A SCIENTIFIC PLATFORM FOR ASSURING QUALITY OF PROFESSIONAL (VOCATIONAL) EDUCATION

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Abstract. The relevance of the article is related to the post-industrial society’s challenge with the assurance of the quality of professional (vocational) education (hereinafter “P(V)E”).

The article aims to describe the mission and objectives of scientific-methodical support to assure the quality of P(V)E in terms of its modernization.

Research methods include a theoretical analysis of Ukraine’s education legislation in the field of P(V)E, scientific sources, taught and research degrees to determine the main areas and ways to bring the quality of professional education more in line with technological and socio-economic challenges of the post-industrial society.

Results: the article identifies the two main drivers of addressing the research problem on the assurance of professional education quality (the focus of educational management on learning outcomes, as well as the conditions to achieve them). Besides, it singles out the main objectives to assure the quality of professional education and the ways of realizing them. The article justifies the role of research institutions in enhancing the efficiency of P(V)E schools as for assuring the quality of their educational and managerial activities and creating an internal system for assuring professional education quality.

Conclusions: the article specifies the main objectives of Ukrainian professional education regarding the assurance of its quality (creating an effective educational environment; promoting the professional development of teachers; improving educational management in P(V)E schools; developing an effective internal system for assuring professional education quality). Importantly, the article shows that appropriate scientific-methodical support for P(V)E schools is a prerequisite for realizing the identified objectives. It also describes its mission (training highly qualified specialists who can effectively work in the dynamic conditions of the post-industrial society) and objectives (promoting scientific achievements and advanced scientific-pedagogical experience; training the research and teaching staff for the professional education system; enabling scientific management of innovative educational activities in P(V)E schools; carrying out analytical and consultative activities to influence the state’s education policy and activities of educational institutions in terms of assuring education quality).

Keywords: professional education, quality of professional education, internal system for assuring professional education quality, scientific-methodical support for professional education.

Introduction. A characteristic feature of the post-industrial society is a powerful influence of technological, social, and technosocial trends on all spheres of life. It is because they enable intensive digitalization, automation, and robotization of all spheres of production and daily life, development of
a network society, globalization, and ecologization of state policy, including education. This influence manifests itself in wide use of:

- industrial robotics which continues to replace manual labour with machines and thus creates the need for new qualifications and skills;
- unmanned vehicles which require future specialists to know the logistics basics;
- new materials and additive technologies, based on which automated systems produce complex parts and structural elements that future specialists should know how to use;
- an internet of objects that creates new protocols for inter-machine communications which future specialists should understand;
- self-educational computer networks that build interaction with external systems and should become a platform of career development and lifelong learning for graduates from P(V)E schools.

In Ukraine, technological challenges go along with radical changes related to the modernization of the state itself, its social and economic relations, and the system of education and science (Radkevych, 2018). Thus, Ukraine’s professional (vocational) education is undergoing a profound transformation. This transformation is characterized by the following:

- reforms in educational management;
- creation of their new structure and system of interaction;
- diversification of funding sources;
- an increasing role of educational institutions’ autonomy, incentives for developing and implementing new educational forms and methods (including the elements of dual and distance education);
- the changing forms of interaction between stakeholders in the framework of public-private partnership;
- promotion of scientific-experimental, analytical, and consultative activities of the actors in the educational community;
- the growing requirements for the content and quality of professional education.

Thus, the Ukrainian system of professional education is to bring the quality of such education more in line with the technological challenges of today. This is one of the seventeen goals of sustainable development (Goal 4 “Quality Education”). By achieving it, it will become possible to continue the innovative, socio-economic, and cultural development of society through the implementation of the lifelong right to P(V)E based on the principle of equal opportunities for all people. Besides, it will ensure the growth of the country’s economy, accelerate qualitative changes in the social sphere and production automation processes, and enhance employees’ qualifications. Consequently, unemployment rates will reduce due to specialists’ retraining at high-tech enterprises, and new and in-demand professions will appear.

Below are the high-priority objectives to assure education quality:

- to update the policy in the field of professional education;
- to accelerate its modernization at the regional level;
- to increase financial, academic, employee, and organizational autonomy of P(V)E schools;
- to establish regional multidisciplinary, high-tech centres of professional education to provide high-quality specialist training;
- to update the content of education and comply it with the needs of social development;
- to create conditions for the integration of P(V)E with the labour market.

In this regard, the mission of Ukraine’s professional education should be the creation of an effective educational environment, the involvement of more young people and adults in it and thus an increase in employment rates by 2030, the preparation of teachers who are willing to bring professional training of specialists for the post-industrial economy to a new level.

**Sources.** It must be noted that the quality of education, as well methods of its evaluation, has always been an important component of the state education policy in developed countries. In Ukraine, several important educational objectives associated with the problems of qualitology and qualimetry gained newfound relevance in the early 21st century. These objectives include the following:

- distribution of responsibility for education quality between the state, educational institutions, and employers;
- improvement of the national system of education quality evaluation (internal and external);
- elaboration of principles and mechanisms for monitoring the internal system of education quality assurance;
- creation of effective procedures for assessing future specialists’ knowledge, skills, and abilities;
- study of international experience in developing and implementing a system of education quality evaluation and introducing its best examples in the Ukrainian system of professional education.

