

Standards in Vocational Teacher Education in Ukraine: Problems and Fields of Tension

VALENTYNA RADKEYCH, VIKTORIIA KRUCHEK, MYKOLA PRYHODII &
DARIA VORONINA-PRYHODII*

Abstract

Ukraine's education system is being modernized in connection with its European integration processes. In implementing the provisions of the human-centred educational paradigm, standardization serves as an important way to achieve an appropriate level of quality and efficiency of education. Standardization of vocational education is a multi-dimensional phenomenon, which indicates its complications, complexity, and multifactoriality. With regard to the specifics of vocational teachers' activities, their training should be considered in conjunction with the training of workers. The unifying factor in this case is professional and pedagogical activity, the nature and content of which is determined by the requirements of employers for the workers' training, which in turn determine the requirements for the training of vocational teachers. We developed a draft professional standard for the profession of vocational teacher on the basis of the results of an analysis and a public discussion. It defines the functions of a vocational teacher, which are realized through the relevant professional competencies and cover the following processes of planning and implementation: educational process, self-education, methodological work, research and experimental activity, and monitoring of educational activities.

Keywords: vocational teacher, professional standard, professional competence, standardization.

1 Standardization as a Scientific Phenomenon

In the context of the dynamic development of economic sectors, updating and standardizing vocational teacher training is an important and challenging task, as its content needs to be shaped proactively and adapted to the requirements of employers and the labour market.

The terms "standardization of education" and "standardization of vocational training" are based on the general concept of "standard." A standard in the broadest sense of the word is a sample, a benchmark, a model that is used as a basis for comparing other similar objects (Chernilevskiy, 2008). The *Encyclopaedia of Education* states (Vitrenko,

* Corresponding author

2021, p. 977): “Education standardization is the procedure of development and approval of education standards, which are a part of the education system – a set of interacting documents that establish certain norms and provisions for the implementation of the educational process.” The Law of Ukraine “On Standardization” (2014) defines this concept as “a normative document based on consensus, adopted by a recognized body, which establishes rules, guidelines or characteristics for general and repeated use in relation to activities or their results, and is aimed at achieving an optimal degree of orderliness in a certain area.” A standard, as a regulatory and technical document, establishes a set of rules, requirements, and norms for the object of standardization and is approved by a competent authority. In other words, it is an agreement on norms or specifications.

In European countries, the term “qualification standards” is usually used to refer to the norms and requirements that apply to the following aspects of qualifications (Pukhovska et al., 2014, p. 47):

- Professional standards are the duly approved requirements for employees’ qualifications and their competence, determined by employers and serving as the basis for the formation of professional qualifications. Professional standards correlate with the levels of national and sectoral qualification frameworks and are grouped by sector. Thus, professional standards answer the question: What should a specialist be able to do in the workplace?
- Educational standards are a set of requirements for the content and results of educational activities of vocational education institutions at each level of education within each specialty. Educational standards answer the question: What should a pupil (student) learn in order to be a qualified employee in the future?
- Assessment standards define the object of assessment, success criteria, assessment methods, standards (benchmarks), and the members of the commission that provides the relevant qualification. Assessment standards answer the question: How will we make sure that the future specialist has acquired the necessary knowledge and skills (competencies) to perform the work?

Standards should become a means of providing state guarantees for the quality of education at the fundamental level. They should create maximum variability in content in order to quickly take into account changing priorities in the labour market and serve as a kind of link between the vocational education system and the labour market. In turn, standardization of education is a procedure that determines the establishment of regulatory requirements of qualification standards for educational outcomes (competencies) of educational institutions graduates. It provides a permanent comparison of students’ educational achievements with the goals of their competence-based training for its correction. It also ensures the appropriate levels achievement of training quality at educational institutions through the innovation of content and teaching technologies and promotes the convertibility of education levels within the state and abroad.

Standardization of education is aimed primarily at achieving the proper training quality through tools for organizing educational activities and specifying learning ob-

jectives and outcomes. Achieving these goals requires defining the key methodological approaches and principles of systematic research on education standardization as a scientific phenomenon at the appropriate conceptual level.

2 Scientific and Regulatory Foundations of Standardization in the Field of Vocational Education

2.1 Theoretical Foundations of Standardization Research

In the current conditions of education modernization in Ukraine, which are focused on the implementation of the student-centred educational paradigm, standardization is an important way to achieve the proper level of quality and efficiency. In view of this, numerous programme documents declare that the development of state education standards based on a competency-based approach is one of the ways to solve the problem of improving educational efficiency.

New generation educational laws declare that competence is a dynamic combination of knowledge, skills, abilities, ways of thinking, attitudes, values, and other personal qualities that determines a person's ability to successfully socialize and conduct professional and/or further educational activities. The main difference between the competency-based approach and the established knowledge-based technology of training specialists is the shift in emphasis from the learning process to educational outcomes. According to scientists (Korotkova et al., 2011, p. 80), a result-oriented vocational education strategy includes a justification of vocational education in terms of national goals; the design of a system in which all participants in the educational process have mutual responsibilities; a multi-level system development of expected learning outcomes; the development of evaluation criteria and the assessment of new forms of student learning outcomes; curricula creation based on expected results in educational fields; system development for monitoring the quality of education; education improvement as an open system; and the comparative analysis of the real achievements of world educational systems, which is the basis for their innovative development.

This educational methodology brings significant changes to vocational education, in particular in the content of education, in the organization and methodological support of learning processes, in the assessment of learning outcomes, and in the qualification system.

In the collective monograph *State Standards of Vocational Education: Theory and Methodology*, Nychkalo (2002, p. 8) identifies three functions of standard requirements in the system of vocational education: ensuring interconnections between the vocational training of different categories of citizens and the relevant economic sectors (industry, agriculture, and services) in which vocational school graduates of different types and ownership forms will work; ensuring the comparability of documents on completed education at the national level (certificates, diplomas, and other documents of the state standard); and ensuring qualification levels that are recognized in other states.

Chernilevskyi (2008) reasonably suggests that standardization of education should be considered a procedure that accompanies both the goal-setting stage and the effectiveness-evaluating stage of its achievement, which contributes to the optimization of the educational process itself through its correction. In other words, it is possible to significantly improve the quality of the education system if standardization is viewed not only as “development and approval of standards” but also as an officially established procedure for implementing its provisions, and if the requirements for competency-based training are met at the stages of goal setting, selection, and structuring of educational content, organization of students’ competency acquisition, and assessment of their competency achievements (including independent assessment).

In addition, most European countries consider uniformity of quality and guarantees of student mobility to be an important condition for ensuring access to quality educational services. The compatibility of curricula, educational programmes, and teaching materials in modern education leads to improved forms of cooperation and goes beyond mere alignment. Standardization is gradually being understood as a process of the constant harmonization of criteria and requirements with the learning process outcome, i. e., graduate competencies, quality management systems, and quality control criteria and requirements. It is about standardizing not the didactics of education but rather its results – competencies – and aligning them with European approaches.

Ukrainian scholars also agree that there should be three types of qualification standards:

- professional standards are requirements for employee competencies approved in accordance with the established procedure, which serve as the basis for the formation of professional qualifications;
- educational standards are a set of requirements for learning outcomes in terms of competencies at the appropriate level of the National Qualifications Framework;
- assessment standards are duly approved criteria for assessing learning outcomes in terms of competencies, a list of means measuring professional knowledge, skills, and abilities in accordance with the requirements of professional standards.

An essential feature of quality assurance in education standardization is achieving a match between the level of graduates’ qualifications and labour market requirements. A qualification, in turn, is defined in the National Qualifications Framework as “an official result of assessment and recognition that is issued when an authorized competent body has established that a person has achieved competencies (learning outcomes) according to specified standards” (Cabinet of Ministers of Ukraine, 2011). Thus, the content of qualifications is determined by professional and educational standards.

The first task in the standardization of vocational education based on a competency-based approach is therefore the development of professional standards, which are duly approved requirements for the employee’s competencies that serve as the basis for the formation of professional qualifications.

Kravets (2017a) summarizes information about new approaches to professional standards development that are relevant in the context of vocational education modernization in Ukraine:

- the structure of professional standards is based on a modular and competency-based approach with a focus on results in a particular type of professional activity;
- the main method of forming the content of professional standards is a functional analysis of the professional and personal competencies in demand on the labour market, divided into qualification levels and modules (units);
- the main function of professional standards is to bring the labour sphere and the sphere of personnel training closer together by establishing regulatory requirements for knowledge, skills, and personal qualities;
- professional standards are one of the most important components of national qualification systems and a prerequisite for the formation of a national qualifications framework adapted to the European framework.

