, can be quite useful for Ukraine. Poland demonstrates a positive example of European integration, because, at the legislative level, it is engaged in the development of the information society, in particular the spread of ICT in education.

To find out the attitude of students of pedagogical and technical faculties of five Polish and six Ukrainian higher education institutions to the use of distance learning technologies in their training in November 2019 – February 2020, we have made a survey among students of higher education institutions of the Republic of Poland (Pawel Wlodkowic University College in Plock, Cracow University of Economics, Pedagogical University of Cracow, Tadeusz Kościuszko University of Technology and University of Rzeszów) and Ukraine (National Technical University of Ukraine 'Igor Sikorsky Kyiv Polytechnic Institute' (NTUU KPI), National University of Life and Environmental Sciences of Ukraine, Dnipro Polytechnic National Technical University, Kremenchuk Mykhailo Ostrohradskyi National University, Ivano-Frankivsk National Technical University of Oil and Gas and The National Pedagogical Dragomanov University). Each of the above educational institutions has its own distance learning courses, which are used in the educational process, in particular, among part-time students.

468 students of Polish higher education institutions and 347 students of domestic universities took part in the survey. All respondents were asked several questions with answer options. In some of the questions it was possible to choose several options at once, in others – only one, but there were also questions where it was necessary to estimate

this or that criterion on a scale from 1 to 10 points, where 1 – I do not agree at all (absolutely negatively), 10 – I completely agree (quite positively).

Students of Polish and Ukrainian higher education institutions gave similar answers to a number of questions. For example, the overwhelming majority of students of HEIs from both countries answered that they used only distance online courses (Polish students – 376 respondents (80% of the total number of respondents), Ukrainian students – 273 (79%). Most of the surveyed Polish and Ukrainian students also recognize the importance of use of distance learning in modern higher education (students of Polish higher education institutions – 135 (29%), students of Ukrainian higher education institutions – 138 (40%). In addition, they agree that distance learning is important not only for part-time education, but also for full-time education (students of Polish higher education institutions – 126 (27 %), students of Ukrainian higher education institution – 127 (37%). Students also unanimously recognize the blended learning to be the best form of organization of the educational process (students of Polish higher education institutions – 125 (27%), students of Ukrainian higher education institutions – 134 (39%). In addition, 18% of students Polish higher education institutions and 19% of Ukrainian ones admit that educational resources posted on the online platforms of their educational institutions influence the interest of young students in learning.

At the same time, students of Ukrainian and Polish higher education institutions gave somewhat different answers to other questions. For example, the majority of students of Polish higher education institutions (144, or 31%) chose 10 out of 10 points to the question 'How much do you think it helps to acquire the necessary knowledge and facilitate access to them using distance learning in your institution?'. At the same time, the majority of students of Ukrainian HEIs (65, or 19%) gave a score of 8. To the question 'Do the educational resources posted on the online platform of your university influence your interest in learning?' the majority of students of Polish HEIs (84 or 18%) gave a grade of 8 and 10, while students of Ukrainian universities – 8 (66 or 19%). To the question 'How do you assess the organization of e-learning and the development of appropriate online learning platforms in your HEIs?' the majority of students of Polish HEIs (102 or 22%) gave a grade of 8, while Ukrainian students gave a grade of 7 (54 or 16%). Assessing the organization of distance learning and the development of appropriate online learning platforms in their educational institutions, Ukrainian students gave a more positive assessment of the process of its organization (Fig. 1) (131 or 38%), than the Polish students (131 or 28%). This may be due to the greater experience of the distance learning system in Poland and the more familiar and, consequently, the more critical attitude of Polish students towards it.

It has also been found that students of Ukrainian universities prefer mainly online lessons, where they demonstrate photo and video materials (221 respondents), and students of Polish universities – theoretical online lessons (279). The effectiveness of distance learning, according to most students of Polish HEIs, depends (Fig. 2) on: the quality of the materials used, in particular, teaching materials, manuals, etc. (309); student motivation (282); skills of teachers, tutors who participate in the educational process (263).

At the same time, the students of Ukrainian universities put the motivation of the student (224) and the skill of teachers, tutors who participate in the educational process (220) (in the first place), and indicate the quality of used materials (206) only in the third place.