For the past few decades, both the state and the research-teaching community have been striving to
determine the most optimal criteria and indicators to evaluate education quality. These issues are partially covered by certain national documents, including the concept of state policy implementation in the field of professional (vocational) education “Modern Professional (Vocational) Education” for the period up to 2027”; the strategies for developing professional (vocational) education for the period up to 2023; Ministerial Order “On the Approval of the State Standard of Professional (Vocational) Education”; the National Qualifications Framework (NQF). All together they bring Ukraine closer to current trends in the European Union. These documents act as the basis for education standards that are expected to increase the relevance of knowledge, skills, abilities, and competencies that future specialists should acquire. In 2021, the President of Ukraine established the Council for the Development of Professional (Vocational) Education as an advisory body to unite the efforts of all stakeholders, modernize the industry and provide additional tools to assure quality training of skilled workers. Even though Ukraine has adopted several important education laws (“On Education”, “On Professional Higher Education”, “On Higher Education”, “On Complete Secondary Education”), the country is still working on the draft law of Ukraine “On Professional Education”. This greatly complicates the application of the current law “On Professional (Vocational) Education” (1998), as well as the reforms in the education system.

Furthermore, current documents do not contain direct answers to the questions on mechanisms for assuring education quality and only outline certain guidelines. As stated by the teaching community (Hromadskyi proistr, 2020), the concept of state policy implementation in the field of P(V)E “Modern Professional (Vocational) Education” for the period up to 2027” does not consider the above-mentioned challenges. In essence, the mission of the concept lies in reforming P(V)E in three main areas:

- decentralization of education management and financing;
- definition of regional demand indicators based on the analysis of the labour market;
- assurance of P(V)E quality.

Accordingly, one can assure the quality of P(V)E by:

- building the content of P(V)E on the necessary competencies;
- introducing both internal and external systems of education quality assurance;
- modernizing the educational environment via innovativity, accessibility, transparency, flexibility, and openness of the educational process;

Thus, the issue of creating an effective system of education quality assurance should be studied more in detail.

**The article aims** to describe the mission and objectives of scientific-methodical support to assure the quality of P(V)E in terms of its modernization, justify the role of the Institute of VET of the NAES of Ukraine in enabling P(V)E schools to assure the quality of educational services they provide, as well as of educational management, and create an internal system of education quality assurance.

Regarding research methods, the article theoretically analyzes Ukraine’s education legislation in the field of P(V)E, scientific sources, taught and research degrees to determine the main areas and ways to bring the quality of professional education more in line with technological and socio-economic challenges of the post-industrial society.

**Results and discussion.** A detailed analysis of current education legislation indicates the concern of scholars, practitioners, and educational managers with the two main vectors, namely, learning outcomes and conditions to achieve them. Traditionally, most of the research was focused on the quality of learning outcomes. Over time, however, the emphasis shifted to the conditions of P(V)E schools that would contribute to achieving learning outcomes properly. Consequently, these two different approaches should be coordinated and justified.

Education quality used to be evaluated under the knowledge-based paradigm. Lerner (1978), for example, distinguished such characteristics of knowledge as integrity (extent of knowledge / amount of expected outcomes), depth (awareness of essential links within acquired knowledge), consistency (awareness of structure, hierarchy, and chain of knowledge), systematicity (invariance of certain knowledge’s role), efficiency (situations/ways of applying acquired knowledge), flexibility (independent selection of necessary knowledge in changing situations), generalizability, comprehensiveness and convolution (the ability to explain and generalize precisely), awareness (realization of links and ways of acquiring knowledge),
strength (stable memorization of knowledge, methods of its application; readiness to acquire new knowledge). Educational institutions were expected to assure objective control over the quality of students’ knowledge based on all these criteria. Still, it was not always possible, despite the capacity of the five-point grading scale, today’s twelve-point grading scale, and well-known systems for assessing student knowledge (module rating and credit module ones).

However, rapid technological changes have increased demands of both the society and the state for the quality of professional education and, thus, marked the transition to a competence-based paradigm for evaluating its quality. It was competence, as the ability to use knowledge, skills, abilities, and experience in professional and life situations, that was recognized as a learning outcome. This particular issue gradually reached the public level, leaving the sphere of narrow professional use. Honcharenko (2007, p. 50) called education quality “the most important factor in the sustainable development of the country, its technological, economic, informational, and moral security”. Yazykov (2006, p. 106) highlighted the issue of responsibility of (V)E schools and regional systems for the outcomes of their activities to society, which led to the improvement of technologies for evaluating such activities. There are two levels of management of professional education quality: local (an educational institution) and regional (education system). At the local level, it was expected to create favourable conditions for personal and professional development of future specialists; at the regional level – for development and modernization of the (V)E system under the needs of regional markets.