Training standardization of vocational teachers in Ukraine is being implemented on the basis of the specific characteristics consideration of professional and pedagogical activity and education. The main task of vocational teachers is to provide vocational training at vocational education institutions as well as at the workplace in a wide range of general- and special-cycle disciplines (theoretical and industrial training) during the skilled workers' training in the main and auxiliary professions of the industry. Vocational teachers engage primarily in creative and innovative vocational and pedagogical activities, including study of the labour market and the specifics and prospects of industry and regional enterprises, which they use as a basis for creating a project of content (curriculum documentation) and procedural blocks (individualized activity-oriented teaching methods, comprehensive didactic tools) of the educational process. In addition, the activities of such specialists involve the implementation of their own teaching methods and the organization and implementation of the educational process on the basis of a balanced combination of industrial training and productive work with the active use of advanced production technologies.

Vocational teachers study the effectiveness of the educational process, predict trends in the development of professions on the basis of a detailed analysis of production and the prospects for its renewal. Thus, these activities integrate the responsibilities of not only a teacher and a master of industrial training but also a teacher-organizer and methodologist. Accordingly, the training content of such specialists is integrative in nature (including psychological, pedagogical, and sectoral components). The training organization and especially the methods of vocational training are aimed at preparing future teachers to teach students a working profession or a sectoral group of working professions. Thus, the emphasis is not on the subject matter but on the professional qualification requirements for employees, general and professional competencies, which are then transformed into the subject structure of the general professional and special cycles of the curriculum and fill each subject with content.

On the basis of didactic and technological, sectoral, special psychological, pedagogical, and methodological training, students study the methods of pedagogical design and implementation of educational technologies, as well as the creation of individual methodological systems for training skilled workers in a range of professions.

Thus, the specificity of vocational teacher education is determined by the appointment of a specialist who can work at vocational education institutions, at institutions of additional vocational education and advanced training, in the training and course network of enterprises and organizations, and on specific technologies of training, education, and development of vocational teachers. Technological training covers both pedagogical and industry-specific production technologies. This includes didactic and technological, industry-specific special psychological, pedagogical, and methodological training.

The training of vocational teachers should be considered in conjunction with the training of personnel. The connecting link is professional and pedagogical activity, the nature and content of which is determined by the requirements of employers for the training of workers, which in turn determine the requirements for the training of vocational teachers. Changes in production processes affect professional and pedagogical activity both indirectly, through changes in the requirements for the worker as well as through the content and process of their training, and directly, through production factors of professional and pedagogical activity. Changes in the training of skilled workers are also reflected in professional and pedagogical activities, as their content changes. The teaching tools of professional and pedagogical activity (methods, forms of teaching and instruction, methods of research and forecasting of pedagogical phenomena, etc.) and production tools (equipment, technological facilities, cutting and measuring tools, materials, technical and technological documentation, methods and forms of labour organization, production processes, technical and technological methods of researching technical phenomena, etc.) are undergoing significant transformations. Active teaching methods (problem-based learning methods, research methods, business games, etc.), project technologies, the use of laboratory and practical work, team-based learning, digital learning tools, and sophisticated technological equipment are being introduced into professional and pedagogical activities, and the vocational teacher must be able to operate them.

National and international practice shows that it is advisable to use public-private partnership instruments to develop professional standards. Public-private partnership in vocational education is a mechanism for coordinating actions and sharing responsibilities between public and private vocational education stakeholders used to formulate, develop, finance, manage, and support projects in areas of common interest (Radkevych et al., 2020). According to the Concept for the Implementation of the State Policy in the Field of Vocational (Vocational and Technical) Education “Modern Vocational (Vocational and Technical) Education until 2027” (Cabinet of Ministers of Ukraine, 2019), the development of social partnership involves the participation of all stakeholders, including employers, in the development of professional standards, educational standards, and educational programmes, in the formation of the National

Qualifications System, and in the improvement of the National Qualifications Framework.

Professional standardization in most European countries (the UK, the Netherlands, Germany, France, Estonia, etc.) is based on the functional analysis method. The professional standard is a product of the collective activity of employers and representatives of education, industry, and public associations. According to Radkevych (2013), professional standards, in the new sense, define the labour functions of skilled workers within a certain type of economic activity and describe them in terms of knowledge and skills in a standardized way. It is emphasized that their value lies in the fact that they create opportunities for the introduction of uniform requirements for the performance of labour functions and independent assessment of the workers' competencies, including those acquired through non-formal education, and ensure an appropriate level of labour quality. For employers, they can form the basis for identifying and describing the skills and abilities necessary for the successful functioning of an employee at a particular workplace, for developing job descriptions and professional development programmes, and for evaluating their results. Employees can use the professional standard to self-assess their professional competence.

New approaches to the development of professional standards enable effective interaction between the labour and education sectors for the transition to training in accordance with the rapidly changing needs of the modern labour market (Radkevych et al., 2017). Public-private partnership can become a catalyst for multidimensional changes in both the regulatory framework for determining the structure of professional standards and the development of vocational education standards.

Korotkova (2012) emphasizes the special importance of procedures that result in the perception of the provisions of the professional standard by the general population, the education system, public organizations, and associations, that is, the expansion of the public discussion. Subjects of discussion are the compliance of the content and structure of the professional standards with European approaches and the specifics of the chosen professional activity; the representativeness (in terms of quantitative and qualitative parameters) of organizations and specialists involved in the development; the accuracy of the professional standard with regard to a certain type of economic activity; the content compliance of the defined competencies with the needs of employers; the possibility of using the professional standard to implement the ideas of personal development and lifelong learning; the possibility of using the professional standard as a link between the labour market and the field of education; the possibility of timely adjustments, additions, and changes in accordance with the needs of the labour market; and the possibility of using the professional standard to implement assessment (certification) tools for the acquired competencies.

The monograph *Professional Standards: Theory and Practice of Development* (Korotkova et al., 2011, p. 102) presents the conditions for developing high-quality professional standards, substantiated by scientists. They include conducting a qualitative analysis of the labour market; creating reasonable methods for collecting, systematizing, and summarizing survey results; formulating professional, key, and cross-cutting competen-

cies; updating existing qualification characteristics, which, in our opinion, are still relevant today in solving the problem of standardizing vocational teacher training.

Kolyshko (2017) points out a number of issues that remain unresolved, in particular, the revision of the principles and approaches to the development of professional standards as a standardized description of labour functions in certain types of economic activity, and not in the context of individual positions in the Classification of Occupations; the establishment of uniform qualification requirements for developers of professional standards and the development procedure itself; the approval of rules for classifying job functions and professional standards and defining and adhering to a unified structure of a professional standard; and the organization of communication between developers and validation bodies of professional standards (information about development, publication, public discussion, approval, and entry into force).

Although professional standards are currently developed for a specific profession or group of professions, this approach should change in the future (each professional standard should correspond to a specific job function in the context of a specific type of economic activity). The development of professional standards is an important task of authorized developers of professional standards, including industry organizations of employers, industry councils for certain types of economic activity, and other authorized entities. The professional standard must meet the quality criteria approved by the authorized state body. Therefore, it is important that the developers of professional standards meet the qualification criteria (requirements) and undergo an accreditation procedure conducted by an authorized state body operating in the National Qualifications System.

The results of the first area of vocational education standardization (development of professional standards based on a competency-based approach) have a significant impact on the system of human resource development management and on the quality of work in terms of fulfilling the tasks of the second area: the development and implementation of educational standards and programmes based on competencies, the delegation of responsibility for the content of training, and the selection of forms and methods of their formation to teachers in these processes.

The educational standard serves as a social guarantee for the competitiveness of members of society on the domestic and global labour markets and is the main tool for managing the quality of vocational education, a regulatory framework for the development of the unified educational system of Ukraine, the work of educational institutions, and their accreditation. It also provides a systemic basis for shaping the content of education and an organizational and methodical framework for diversifying educational programmes.