Finally, when asked to determine the importance of the characteristics of distance learning by students of Polish universities, the following ones were noted in the vast majority: flexibility (422 respondents), time savings (338), modularity (137) and positive impact on the student (121). The following properties were noted by students of Ukrainian universities: flexibility (280), technological effectiveness (202), positive influence on pupil / student (144) and parallelism (141).

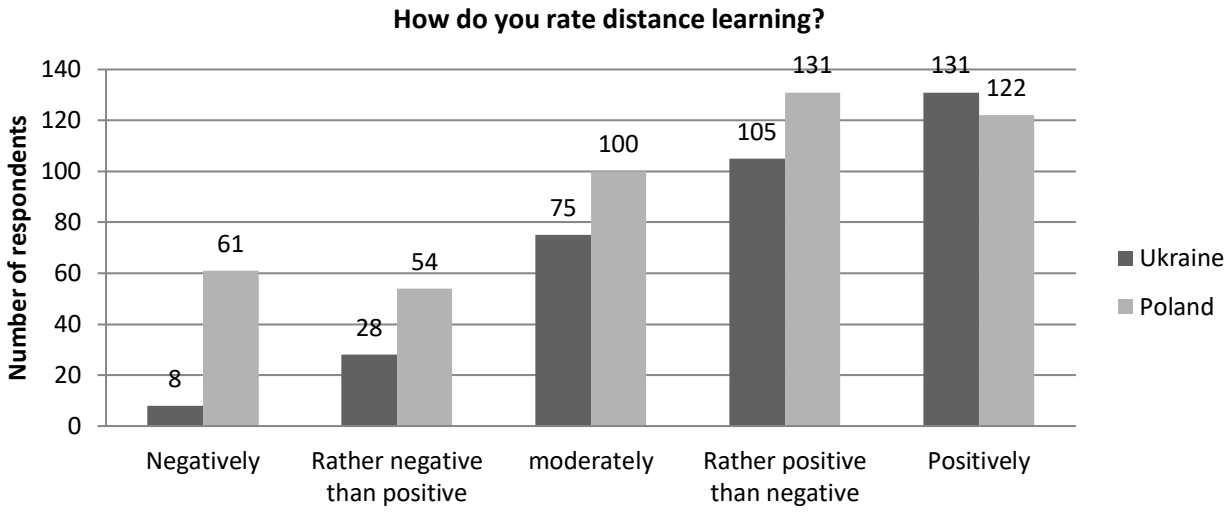

Fig. 1. Assessment of distance learning by students of Ukrainian and Polish higher education institutions