The main tasks involved in implementing the educational standards of vocational education are the following: development of modern regulatory and methodological support; clarification of teachers' education levels and making of appropriate adjustments to the formulation of learning outcomes for a particular level of education; the development of passports and programmes for the formation of graduates' competence models; the development of educational programmes for teacher training, com-

petency-based work programmes, and curricula; comprehensive funds creation of control tools and technologies; the development of comprehensive methodological support for educational activities in the context of the implementation of competency-based educational programmes and the digitalization of education; the formation of updated qualification requirements for scientific and pedagogical staff and the content of advanced teacher training programmes; the development of regulatory and methodological support for monitoring the phased practical implementation of vocational teacher education programmes, academic accreditation of educational programmes, and the self-assessment of educational institutions regarding their implementation; and the identification of possibilities for updating the content of vocational teacher education programmes (Romantsev et al., 2011, p. 39).

The main idea of standardizing vocational education in this area is to consolidate primary vocational education with subsequent (higher) qualification levels and to standardize the content and conditions that enable individuals to gradually realize their potential in terms of abilities, skills, and motivations, choosing their own professional development trajectory. In this context, another area of standardization is outlined: the training of standards developers and programmes of vocational education (Cabinet of Ministers of Ukraine, 2014) and the development of their readiness to implement legislative innovations in the system of vocational education.

The active involvement of teachers in solving urgent problems of modernizing the training content of future specialists (integrated model development of professional training, pedagogical technologies design, prognostic vision of vocational education development, etc.) gradually leads to a modification of pedagogical activity towards multifunctionality. In solving the tasks of implementing legislative innovations in the system of vocational education and in the processes of education standardization, vocational teachers are able to ensure inter-sectoral communication (integrate professions, integrate knowledge from different fields, and improve processes in a particular field); manage projects and processes; demonstrate interculturalism and openness (find ways to solve problems by analysing the experience of other countries and cultures and implement the most appropriate interiorization); realize the activities on a reflective basis; use digital technologies on a large scale; and work constructively in a team, also in conditions of uncertainty and in rapidly changing situations (Kravets, 2017b).

In the process of implementing modern strategies for standardizing vocational training, teachers are generators of renewal and development of both the vocational education system as a whole and the potential and life plans of all subjects of the educational process, and they should be ready for this role. The effectiveness of the aforementioned standardization vectors is ensured by the active participation of teachers in the process of generating ideas and implementing them to improve the professional training of future specialists and solve problems in education.

The described areas of vocational education standardization demonstrate its difficulty, complexity, and multifactorial nature.

2.2 Algorithm for Developing or Updating a Professional Standard

The competency-based professional standard for the profession “Vocational Teacher” was first developed and approved in 2020 (Order of the Ministry of Economy No. 1182 of 20.06.2020). It was developed by the Institute of Vocational Education of the National Academy of Educational Sciences of Ukraine.

This standard was developed in accordance with the Procedure for the Development and Approval of Professional Standards (Resolution of the Cabinet of Ministers of Ukraine “On Approval of the Procedure for the Development, Enactment and Revision of Professional Standards” (No. 373 of 31.05.2017) and the Methodology for the Development of Professional Standards (Order of the Ministry of Social Policy of Ukraine No. 74 of 22.01.2018 “On Approval of the Methodology for the Development of Professional Standards”).

Following the decision to develop a draft professional standard, its registration, and the approval of the application for its development, a working group was set up, which included representatives of employers, academic institutions, trade unions, production and technological specialists, HR specialists, and experts in the relevant professional field. In particular:

- The Ministry of Education and Science of Ukraine (experts from the Department of Vocational Education, the Department of Content and Organization of the Educational Process, and the Expert Group on Content and Quality Assurance);
- Scientific institutions: The Institute of Vocational Education of the National Academy of Educational Sciences of Ukraine (Laboratory of Distance Vocational Training, Laboratory of Electronic Learning Resources, Laboratory of Scientific and Methodological Support for Training of Specialists in Colleges and Technical Schools; Laboratory of Foreign Systems of Vocational Education and Training); State Scientific Institution “Institute of Education Content Modernization” (Department of Scientific and Methodological Support of Vocational Education Content);
- Educational institutions: Anton Makarenko Kyiv Vocational and Pedagogical College; State Educational Institution “Khmelnitskyi Centre for Vocational Education in the Service Sector”; Vocational and Pedagogical College of Oleksandr Dovzhenko Hlukhiv National Pedagogical University; Central Institute of Postgraduate Education of the State Higher Education Institution “University of Education Management” of the National Academy of Educational Sciences of Ukraine (Department of Public Administration and Education Management); State Higher Educational Institution “Vadym Hetman Kyiv National Economic University” (Department of Pedagogy and Psychology); State Vocational Educational Institution “Vinnytsia Interregional Higher Vocational School”; Anton Makarenko Kyiv Vocational and Pedagogical College (Department of Psychology and Pedagogy); Vinnytsia Higher Vocational School of Services; board of directors of higher education institutions of I-II accreditation levels in Ivano-Frankivsk region; Nadvirna College of the National Transport University;

- Scientific and methodological and educational and research centres: the Training and Methodological Centres for Vocational Education in the Rivne, Volyn, and Sumy regions; Training and Methodological Centre for Vocational Education in the Chernivtsi region; Scientific and Methodological Centre for Vocational Education and Advanced Training of Scientific and Pedagogical Workers in the Khmelnytskyi region; Educational and Scientific Centre for Vocational Education of the National Academy of Educational Sciences of Ukraine (Vocational Training Department);
- Trade Unions of Education and Science of Ukraine;
- NGO “All-Ukrainian Association of Vocational Education Workers”;
- Department of Personnel Development and HR Policy of PJSC “Ukrainian Railways.”

Prior to the start of the work, training was organized for the working group members with the participation of a state expert from the expert group on lifelong professional development of the Directorate for Labour Market and Employment Development of the Ministry of Social Policy of Ukraine on the structure, procedure, and principles of functional analysis of labour actions/functions, approaches to describing the components of the professional standard, tools for functional analysis (survey questionnaires, forms and tables for obtaining the necessary information), etc.

During the preparation of the draft professional standard, the working group researched and analysed the current professional activities of vocational teachers and conducted an expert survey of experienced teachers.

The first stage of the functional analysis involved collecting information on

- labour functions performed by vocational teachers;
- the list of items and means of labour, equipment, facilities, products, materials, and labour tools used in vocational education and training activities;
- provisions of current regulations, normative and technical documents that define requirements for the content and quality of vocational education and training;
- general (social, communicative, personal, ethical, environmental, etc.) and professional (specific to the pedagogical sphere, related to special knowledge in this area) competencies;
- requirements for knowledge, skills, abilities, and other competencies of a vocational teacher;
- requirements for vocational teachers in terms of qualification level, medical contraindications for work, work experience, level of education, availability of documents on the assignment of professional qualifications, additional requirements for the performance of labour functions, etc.

At the second stage of the functional analysis, the working group compiled a list of labour actions/operations and labour functions included in their use of the information obtained at the first stage of this analysis. Labour actions/operations were grouped

into labour functions. It was the labour functions performed by pedagogical staff that were selected, not job titles/work tasks and responsibilities, which can vary significantly from one educational institution to another. An expert assessment of the use frequency and importance of each labour function for the purpose of possible addition to the list was conducted at the third stage of the functional analysis. A total of 201 experts were involved in the evaluation of the vocational teacher functions. During the fourth stage of the functional analysis, the working group created the final list version of vocational teacher job functions by sequencing them. For each job function, a list of labour items and means required to perform the job function was compiled. At the fifth stage, professional and general competencies were identified, as well as the necessary knowledge, skills, and abilities for each professional competency. This approach focuses on the direct use of professional standards in the development of educational programmes/standards and training modules, in the attestation and certification of personnel, and in the assessment and assignment of professional qualifications when the level of competence (ability) of a person to perform one job function or a set of them is established.

The working group presented the list of professional competencies grouped by job functions, subjects, and means of work for the next expert survey. The number of experts was 192. After identifying the professional competencies, subjects, and means of work, the working group compiled a list of general competencies. The final version of the list of knowledge, skills, and abilities for a particular competency required to perform the relevant job function was approved by a majority vote of the working group members. The results of the functional analysis were recorded in the draft professional standard.

3 Updating the Professional Standard “Vocational Teacher”

The draft professional standard “Vocational Teacher” includes the following functions of a vocational teacher, which are realized through the relevant professional competencies:

- planning of the educational process (ability to study, analyse, and apply educational, scientific, legal, and other information on planning the educational process; the ability to carry out calendar and thematic planning of the content of academic disciplines, plan classes, and supervise independent and individual work of students, educational work in a student group, and individual educational work with students);
- implementation of the educational process (ability to select appropriate methods, forms, means, and technologies of teaching and instruction and develop students in accordance with the defined tasks and their individual characteristics; ability to select and structure the content of training in disciplines in accordance with the requirements of educational standards; ability to provide professional training to

students according to individual curricula; ability to carry out the educational process in an inclusive environment; ability to apply the latest forms, methods, techniques, and means of teaching and innovative pedagogical technologies; ability to apply the latest production technologies of the professional field);

- self-educational activities (ability to master innovative pedagogical experience, apply, and disseminate it; ability to design and optimize one's own career growth; ability to acquire additional qualifications);
- implementation of methodological work (ability to participate in the work of the methodological office and the methodological commission of the VET institution, organize subject weeks, etc.; ability to carry out individual work on a scientific and methodological topic and to develop methodological recommendations and guidelines, etc);
- conducting of research and experimental activities (ability to operate with scientific categories of research; ability to select and apply theoretical and empirical research methods; ability to develop pedagogical innovations to implement the main ideas of the study; ability to conduct a pedagogical experiment and summarize the results of pedagogical research);
- monitoring of educational activities (ability to diagnose the level of competence and the academic performance of students in formal and non-formal education; ability to organize control of educational, industrial, and practical activities of students; ability to control the quality of work performed by students in their profession);
- career guidance and support for students' career development (ability to participate in groups that develop qualification and educational standards and other regulatory documents in the field of education; ability to establish sustainable links with enterprises for internships and dual education of students; ability to organize career guidance work with students; ability to maintain contacts with the state employment service, enterprises, and organizations for the employment of VET graduates).

The general competencies of a vocational teacher are presented as a separate component in the structure of the draft professional standard:

- ability to adapt to the conditions of the educational environment;
- ability for academic and professional mobility;
- ability to take personal responsibility for the results of professional decision-making;
- ability to communicate within the framework of professional activities;
- ability to effectively manage working time;
- ability to demonstrate leadership qualities;
- ability to perform routine professional actions in a more efficient way;
- ability to act in non-standard situations;
- ability to work in a team;

- ability to prevent conflict situations;
- ability to develop and improve oneself.

The draft professional standard was developed in accordance with a certain structure and, in addition to information on job functions, professional and general competencies, the necessary knowledge, skills, objects, and means of labour, it contained the following:

- general information about the professional standard (purpose of the occupation); name of the type of economic activity (section, chapter, group, class, and their code) according to the National Classifier of Ukraine DK 009:2010 “Classification of Economic Activities”; name of the profession and code of the subclass of the profession according to the National Classifier of Ukraine DK 003:2010 “Classifier of Professions”; generalized name of the profession; titles of typical positions; professional qualifications; place of the profession in the organizational and production structure of the institution; working conditions; conditions for admission to work in the profession; documents confirming professional and educational qualifications, its classification at the level of the National Qualifications Framework;
- training and professional development (advanced training with or without a new level of education);
- legal and regulatory framework governing professional activities;
- data on the development and approval of a professional standard.

The draft professional standard prepared by the working group was subject to a public discussion organized and conducted by the Institute of Vocational Education of the National Academy of Educational Sciences of Ukraine as its developer. The discussion lasted two months and took place in the following stages: (1) publication on the developer’s official website of the following: a draft professional standard; a notice of public discussion, including information about the developer and contact details of the person responsible for developing the draft professional standard; a notice of the deadline and a form for submitting proposals and comments, the deadline, and the method for publishing the results of the discussion; (2) notification of stakeholders about the start of the public discussion and sending of the draft professional standard; (3) processing of the proposals/comments submitted to the draft professional standard by the working group; (4) summarization and publication of the results of the public discussion on the website, indicating the submitted proposals/comments, information on their consideration, and the reasons for not taking them into account.

Employees of the following educational (scientific) and methodological centres joined the public discussion of the draft professional standard “Vocational Teacher”: Educational and Methodical Centre for Vocational Education in Luhansk Oblast and Educational and Research Centre for Vocational Education of the National Academy of Educational Sciences of Ukraine. It was also joined by the following vocational (vocational and technical) education institutions: Regional Centre for Vocational Education

of Electrical, Mechanical, and Service Technologies in Kharkiv Oblast; state educational institution “Podil Centre for Vocational Education”; state educational institution “Regional Centre for Vocational Education of Construction Technologies of Kharkiv Oblast”; state educational institution “Kharkiv Higher Vocational School No. 6”; state educational institution of vocational (vocational and technical) education “Central Ukrainian Vocational Construction Lyceum”; state vocational educational institution “Kharkiv Higher Vocational School of Services”; state educational institution “Kupiansk Regional Centre for Vocational Education”; state educational institution “Zhytomyr Service Centre”, state educational institution “Kropyvnytskyi Professional Lyceum of Consumer Services”; Krasnokutsk Professional Agricultural Lyceum; and Velykonovosilkiivskyi Professional Lyceum. The suggestions and comments mainly concerned the wording of professional competencies, working conditions, and admission to work in the profession. The working group analysed the suggestions (comments) received as a result of the public discussion and made changes to the draft.

Following the draft standard review for compliance with the requirements of the Procedure for the Development and Approval of Professional Standards and the Methods for the Development of Professional Standards, it was approved by an order of the Ministry of Economy of Ukraine and entered into the Register of Professional Standards.

In 2022, in order to improve the quality and modernize the training of teachers for the system of vocational (vocational and technical) education in Ukraine, the Institute of Vocational Education of the National Academy of Educational Sciences of Ukraine initiated amendments to the professional standard “Vocational Teacher.” According to the Procedure for the Development and Approval of Professional Standards, approved by Resolution of the Cabinet of Ministers of Ukraine No. 373 dated 31.05.2017 (as amended), the procedure for amending a professional standard is similar to the procedure for its development. The working group included representatives of a scientific institution (Institute of Vocational Education of the National Academy of Educational Sciences of Ukraine), higher education institutions, professional pre-higher education institutions that train applicants in educational programmes in the field of knowledge 01 – “Education / Pedagogy”, speciality 015 – “Vocational Education” (by specialization) (Anton Makarenko Kyiv Vocational and Pedagogical College, Kryvyi Rih National University [Department of Vocational and Social Sciences and Humanities Education]), institutions of vocational (vocational and technical) education (Educational and Research Centre for Vocational Education of the National Academy of Educational Sciences of Ukraine, SEI “Vocational School No. 8 in Chernivtsi,” SEI “Khmelnyskyi Centre for Vocational Education in the Service Sector,” Vinnytsia Higher Vocational School for the Service Sector, Zaporizhzhia Higher Vocational School of Fashion and Style, Dnipro Centre for Vocational Education), vocational education and training centres (Training and Methodological Centre for Vocational Education in Sumy Oblast, Scientific and Methodological Centre for Vocational Education and Training of Academic Staff in Khmelnytskyi Oblast), the All-Ukrainian Association of Vocational Education Workers, etc.

In July and August 2022, the working group met and made proposals to improve the current professional standard. The proposed changes concerned the conditions of admission to work in the profession, the list of documents confirming professional and educational qualifications, and information on initial professional training and advanced training.

The draft updated standard defines the qualifications of a vocational teacher and specifies the job functions for each of the proposed categories. The Law of Ukraine “On Occupational Safety and Health,” Resolution of the Cabinet of Ministers of Ukraine No. 800 dated 21.08.2019 “Some Issues of Professional Development of Pedagogical and Scientific and Pedagogical Workers,” Order of the Ministry of Education and Science of Ukraine No. 1669 dated 26.12.2017 “On Approval of the Regulation on the Organization of Work on Occupational Safety and Health of Participants in the Educational Process in Institutions and Educational Establishments,” and State Educational Standards were added to the regulatory framework governing the relevant professional activities.