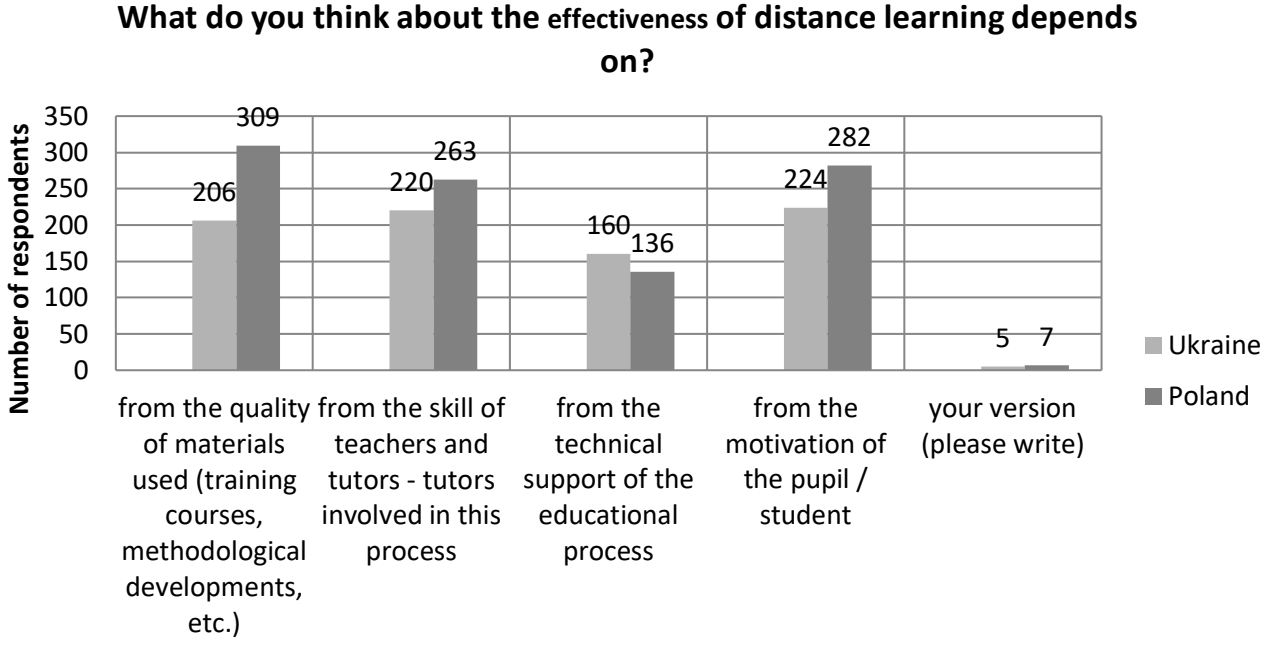

Fig. 2. Opinion of students of Ukrainian and Polish higher education institutions about the effectiveness of distance learning

Despite the positive qualities of distance education, as well as any other form of education, it has certain shortcomings, in particular – difficult identification of distance learning students, because at the current stage of technology development it can be difficult to check the person who passes the exam. To solve this problem in Polish higher education institutions, which provide the opportunity to study at distance courses, the student must be present in person at the exam. It is mandatory to provide documents proving the identity of students.

The experience of the Republic of Poland shows that the introduction of new educational methods with the active use of information and communication technologies will modernize the Ukrainian system of training the qualified teachers of general technical disciplines and positively affect its reform in accordance with the needs of citizens in higher and vocational education.

Conclusions. The study has identified the following priorities of the European Union policy in the field of education informatization in the context of the program 'Education and Training 2020': the formation of readiness of teachers to education informatization and standardization of their digital competence; use of digital technologies in the educational process; creation of distance learning courses for teachers; technological effectiveness and internationalization of European higher education; development of online in-service training pro-

grams for teachers in certain disciplines. The peculiarities of the application of distance learning technologies in Polish higher education, in particular, during the coronavirus pandemic, are analyzed. Recommendations for the use of Polish experience in the use of distance learning technologies in the training of future teachers of vocational subjects for the modernization of the Ukrainian education system have been developed.

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Використання технологій дистанційного навчання у підготовці майбутніх учителів професійних технічних предметів в університетах Республіки Польща та України

Владислав Белан

молодший науковий співробітник лабораторії електронних навчальних ресурсів Інституту професійно-технічної освіти НАПН України

Реферат.

Актуальність дослідження визначається потребою українського суспільства у вивченні та використанні позитивного досвіду застосування дистанційного навчання у процесі підготовки педагогічних кадрів для системи професійної освіти у Республіці Польща.

Мета – виявити пріоритети політики Європейського Союзу у сфері інформатизації освіти в контексті реалізації програми "Освіта та професійна підготовка 2020"; проаналізувати особливості застосування дистанційного навчання у польській вищій школі; розробити рекомендації щодо використання її досвіду для модернізації української системи освіти.

Методи: аналіз нормативно-правової бази інформатизації вищої і базової середньої освіти у Республіці Польща – для з'ясування стану дослідженості проблеми професійної підготовки майбутніх учителів професійних технічних предметів в університетах Республіки Польща; анкетування студентів – для виявлення ставлення студентів закладів вищої освіти України та Польщі до використання дистанційного навчання у їхній професійній підготовці.

Результати: характеризується Європейська стратегія інформатизації освіти, аналізується нормативно-правова база інформатизації вищої і базової середньої освіти у Республіці Польща, розглядається польський досвід стандартизації цифрової компетентності майбутніх учителів професійних технічних предметів і розвитку

їх готовності до використання технологій дистанційного навчання; здійснено порівняльний аналіз результатів опитування польських і українських студентів щодо їх ставлення до використання технологій дистанційного навчання в професійній підготовці майбутніх педагогічних кадрів для закладів професійної освіти.