In accordance with the current realities of social life and the actual requirements of the labour market, the list of general competencies of a vocational teacher has been supplemented by the ability to bear personal responsibility for intellectual and cultural property and the results of professional decision-making; the ability to communicate within the framework of professional activity; the ability to communicate on professional issues in the state and foreign languages (orally and in writing); the ability to demonstrate leadership and entrepreneurship; the ability to comply with occupational health, safety, and civil protection rules; the ability to manage conflicts; the ability to use digital technologies; the ability to be open to multiculturalism and gender diversity; the ability to adhere to ethical standards of behaviour; the ability to act as a responsible citizen and participate in social life; the ability to exercise rights and responsibilities; and the ability to realize the values of civil society and the need for its sustainable development.

The list of professional competencies of vocational teachers is supplemented by the abilities to plan classes in vocational-theoretical and vocational-practical training, plan various forms and types of vocational training organization and educational work, select methods, means, and technologies for the training, education, and development of students, plan the educational process in an inclusive environment, plan the educational process in non-standard conditions, plan interaction with various subjects of educational activity, form the content of educational components in accordance with the requirements of educational standards/programmes, carry out the educational process using various forms, types, methods, means, and technologies of education, monitor and evaluate the learning outcomes of students, carry out the educational process in non-standard conditions, create a safe educational environment on the basis of compliance with the rules of life safety, labour protection, and civil protection, master promising pedagogical experience and apply it in professional activities, develop professionally through formal, non-formal, and informal education, carry out methodological work, conduct methodological activities in accordance with the work plans of methodo-

logical structural units of educational institutions and other subjects of educational activity, carry out experimental work, carry out project activities in the field of education, implement national and international projects in education and partnership, monitor professional qualifications in demand on the labour market, advise students on career development, and maintain contacts with enterprises and organizations to plan students' career development.

The results of the functional analysis were taken as a basis for singling out the function of implementing project activities and separating the functions of conducting career guidance and counselling on the career development of students. The list of knowledge, skills, and abilities required of a teacher has also undergone significant refinement, which is also reflected in the prepared project.

The changes made by the working group are detailed in Table 1.

Table 1: Content comparison of the professional standard "Vocational Teacher" (2020) and the draft updated standard (2022)

<i>Professional Standard "Vocational Teacher" (2020)</i>	<i>Draft updated professional standard "Vocational Teacher" (2022)</i>
<i>1.6. Professional qualification</i>	
Vocational teacher Vocational teacher of I category Vocational teacher of II category Vocational teacher of the highest category Assignment (confirmation) of qualification categories is carried out on the basis of the results of certification of pedagogical workers.	Vocational teacher
<i>1.8. Place of profession (position, professional name of work) in the organizational and production structure of the enterprise (institution, organization)</i>	
A vocational teacher is directly subordinate to the head of a professional (vocational) education institution. The workplace of the teacher is located in a separate office or in the room of teachers.	A vocational teacher is directly subordinate to the head/deputy(s) of the head of the institution of professional (vocational), professional pre-higher, higher education and other subjects of educational activity.
<i>1.10. Conditions for admission to work in the profession</i>	
Availability of a document on higher education degree not lower than a bachelor's degree in the speciality "Vocational Education (by specializations)" in the field of knowledge Education/Pedagogy or in the specialties of other fields of knowledge with the award of professional qualification of a pedagogical worker. Persons who have received higher education in other fields of knowledge and who have not been awarded the professional qualification of a pedagogical worker may be appointed to the position of a	Availability of a document on education not lower than a bachelor's degree in the specialty 015 "Vocational Education (by specializations)," other specialties of the field of knowledge 01 Education/Pedagogy, or specialties of other fields of knowledge with the award of professional qualification of a pedagogical worker. Persons who have received education in other fields of knowledge and who have not been awarded the professional qualification of a pedagogical worker may be appointed to the position of a vocational

(Continuing table 1)

Professional Standard “Vocational Teacher” (2020)	Draft updated professional standard “Vocational Teacher” (2022)
<p>vocational teacher for a period of one year. These persons may continue to work as a vocational teacher after their successful certification in the manner prescribed by law.</p> <p>Availability of a document on professional (vocational) education. The level of professional qualification is higher by one grade (class, category) established by the educational programme for graduates of professional (vocational) education.</p> <p>Availability of a personal medical book with the results of mandatory preliminary (before employment) and periodic preventive medical examinations.</p> <p>Availability of a certificate of knowledge on labour protection, fire safety, and life safety with notes on timely periodic testing of knowledge on labour protection and fire safety.</p>	<p>teacher for a period of one year. These persons may continue to work as a vocational teacher subject to psychological and pedagogical training and after their successful certification in the manner prescribed by law.</p> <p>Availability of a document on professional (vocational) education. The level of professional qualification is higher by one category (class, category) established by the educational programme for graduates of professional (vocational), professional pre-higher education, and other subjects of educational activity.</p> <p>Availability of a personal medical book with the results of mandatory preliminary (prior to employment) and periodic preventive medical examinations.</p> <p>Passing of the instruction on labour protection, fire safety, and life safety, rules of technical operation, regulating the safe activity of subjects of educational activity with notes in the journal about its timely conduct.</p>
<p>1.11. Documents confirming professional and educational qualifications, its attribution to the level of the National Qualifications Framework (NQF)</p>	
<p>Bachelor's degree in the speciality “Vocational Education (by specializations)” in the field of knowledge Education/Pedagogy or bachelor's degree in other fields of knowledge and a document on psychological and pedagogical training (level 7 of the NQF).</p> <p>Master's degree in “Vocational Education (by specialization)” in the field of Education/Pedagogy or bachelor's degree in other fields of knowledge and a document of psychological and pedagogical training (level 8 of the NQF).</p> <p>Diploma of a skilled worker or certificate of assignment (increase) of working qualification and appendices to the diploma of a skilled worker/certificate of assignment (increase) of working qualification (levels 3–4 of NQF).</p>	<p>Bachelor's degree in specialty 015 “Vocational education (by specializations)” or other specialities of the field of knowledge 01 Education/Pedagogy (level 6 of the NQF).</p> <p>Master's degree in speciality 015 “Vocational education (by specializations)” or other specialties in the field of knowledge 01 Education/Pedagogy (level 7 of NQF).</p> <p>Diploma of skilled worker (levels 3–4 of NQF)/ professional junior bachelor (level 5 of NQF).</p>
<p>2.1. Primary professional training</p>	
<p>Training at the first (bachelor's) level of higher education for obtaining the educational level “bachelor.”</p> <p>Primary vocational training in the relevant working profession to obtain the educational level of “skilled worker.”</p>	<p>Training at the first (bachelor's) level of higher education for the degree of higher education “Bachelor” in the speciality 015 “Vocational Education (by specialization)” or other specialties of the field of knowledge 01 Education/Pedagogy.</p> <p>Training in the relevant working profession for obtaining the educational qualification level “Skilled Worker” or training at the level of professional higher education for obtaining the educational and professional degree “Professional Junior Bachelor.”</p>

(Continuing table 1)

Professional Standard “Vocational Teacher” (2020)	Draft updated professional standard “Vocational Teacher” (2022)
2.2. Advanced training with the assignment of a new level of education (name of qualification)	
Training at the second (master’s) level of higher education for obtaining the educational level “master.”	Obtaining a higher education degree “Master” on the basis of a higher education degree “Bachelor” in speciality 015 “Vocational Education (by specialization)” or other specialties of the field of knowledge 01 Education/Pedagogy
2.3. Advanced training without assigning a new level of education	
The legislation provides for mandatory in-service training of pedagogical staff at least once every five years.	<p>Provided within the framework of the current legislation. According to the results of the certification, the compliance of the pedagogical worker with the position is determined and the qualification category and pedagogical title are assigned (confirmed).</p> <p>Vocational teacher, “Specialist of the second category” (labour functions A, B, C, D, E (E.1), G (G.1), H (H.2).</p> <p>Vocational teacher, “Specialist of the first category” (job functions A, B, C, D, E, F, G, H).</p> <p>Vocational teacher, “Higher category specialist” (job functions A, B, C, D, E, F, G, H).</p>
3. Legal and regulatory framework governing the relevant professional activity	
<p>Law of Ukraine “On Education.”</p> <p>Law of Ukraine “On Complete General Secondary Education.”</p> <p>Law of Ukraine “On Professional (Vocational) Education.”</p> <p>Law of Ukraine “On Higher Education.”</p> <p>Law of Ukraine “On Vocational Education before Higher Education.”</p> <p>Law of Ukraine “On Professional Development of Employees.”</p> <p>Plus, some</p> <p>... resolutions of the Cabinet of Ministers of Ukraine.</p> <p>... orders of the Cabinet of Ministers of Ukraine.</p> <p>... orders of the Ministry of Education and Science of Ukraine.</p> <p>Standards of professional (vocational) education.</p> <p>Other regulatory legal acts in the field of education.</p>	<p><i>were added</i></p> <p>Law of Ukraine “On Labour Protection.”</p> <p>Resolution of the Cabinet of Ministers of Ukraine dated 21.08.2019 № 800 “Some Issues of Advanced Training of Pedagogical and Scientific-Pedagogical Workers.”</p> <p>Order of the Ministry of Education and Science of Ukraine of 26.12.2017 № 1669 “On Approval of the Regulation on the Organization of Work on Labour Protection and Life Safety of Participants in the Educational Process in Institutions and Educational Institutions”</p> <p>State Educational Standards.</p>