Висновки. У результаті дослідження були виявлені такі пріоритети політики Європейського Союзу у сфері інформатизації освіти в контексті реалізації програми "Освіта та професійна підготовка 2020": формування готовності вчителів і викладачів до інформатизації освіти та стандартизації їхньої цифрової компетентності; використання цифрових технологій в освітньому процесі; створення курсів дистанційного навчання для викладачів; технологізація та інтернаціоналізація європейської вищої освіти; розвиток онлайн-програм підвищення кваліфікації викладачів з окремих дисциплін. Проаналізовано особливості застосування технологій дистанційного навчання у польській вищій школі, зокрема під час пандемії коронавірусу. Розроблено рекомендації щодо використання польського досвіду застосування технологій дистанційного навчання у підготовці майбутніх учителів професійних технічних предметів для модернізації української системи освіти.

Ключові слова: *вища освіта Республіки Польща та України, професійна освіта, майбутні учителі професійних технічних предметів, технології дистанційного навчання.*

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CO-DETERMINATION AND APPRENTICESHIP IN SME: A QUALITATIVE STUDY ON WORK COUNCILS AND THEIR CONTRIBUTION TO THE QUALITY OF APPRENTICESHIP TRAINING

Christiane Eberhardt [1], Klaus Berger [2]

1 Senior Expert „International VET in comparison“ Federal Institute for Vocational Education and Training, Germany, e-mail: Eberhardt@bibb.de
2 Researcher Federal Institute for Vocational Education and Training, Germany (retired), e-mail: bergklau@t-online.de

Abstract:

Relevance. Training systems which are based on the principle of apprenticeship and involve the company as a central venue are gaining in significance in international terms. The fundamental recognition here is, "*Apprenticeships as one successful form of work-based learning ease the transition from education and training to work, and evidence suggests that countries with a strong VET and apprenticeship system have lower levels of youth unemployment*" (European Commission, year of publication not stated).

Aim: the purpose of the article is to prove that the competitiveness of companies on the market crucially depends on their skilled workers.

Methods: in methodological terms, we based our study on an industrial sociology case study approach.

Results: in our study we showed that the stakeholders at the companies forming the object of our investigations are working towards quality. If the high quality requirements of training are also to be realised at a company level, crucial significance needs to be attached to the central players within the company. In our case, these are the works councils.

Conclusions: in our study, we have shown that "good training" can be equated with the terms of "vocational proficiency" and "matching". This combination, which aims both to impart employability skills and to facilitate integration into the company, provides the bedrock which enables skilled workers to act autonomously and independently. Works councils bring their influence to bear if they believe that these principles are in jeopardy. This makes an essential contribution to integrating apprentices into a company in respect of skills and socialisation.

Keywords: *apprenticeship training within the dual system, Germany, social partnership, co-determination, work councils, training in SME*

Introduction. Vocational education and training within the German dual system is characterised by its corporatist steering, its labour-market orientation and the link to the principle of the skilled occupation. The "concept of the skilled occupation" is anchored in the Vocational Training Act (Berufsbildungsgesetz, BBIG) and in the Crafts Code (Handwerksordnung, HwO) and expressed in terms of recognised training occupations. The leitmotiv of apprenticeship training in Germany, i.e. the acquisition of "occupational proficiency" (berufliche Handlungsfähigkeit), represents a concept that goes beyond the transfer of skills, knowledge and qualifications. Vocational education and apprenticeship training aims to ensure that the teaching and learning process is geared towards the attainment of all-round holistic occupational proficiency and enables the apprentices/learners to obtain a qualification in a recognised training occupation. In this work-based learning context, the learning venue of the company takes on a central function in bringing about occupational proficiency. Apprentices spend three out of five days of the week in the company and two days at a part-time vocational school.

Learning within the real work process and in authentic work situations is combined with formal learning at school. Vocational training standards thus represent a consistently defined understanding of quality pertaining to the content and institutional and organisational modalities of such training: how, within a systematic learning process, to prepare learners for the demands of a skilled occupation in the labour market (initial vocational education and training) and/or how to examine skills acquired in the course of work for the purposes of occupational advancement (upgrading/further training). This secures legal rights for all participants in initial vocational education and training: the companies, the apprentices– and, not least, employers and customers, who can claim entitlement to performance of a defined quality. Recognised training occupations are thus the result of (tripartite) negotiation processes between the state and the social partners. They are an expression of the plurality of coordination (steering) built into the German vocational education and training system; that is to say, collective responsibility for the vocational education and training system (ownership) materialises in these standards. But do ownership and commitment for commonly agreed vocational standards play a role on a company level? How do work councils especially in small and medium-sized companies assess the quality apprenticeship training and how do they contribute to it?

Materials. In Germany, companies with at least five employees have the statutory right to elect a representative body (works council). The proportion of staff represented by works councils in the public sector in 2016 was 91.0 percent. By way of contrast, the corresponding figure in the private sector economy was 41.2 percent. The proportion of companies with a works council grows in line with size. In 2016, only 9.0 percent of employees at companies with between five and 50 staff had a works council. In the case of companies with more than 50 employees, the proportion with a works council was 45 percent. A works council was in place at 88.5 percent of companies employing more than 500 staff (Federal Statistic Office 2018). The Labour Management Relations Act (Betriebsverfassungsgesetz BetrVG) grants works councils a graduated system of information, consultation, initiative and co-determination rights. With regard to apprenticeship training, the law stipulates that the works councils have the right "to exercise co-determination in the implementation of company based vocational education and training" (§98 BetrVG). Works councils are able to monitor apprenticeship training, to exert an active influence on the funding of training and to work with the employer to promote vocational education and training. Despite a multitude of studies on the effects of co-determination on company participation in training (Stegmaier, 2012) and on the costs of training (Kriechel et al., 2014), the question of influence of works councils on training quality was not addressed within the scope of quantitative investigations until 2018 (Koch, Mühlemann, Pfeifer, 2018).

Project objectives. The qualitative study investigated the understanding of training quality developed by works councils in SME, the mechanisms which bring about the causal correlations with the influence of works councils on training quality identified thus far (Koch, Mühlemann and Pfeifer 2018), and the conditions which are of relevance in this regard. In the core is the understanding of "apprenticeship training quality" that has been operationalised by the indicators of input (e.g. training regulations, training plan, aptitude of training staff), process (methodological and didactic implementation), output (examination success), transfer (of what has been learned to vocational practice) and outcome (sustainable usability of competencies acquired) and the actions of works councils performed within this context. The study aimed to reconstruct understandings of training and quality and the social processes at the company which are of significance to securing company training quality together with the conditions governing such processes.

Methods. In methodological terms, we based our study on an industrial sociology case study approach (Pongratz, Pfüger and Trinczek, 2010). Access to the field investigation took place via 13 expert interviews in six small and medium sized companies for the closer definition of hypotheses, which were examined in detail in four case studies. The first phase of research we talked to persons with responsibility for vocational training (trainers, human resources managers), members of the works council (BR), members of the Young People and Apprentice Council (JAV) from the following sectors: measurement technology, construction industry, wholesale trade, electrical engineering, trade and service for hard and software. Work councils were established in only two out of the six companies. We additionally conducted two meta-reflections with trade union secretaries, one from the Metal Union (IG Metall) and one from the Union for Public Services (Ver.di). The focus of the interviews was on the perception of apprenticeship training (How do you evaluate the apprenticeship training in this company?), linked in with the notion of quality (When is training "good"? What is necessary to

make training "good"?). The role in which respondents saw their own function and the description of their role and tasks in apprenticeship training were further subjects of discussion. This first research phase insofar was aligned towards reconstructing the "*experiences, perspectives, interpretations and relevance structures*" of the respondents (Liebold and Trinczek, 2008). Based on first findings of the expert interviews and in line with a "most diverse" approach case studies were carried out in the automobile supplier industry and in local public transport in different regions (the Ruhr conurbation and non-urban areas of northern Germany). Due consideration was accorded to the characteristics of content reference, a combination of methods, multiperspectivity and openness (Pfüger et al., 2010). The result is four case studies which encompass companies in the automotive supplier industry with 490 and 600 employees respectively and public transportation firms with 75 and 100 members if staff. In both sectors forming the object of investigation, the purpose of training is to ensure a supply of skilled workers.