(Continuing table 1)

Professional Standard “Vocational Teacher” (2020)	Draft updated professional standard “Vocational Teacher” (2022)
4. General competencies	
<p>Ability to adapt to the conditions of the educational environment.</p> <p>Ability for academic and professional mobility.</p> <p>Ability to take personal responsibility for the results of professional decision-making.</p> <p>Ability to communicate within the framework of professional activity.</p> <p>Ability to effectively manage working time.</p> <p>Ability to show leadership qualities.</p> <p>Ability to perform routine professional actions in a more efficient way.</p> <p>Ability to act in non-standard situations.</p> <p>Ability to work in a team.</p> <p>Ability to prevent conflict situations.</p> <p>Ability to self-develop and self-improve.</p>	<p>Ability to adapt to the conditions of the educational environment;</p> <p>Ability for academic and professional mobility;</p> <p>Ability to take personal responsibility for intellectual and cultural property and the results of professional decision-making;</p> <p>Ability to communicate within the framework of professional activity;</p> <p>Ability to communicate on professional issues in the state and foreign languages (orally and in writing);</p> <p>Ability to effectively manage working time;</p> <p>Ability to demonstrate leadership and entrepreneurship;</p> <p>Ability to perform routine professional actions in a more efficient way;</p> <p>Ability to comply with the rules of labour protection, life safety, and civil protection;</p> <p>Ability to work in a team;</p> <p>Ability to manage conflicts;</p> <p>Ability to apply digital technologies;</p> <p>Ability to be open to multiculturalism, gender diversity;</p> <p>Ability to adhere to ethical standards of conduct;</p> <p>Ability to act as a responsible citizen and participate in social life;</p> <p>Ability to self-develop and self-improve;</p> <p>The ability to implement one's rights and responsibilities, to realize the values of civil society and the need for its sustainable development.</p>
5. List of Labour Functions (Professional Competencies by Labour Action or Group of Labour Actions Included in Them)	
<i>Planning of the educational process</i>	
<p>Ability to study, analyse, and apply educational, scientific, legal, and other information on planning the educational process.</p> <p>Ability to carry out calendar and thematic planning of the content of academic disciplines, plan training sessions, independent and individual work of students, educational work in the student group, and individual educational work with students.</p>	<p>Ability to analyse and apply educational, methodological, scientific, legal, and other information on planning the educational process.</p> <p>Ability to plan classes on professional-theoretical and professional-practical training.</p> <p>Ability to plan various forms and types of organization of professional training and educational work.</p> <p>Ability to choose methods, means, and technologies of training, education, and development of students.</p> <p>Ability to plan the educational process in an inclusive environment.</p>

(Continuing table 1)

Professional Standard “Vocational Teacher” (2020)	Draft updated professional standard “Vocational Teacher” (2022)
	<p>Ability to plan the educational process in non-standard conditions.</p> <p>Ability to plan interaction with different subjects of educational activity.</p>
<i>Implementation of the educational process</i>	
<p>Ability to select appropriate methods, forms, means, and technologies of training, education, and development of students in accordance with the defined tasks and individual characteristics of students.</p> <p>Ability to select and structure the content of training in disciplines in accordance with the requirements of educational standards.</p> <p>Ability to provide professional training of students according to individual curricula.</p> <p>Ability to carry out the educational process in an inclusive environment.</p> <p>Ability to apply the latest forms, methods, techniques, and means of teaching, innovative pedagogical technologies.</p> <p>Ability to apply the latest production technologies of the professional industry.</p>	<p>Ability to form the content of educational components in accordance with the requirements of educational standards/programmes.</p> <p>Ability to carry out the educational process using various forms, types, methods, tools, and technologies of education.</p> <p>Ability to monitor and evaluate the learning outcomes of students.</p> <p>Ability to carry out the educational process in an inclusive environment.</p> <p>Ability to carry out the educational process in non-standard conditions.</p> <p>Ability to create a safe educational environment based on compliance with the rules of life safety, labour protection, and civil protection.</p>
<i>Implementation of self-educational activities</i>	
<p>Ability to master innovative pedagogical experience, apply and disseminate it.</p> <p>Ability to design professional self-improvement.</p> <p>Ability to acquire additional qualifications.</p>	<p>Ability to master promising pedagogical experience and apply it in professional activities.</p> <p>Ability for professional development through formal, non-formal, and informal education.</p>
<i>Implementation of methodical work</i>	
<p>Ability to participate in the work of the methodological cabinet, methodological commission of the VET institution*, organize subject weeks, etc.</p> <p>Ability to carry out individual work on a scientific and methodological topic, develop methodical recommendations (instructions), etc.</p>	<p>Ability to carry out methodological work.</p> <p>Ability to conduct methodological activities in accordance with the work plans of methodological structural units of educational institutions and other subjects of educational activity.</p>
<i>Implementation of research and experimental activities</i>	
<p>Ability to operate with scientific categories of research.</p> <p>Ability to select and apply theoretical and empirical research methods.</p> <p>Ability to develop pedagogical innovations to implement the main ideas of the study.</p> <p>Ability to conduct a pedagogical experiment and summarize the results of pedagogical research.</p>	<p>Ability to carry out experimental work.</p>

(Continuing table 1)

Professional Standard “Vocational Teacher” (2020)	Draft updated professional standard “Vocational Teacher” (2022)
<i>Monitoring of educational activities</i>	<i>Implementation of project activities</i>
Ability to diagnose the level of formation of competence achievements, academic performance of students in formal and non-formal education. Ability to organize control of educational, industrial, and practical activities of students. Ability to control the quality of work performed by applicants for education.	Ability to project activities in the field of education. Ability to implement national and international projects in the field of education and partnership.
<i>Conducting career guidance and supporting the career development of applicants for education</i>	<i>Conducting career guidance</i>
Ability to participate in the work of groups on the development of qualification and educational standards, other regulatory documents in the field of education. Ability to establish sustainable relationships with enterprises on industrial practice, dual education of students. Ability to organize career guidance and work with students. Ability to maintain contacts with the state employment service, enterprises, and organizations for the employment of graduates of VET institution*.	Ability to organize career guidance work with student youth. Ability to monitor professional qualifications in demand in the labour market.
	<i>Advising on career development of applicants for education</i>
	Ability to advise applicants on career development. Ability to maintain contacts with enterprises and organizations on planning career development of applicants for education.

Considerable attention is paid to the reflection in the professional standard of competencies on the ability of a vocational teacher to carry out professional and pedagogical activities based on state standards and using the opportunities for partnership with all actors in the educational process, to implement national and international projects in the field of education and partnership, to carry out experimental activities, and to carry out successful educational work with young people (Table 2).