Results and discussion. The research phase comprising the expert interviews led to the following initial evaluations:

1. Across all the company interviews, the experts stated indicators that they assess as being essential to the implementation of apprenticeship training at their respective companies and given the general conditions that are in place. These are related to input aspects (equipment issues, staff, implementation of training), to the training process (level of assistance, measures to encourage motivation or training support measures) and to output/outcome (company and occupation related results such as completion of training, wage prospects and prospects for employment). Training quality was assumed to be in place if apprentices successfully complete training. This means that, as a category, it equates to examination success as illustrated by the following citations:

Head of Human Resources	*"Theoretically speaking, the success of training is measured by the final examination. If the final examination is good, then the training was good."*
Trainer	*"The main aim of training is to pass the skilled worker examination. Full stop."*
Works council member (BR)	*"For me, compliance with the skeleton curriculum is a fundamental prerequisite (….) as is ultimately having done everything which is important for the examination."*
Young People and Trainee Council member (JAV)	*"Good training allows us to grow into the basic structures and puts us in a position in which we are able to work."*

2. A majority of the respondents refer to "training quality" in terms of the underlying occupational standard, thus also alluding to the objective of vocational education and training as described in § 1 (3) of the Vocational Training Act (BBiG): "*The purpose of vocational education and training is to impart the skills, knowledge and capabilities (employability skills) necessary in order to engage in a qualified occupational activity in a changing world of work within a regulated course of training. It should also enable trainees to gain the requisite occupational experienc*e."

3. "The ability to perform vocationally" and "occupational proficiency" (berufliche Handlungsfähigkeit) describe the occupation-related outcome of training. This is directly linked with the company-related outcome of training, which can be paraphrased by the category of "attitude" (in the sense of being an individual match for the company). As the Head of Human Resources at company A puts it, this involves "*knowing how the company ticks and what is important here*". The Head of Human Resources at company C states, "*We are seeking to strengthen internal values (…) by acting as role models (…). If we manage to do this, we will end up with a reliable and motivated member of staff who will enable us to survive against the tough competition we face*."

3. "Good apprenticeship training" denotes a training organisation which is able to produce occupation-related (successful final examination) and company-related outcomes (match for the company) in an effective way against the background of specific operational requirements. Training is considered a pedagogical, educational and socialisational process within the company, which culminates in a personality which is in possession of employability skills, is a match for the company and identifies with its goals. "*Good training can be described in really simply terms. (…) it is when a reliable member of staff is produced at the end with whom we are able to work together effectively and who provides the company with an output*" (trainer at company B).

The constructs of training quality and of "good implementation of training" formulated in the expert interviews were confirmed in the case studies. In the companies investigated in the case studies, the understanding of "good training" was also aligned to successful completion by trainees and thus to the training standard (recognised training occupation). This is circumscribed via the respective outcome expectations of the companies, of the staff providing training and of the works council. Depending on the interview subject, the emphasis was on economic or individual application contexts. Whereas management tends to view the objective of training in terms of producing qualified skilled workers and employees who are a good match for the company, trainers and the works council are more likely to accentuate the integration of young people into working life: "*One focus is certainly on taking social responsibility into account. But another aspect that is, of course, much more important for us is to train our own staff and skilled workers in particular*." (Works foreman)

"*As we have said, there are people in society who take more time to develop. That's just the way it is. Actually, the occupation of machine and plant operator is ideal for pupils with a lower level of prior learning who may need this extra development time. (...). This is why we have chosen this occupation. If we have people or trainees who particularly stand out and if we are able to do so, then we offer training in the occupation of industrial mechanic. Maybe I can turn a certain trainee into a tool maker. Anything is possible. (...). This occupation is a good match for our production operations. We can pick up pupils from the schools. That's the way it works. People also need to be accommodated*." (Head of Training)

"There are also people who have passed the lower secondary school leaving certificate and got good marks. We have to find some way or other of integrating them into our society. They may be glad that they have completed training and are then able to install and dismantle parts, which they can earn good money doing. We have split things up by reducing the number of tool makers whilst also placing a greater emphasis on production technology and machine and plant operators. We have done this in order to retain staff and secondly to offer an opportunity to the people in our society with a lower secondary school qualification so that they can be integrated into the work process. They can also be accommodated in the occupation in which they have done their training. This approach has, of course, also allowed us to raise the quality of our production staff." (Works council chair)

"Good training" is synonymous with the employability skills to be acquired in accordance with the Vocational Training Act. From a company point of view, it is essential that trainees learn over the course of training to integrate themselves into the firm's specific work regime and flexible working times and the respective social structure including specific work processes. The expert interviews had already indicated that works council activity in issues regarding training primarily concentrates on the areas of recruitment and subsequent permanent employment of apprentices, i.e. on performance of statutory rights of co-determination. This is confirmed by the case studies, in which the persons interviewed do not ascribe any effectiveness to the works council with regard to the structuring of training beyond the facts and circumstances relating to mandatory co-determination. However, the institutional function of the works council (performance of statutory rights of co-determination, "secondary power") is not called into question at any of the companies.

Conclusions. The works councils surveyed in the case studies concentrate their training-related activities on the facts and circumstances relating to co-determination statutorily made available to them. As far as training is concerned, respondents seldom report that they avail themselves of the right of initiative accorded to them. The result of company interest in "good training" (training as a means of ensuring a supply of skilled workers) and in combinations of stakeholders who work together in a spirit of trust ("*We're not playing against each other. We play together in pursuit of the same goal, which is ultimately to achieve success at the company and secure our jobs (...)"* company is that works councils at the companies investigated in the case studies do not see any need to intervene in the structuring of training. This may be one reason for the prevailing opinion expressed in the interviews both from the point of view of the employers and the works council members themselves that nothing about training would change if there were no works council. The case studies give rise to the supposition that works councils exert a stronger effect on securing training supply than on quality assurance or quality improvement. In all companies surveyed, they are demonstrably shown to take on a role as "advocates" of training, both at a personal level (conflicts in the workplace) and institutionally (securing the supply of training places at the company) and to act as a "firewall" in the case of any impending reduction in or cessation of training provision.

All persons interviewed are of the view that the degree of influence exercised by works councils on the shaping of "good training" tends to be low. This is possibly due to the following causes.

(1) **Ensuring a supply of skilled workers is the guiding principle.** In areas where companies are only able to use the labour market to a limited extent to cover their requirement for qualified skilled workers, firms which provide their own training see this as an investment in the future. This investment motive extends beyond the primary interest of the companies to use their own training activities as a vehicle to produce qualified skilled workers with employability skills to encompass the idea of acquiring staff who are socialised within the firm and have learned to adapt to the respective work regime and social structure. Training which achieves this objective is automatically deemed to be of "good" quality. If the works council is also convinced that training is firmly established in the company's tradition, they perceive very little reason to intervene because their yardsticks and criteria for "good" training are also derived from the occupational profile or training regulations.

(2) **Activities are embedded within the logic underlying the way in which the company is run**. In exercising these rights and depending on their available resources, works councils exhibit a "*broad and diverse understanding of their tasks […] within company-based training which is not merely limited to a monitoring and protective functio*n" (Berger 2013, p. 20). They find themselves adopting a dual role: They are the elected representative body of the employees, but are at the same time committed to working towards the company goal and to cooperating with the employer in a spirit of trust. This is framed within the logic behind running the company, an area in which works council actions exercise significant co-determination. In the medium-sized enterprises offering apprenticeship training, "informal" control systems are described which are characterised by a "family-oriented" company climate in which everyone cooperates "openly and honestly" and in a "trusting and hand-in-hand manner" on training issues regardless of the hierarchy. The persons interviewed for the SME case studies expect that it will be possible to resolve conflict via the means of direct dialogue. Against this background works councils monitor the implementation of company-based training in their capacity as internal supervisors. As long as the companies themselves have a strong interest in "good" training and use this to ensure that apprentices successfully complete their training, the works councils see no reason to intervene. If general company conditions remain the same, the absence of a works council would possibly also have no impact on the success of training. However, if these general conditions alter and training is jeopardised at an institutional or individual personal level, works councils make a contribution towards securing training.

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