Table 2: Professional competencies that ensure partnership development and standardization (according to the draft professional standard “Vocational Teacher”)

Professional competencies (by labour action or group of labour actions)	Required knowledge	Required skills and abilities
A.1. Ability to study, analyse, and apply educational, methodical, scientific, legal, and other information on planning the educational process	A.1.K.2. Regulatory and legal support of the educational process	A.1.S.2. Use normative and legal documents in planning the educational process
A.7. Ability to plan interaction with different subjects of educational activity	A.7.K.1. Tasks and responsibilities of subjects of educational activity on interaction in its planning and organization	A.7.S.1. Interact with the subjects of the educational process in its planning and organization

(Continuing table 2)

Professional competencies (by labour action or group of labour actions)	Required knowledge	Required skills and abilities
B.1. Ability to form the content of educational components in accordance with the requirements of educational standards/programmes	B.1.K.1. Trends in economic and labour market development B.1.K.2. Content of educational standards/programs by profession/specialty	B.1.S.1. Develop the content of educational components in accordance with programme competencies, standardized learning outcomes, and technical and technological changes
B.2. Ability to carry out the educational process using various forms, types, methods, means, and technologies of education	B.2.K.3. Requirements for industrial training (dual) and practice of students at enterprises, organizations B.2.K.5. Types and forms of self-government of applicants for education	B.2.S.9. Develop a programme of industrial training (dual) and internships for students together with representatives of enterprises, organizations B.2.S.20. Interact with representatives of self-government authorities of applicants for education
C.1. Ability to master promising pedagogical experience and apply it in professional activities	C.1.K.1. The best practices of successful pedagogical experience C.1.K.2. Forms and means of mastering promising pedagogical experience	C.1.S.1. Search for promising pedagogical experience C.1.S.2. Critically evaluate promising pedagogical experience C.1.S.3. Use promising pedagogical experience in professional activities
C.2. Ability for professional development through formal, non-formal, and informal education	C.2.K.1. Requirements of the professional standard C.2.K.5. Organizational and legal conditions for attestation/certification of pedagogical workers C.2.K.6. Electronic means of self-presentation in a professional environment	C.2.S.1. Identify professional development needs in accordance with the requirements of the professional standard C.2.S.4. Carry out professional self-improvement through formal, non-formal, and informal education C.2.S.6. Create and maintain a professional blog, electronic portfolio
F.1. Ability to project activities in the field of education	F.1.K.2. Regulatory and methodological documents on the development of professional, educational standards/programmes for professions/specialties	F.1.S.2. Develop draft professional, educational standards/programmes for professions/specialties F.1.S.3. Participate in the improvement of legislative acts and regulatory documents in the field of education

(Continuing table 2)

Professional competencies (by labour action or group of labour actions)	Required knowledge	Required skills and abilities
F.2. Ability to implement national and international projects in the field of education and partnership	F.2.K.1. Grant programmes, national and international projects in the field of education and partnership F.2.K.2. Procedure for registration of documentation for participation in projects in the field of education and partnership	F.2.S.1. Search for grant programmes of national and international projects in the field of education and partnership F.2.S.2. Establish contacts and develop cooperation with domestic and foreign partners in the field of education F.2.S.3. Prepare documentation for participation in projects in the field of education and partnership F.2.S.4. Implement national and international projects in the field of education and partnership
G.2. Ability to monitor professional qualifications in demand on the labour market		G.2.S.1. Establish and maintain relations with the state employment service and social partners on the organization of industrial practice and employment of graduates
H.2. Ability to maintain contacts with enterprises and organizations to plan the career development of students	H.2.K.2. Structure and sectoral features of functioning of enterprises and organizations	H.2.S.1. Interact with representatives of enterprises and organizations when planning the career development of applicants for education H.2.S.2. Organize joint events with representatives of enterprises and organizations in order to actualize the career development of applicants for education

The draft professional standard “Vocational Education Teacher” was published on the website of the Institute of Vocational Education of the National Academy of Educational Sciences of Ukraine for public discussion, and the National Qualifications Agency, scientific and methodical centres of vocational education, higher, vocational pre-higher, and vocational (vocational and technical) education institutions were informed about it. The discussion was attended by the Ministry of Education and Science of Ukraine, the Trade Union of Education and Science Workers of Ukraine, the Ukrainian Engineering and Pedagogical Academy, the Vadym Hetman Kyiv National Economic University, and the Training and Methodical Centres for Vocational Education in the Dnipropetrovsk, Zakarpattia, Mykolaiv, Cherkasy, and Chernivtsi regions. The agreed upon version of the professional standard has been successfully reviewed by the National Qualifications Agency for compliance with the procedure for its development, agreed upon by the Trade Union of Education and Science of Ukraine, and approved by

the developer. The professional standard “Vocational Teacher” was included by the National Qualifications Agency in the Register of Qualifications.

The Standard of Higher Education of Ukraine in the field of knowledge 01 – “Education/Pedagogy,” speciality 015 – “Vocational Education” (by specialization) for the first (bachelor’s) level of higher education has been in force in Ukraine since 2019 (approved and enacted by the Order of the Ministry of Education and Science of Ukraine dated 21.11.2019 No. 1460). In accordance with the Methodological Recommendations for the Development of Higher Education Standards, approved by the Order of the Ministry of Education and Science of Ukraine No. 600 dated June 1, 2019 (as amended by the Order of the Ministry of Education and Science of Ukraine No. 1254 dated October 1, 2019), it was previously reviewed by the Federation of Employers of Ukraine and approved by the National Agency for Higher Education Quality Assurance (decision dated October 1, 2019, protocol No. 10). The standard was developed by members of the subcommittee on specialty 015 – Vocational Education (by specialization) of the Scientific and Methodological Commission No.1 on General and Vocational Education of the Scientific and Methodological Council of the Ministry of Education and Science of Ukraine (Order of the Ministry of Education and Science of Ukraine No. 375 of 06.04.2016).

The educational qualification of a graduate is defined by the above standard as “Bachelor of Vocational Education (by specialization).” The objects of study and student activity include the structure and functional components of the vocational education system and theoretical foundations, technologies, and equipment for performing special work related to the use of methods of relevant sciences in institutions and organizations of the industry/sector. The training objectives are defined as training specialists capable of carrying out educational activities for the professional training of technical specialists and skilled workers and employees of the trade and services sector (in accordance with DK 003:2010) of enterprises, institutions, and organizations of the industry/sector in accordance with their specialization. The theoretical content of the subject area includes the basic ideas, concepts, principles, and technologies of educational sciences, basic and applied sciences of the industry in accordance with the specialization, theories and methods, complex specialized tasks, and solutions to practical problems in vocational education, and production activities in accordance with the specialization. The standard provides for the conferral of a bachelor’s degree in the specialty 015 – “Vocational Education” (by specialization) on the basis of complete general secondary education and a junior bachelor’s degree (educational qualification level “junior specialist”).

This higher education standard contains a list of competencies that define the specifics of bachelor-level training in specialty 015 “Vocational Education (by specialization)” and learning outcomes that determine the normative content of training. In particular, the integral competence is defined as the ability to solve complex specialized tasks and practical problems in vocational education, which involves the application of certain theories and methods of pedagogical science and other sciences in accordance with the specialization and is characterized by complexity and uncertainty of conditions.

A comparison of the competencies defined by the professional standard “Vocational Teacher” and the Standard of Higher Education of Ukraine in field of knowledge 01 – “Education/Pedagogy,” specialty 015 – “Vocational Education” (by specialization) for the first (bachelor’s) level of higher education is presented in Table 3.

Table 3: Comparison of the competencies defined by the professional standard “Vocational Teacher” and the Standard of Higher Education of Ukraine in field of knowledge 01 – “Education/Pedagogy,” specialty 015 – “Vocational Education” (by specialization) for the first (bachelor’s) level of higher education

<i>Professional standard “Vocational teacher”</i>	<i>Standard of Higher Education of Ukraine in field of knowledge 01 – “Education/Pedagogy,” specialty 015 – “Vocational Education” (by specialization) for the first (bachelor’s) level of higher education</i>
<i>General competencies:</i>	
<ul style="list-style-type: none"> • the ability to exercise rights and responsibilities, to realize the values of civil society and the need for its sustainable development; • ability to act as a responsible citizen and participate in social life; • ability to communicate on professional issues in the state and foreign languages (orally and in writing); • ability to communicate within the framework of professional activities; • ability to work in a team; • ability to apply digital technologies; • ability to be open to multiculturalism and gender diversity; • ability to demonstrate leadership and entrepreneurship; • ability to manage conflicts; • ability to adhere to ethical standards of behaviour; • ability to take personal responsibility for intellectual and cultural property and the results of professional decision-making; • ability to effectively manage working time; • ability to self-develop and self-improve; • ability to adapt to the conditions of the educational environment; • ability for academic and professional mobility; • ability to perform routine professional activities in a more efficient way; • ability to comply with the rules of labour protection, life safety, and civil defence. 	<ul style="list-style-type: none"> • the ability to exercise rights and responsibilities as a member of society, to realize the values of civil (free democratic) society and the need for its sustainable development, the rule of law, and human and civil rights and freedoms in Ukraine; • ability to communicate in the state language both orally and in writing; • ability to communicate in a foreign language; • ability to work in a team; • skills in the use of information and communication technologies; • appreciation and respect for diversity and multiculturalism; • the ability to preserve and enhance moral, cultural, and scientific values and achievements of society on the basis of an understanding of the history and patterns of the subject area development, its place in the general system of knowledge about nature and society, and in the development of society, techniques, and technology and to use various types and forms of physical activity for active recreation and a healthy lifestyle; • ability to show initiative and entrepreneurship; • awareness of equal opportunities and gender issues; • ability to make reasonable decisions; • ability to learn and master modern knowledge.
<i>Professional (special) competencies:</i>	
<ul style="list-style-type: none"> • ability to analyse and apply educational, methodological, scientific, legal, and other information on planning the educational process; • ability to plan classes on professional-theoretical and professional-practical training; • ability to plan various forms and types of organization of professional training and educational work; 	<ul style="list-style-type: none"> • ability to collect, analyse, and interpret information (data) in accordance with the specialization; • ability to apply educational theories and methodologies in pedagogical activities; • ability to carry out professional activities in compliance with the requirements of legislation, educational standards, and internal regulations of the educational institution;

(Continuing table 3)

Professional standard “Vocational teacher”	Standard of Higher Education of Ukraine in field of knowledge 01 – “Education/Pedagogy,” speciality 015 – “Vocational Education” (by specialization) for the first (bachelor’s) level of higher education
<ul style="list-style-type: none"> • ability to select methods, tools, and technologies for teaching, education, and development of students; • ability to plan the educational process in an inclusive environment; • ability to plan the educational process in non-standard conditions; • ability to plan interaction with various subjects of educational activity; • ability to form the content of educational components in accordance with the requirements of educational standards/programmes; • the ability to carry out the educational process using various forms, types, methods, means, and technologies of education; • ability to monitor and evaluate the learning outcomes of students; • ability to carry out the educational process in an inclusive environment; • ability to carry out the educational process in non-standard conditions; • ability to create a safe educational environment based on compliance with the rules of life safety, labour protection, and civil protection; • ability to master promising pedagogical experience and apply it in professional activities; • ability for professional development through formal, non-formal, and informal education; • ability to carry out methodical work; • ability to carry out methodical activities in accordance with the work plans of methodological structural units of educational institutions and other subjects of educational activity; • ability to carry out experimental work; • ability to carry out project activities in the field of education; • ability to implement national and international projects in the field of education and partnership; • ability to organize career guidance work with students; • ability to monitor professional qualifications in demand on the labour market; • ability to advise students on career development; • ability to maintain contacts with enterprises and organizations to plan the career development of students. 	<ul style="list-style-type: none"> • ability to use modern information technologies and specialized software and integrate them into the educational environment; • ability to use appropriate software to solve professional problems, according to specialization; • ability to implement learning strategies based on specific criteria for assessing learning outcomes; • ability to ensure the formation of values of citizenship and democracy in students; • ability to implement effective methods of work organization in accordance with the requirements of environmental safety, life safety, occupational health, and safety; • ability to use the basic provisions, methods, and principles of basic and applied sciences in professional activities; • ability to manage training/development projects; • ability to manage complex actions/projects, to be responsible for decision-making in unpredictable conditions, and to promote the professional development of students and subordinates; • ability to analyse the effectiveness of design solutions related to the selection, operation, improvement, and modernization of technological equipment and equipment of the industry/sphere in accordance with the specialization; • ability to perform calculations of technological processes in the industry; • ability to guide students to progress and achievement; • ability to ensure the quality of education and management of the educational institution, in accordance with the specialization.

These data indicate that the standards are inconsistent in terms of the content of the list of general and professional competencies. Accordingly, the Standard of Higher Education of Ukraine in the field of knowledge 01 – “Education/Pedagogy,” speciality 015 – “Vocational Education” (by specialization) for the first (bachelor’s) level of higher edu-

ation needs to be revised significantly in accordance with the updated professional standard “Vocational Teacher.”

At the same time, the educational standard presents a matrix of compliance of the defined competencies with all descriptors of the National Qualifications Framework (knowledge, skills, communication, autonomy, and responsibility), while the above professional standard lacks information on the autonomy and responsibility of specialists. An urgent task is to develop the Standard of Higher Education of Ukraine in the field of knowledge 01 – “Education/Pedagogy,” speciality 015 – “Vocational Education” (by specialization) for the second (master’s) level of higher education.

Specialists in the speciality 015 – “Vocational Education” (by specialization) are trained in Ukraine by 62 specialized undergraduate and postgraduate higher education institutions. There are 42 educational programmes for the first (bachelor’s) level of higher education and 30 educational programmes for the second (master’s) level of higher education.

When developing an educational and professional training programme for a vocational education specialist, an educational institution independently determines the list of disciplines, practices, and other types of educational activities necessary to acquire the competencies specified in the educational standard. The list of competencies and programmatic learning outcomes for teachers provided in the educational standard is not exhaustive. Educational institutions may also indicate additional competencies and programme learning outcomes and have the right to introduce additional certification forms of higher education students and their own specializations.

4 Conclusions

To summarize, the main difficulties in standardizing the professional training of vocational teachers include both objective factors (insufficient financial support from international partners and donors; lack of a single national-level information portal accessible to a wide range of users; low level of employer involvement, relevant central executive authorities, non-governmental on-the-job training centres, associations of educational institutions, teachers, scientists, etc.) and subjective factors (lack of experience of those implementing the training; overload of central executive authorities and other stakeholders with other fluid and operational work; low level of motivation, etc.). Positive steps include the establishment and full-fledged operation of the National Qualifications Agency, the National Register of Qualifications, and the national website of the NQS, as well as the creation of new institutional entities, such as qualification centres, sectoral (professional) councils for the development of qualifications, and a network of institutions for the development of professional standards and standards for the assessment of professional qualifications.

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Bibliographical Notes

Valentyna Radkevych is a Doctor of Pedagogical Sciences, Professor, Full Member (Academician) of the National Academy of Educational Sciences of Ukraine. She holds the position of Director at the Institute of Vocational Education NAES of Ukraine. The scopes of her scientific and organizational activity are scientific and methodological support for vocational education and training, market principles of professional development of enterprise personnel, standardization of vocational education on a competency basis, innovative teaching technologies and development of teachers’ professional culture in vocational education institutions.

Institute of Vocational Education of NAES of Ukraine
Foreign Systems of Vocational Education and Training Laboratory
98a, Vito-Lytovskiy Lane, 03045, Kyiv, Ukraine
mrs.radkevich@gmail.com

Viktoriia Kruchek is a Doctor of Pedagogical Sciences, Associate Professor and holds the position of a Head of the Distance Professional Training Laboratory at the Institute of Vocational Education NAES of Ukraine. Her professional interests are theory and methods of vocational education, innovative pedagogical technologies and pedagogical interaction, implementation of a competence-based approach in vocational education and digitalisation of education.

Institute of Vocational Education of NAES of Ukraine
Distance Professional Training Laboratory
98a, Vito-Lyтовskyi Lane, 03045, Kyiv, Ukraine
kruchekviktorija@gmail.com

Mykola Pryhodii is a Doctor of Pedagogical Sciences, Professor on the position of Deputy Director at the Institute of Vocational Education NAES of Ukraine. His research are focused on development of a methodology for improving the digital educational environment of educational institutions, information culture of teachers in vocational schools, psychology of vocational training and also is interested in creating and maintaining web developments in education.

Institute of Vocational Education of NAES of Ukraine
Electronic Educational Resources Laboratory
98a, Vito-Lyтовskyi Lane, 03045, Kyiv, Ukraine
prygodii@ukr.net

Daria Voronina-Pryhodii is a scientific researcher at the Foreign Systems of Vocational Education and Training Laboratory in the Institute of Vocational Education NAES of Ukraine. Her research interests are centred around development of public-private partnerships in vocational education and training, educational reforms and innovations in the EU countries, the quality and accessibility of vocational education, intercultural communication and professional development of vocational teachers.

Institute of Vocational Education of NAES of Ukraine
Foreign Systems of Vocational Education and Training Laboratory
98a, Vito-Lyтовskyi Lane, 03045, Kyiv, Ukraine
voronina.pryhodii@gmail.com