At the same time, many researchers (V. Lokhanova, O. Maiorov, S. Podmazin, H. Yelnykova et al.) tend to use the term “educational monitoring” as a system for collecting, processing, storing, and disseminating information about the state of the education system (or its components) to enable information management of the system and makes prognoses about its development. In other words, educational monitoring is defined as a system that consists of “indicators combined into a standard and constant monitoring of the condition and dynamics of the managed object under these indicators (standards) to diagnose it promptly, detect any imbalances, make, and correct managerial decisions” (Yelnykova, 2007, p. 35). In this regard, the notion of “education quality” should be considered as the extent to which the defined standard of activity has been achieved. The theory of educational monitoring has given a new impetus to the development of ideas of pedagogical qualimetry (Hryhorash, 2014; Kukhta & Ratsiuk, 2009; Sokol et al., 2019).

Current education legislation expands the capacities of (V)E schools to develop autonomy, which has led to increased attention from the state and the society to the mechanisms for evaluating learning outcomes, as well as educational and managerial activities of the institutions themselves. On the one hand, the autonomy of professional education depends on the real powers of local educational institutions; on the other hand, – on the system of the state’s control and support (MON Ukrainy, 2020). Therefore, it is essential 1) to develop an objective system for evaluating an internal system of education quality assurance, 2) to determine clear and legally protected criteria and indicators for evaluating its quality. Such criteria and indicators may be found in standards (professional, educational, evaluative), guidelines, instructions, decisions of pedagogical councils, other normative and pedagogical documents (Radkevych, Luzan & Kravets, 2017).

In 2021, the Ministry of Education and Science of Ukraine issued Order No 509 “On the Approval of Guidelines for Establishing an Internal System of Education Quality Assurance in Professional (Vocational) Education Schools”. This document defines the components of such an internal system: a strategy (policy) and procedures for education quality assurance; a system and mechanisms for ensuring academic integrity; criteria, rules, and procedures for students’ and teachers’ evaluation; resources to organize the educational process and independent work of students, as well as information systems to enable educational management; creation of an inclusive educational environment, universal design and intelligent adaptation in educational institutions. Besides, these guidelines (MON Ukrainy, 2021, p. 3) identify the four main work areas of (V)E schools in terms of assuring education quality: improving education legislation, educational environment, systems for evaluating students’ educational attainment and teachers’ readiness for modernization and management of (V)E schools.

To achieve these objectives, (V)E schools require appropriate scientific-methodical support, which, for many years already, has been provided by the Institute of VET of the NAES of Ukraine as a scientific platform for assuring the quality of professional education (Kremen, 2016, pp. 95–97).

Research officers of the Institute have developed pedagogical innovations and products for each area
to assist managers and teachers, on the one hand, to improve educational and managerial processes and, on the other hand, assess these processes, as well as an internal system of education quality assurance, objectively. Regarding the quality of professional education, these innovations include the following: the concept of an informational and educational environment of P(V)E schools; the content library that includes a database of teaching materials, electronic educational resources for professional, practical, and socio-economic disciplines, electronic encyclopedias and reference books; a distance learning system; relevant methods of creating distance learning courses for the P(V)E system, using elements of distance learning in theoretical training of future skilled workers, organizing independent work via distance learning.

To improve the system of students’ evaluation, they have developed the concept of professional training standardization; relevant methods of developing self-directed learning skills, monitoring the effectiveness of distance learning, evaluating students’ projects; relevant testing technologies; methods of organizing independent work via distance learning.

Concerning the improvement of teaching, they have developed and implemented relevant methods and technologies for enhancing professional competence in masters of vocational training; self-directed learning skills, legal culture, energy efficiency skills and readiness to standardize professional training in teachers; organization of dual education and distance learning in P(V)E schools; SMART-complexes for various industries; teachers’ skills in using project technologies to develop career and entrepreneurship competences in students. The list of all the pedagogical innovations and products is available on the Institute’s website.

Modernization of professional education eventually increases the requirements for professional training of teachers and managers. Therefore, the Institute of VET of the NAES of Ukraine pays considerable attention to training highly qualified research staff through master’s and doctoral studies. Currently, the Institute enrols 35 students on such degrees as “13.00.04 – Theory and Methods of Professional Education” and “015 – Professional Education (by Specializations)”. Those applicants who already have some work experience in the system of professional education can obtain the right to study at the expense of the state on a completive basis. There is another reason why training highly qualified teachers is important for the system of professional education. Current education legislation specifies the need of P(V)E schools for specialists who can evaluate educational and managerial processes on their own. This requires coordinated actions from teaching staff, as well as effective educational management. In turn, the effectiveness of these processes depends on the professionalism of teaching staff and managers of P(V)E schools. Therefore, the taught master’s programme on “011 Pedagogy of Higher Education” offered by the Institute of VET of the NAES of Ukraine aims to train innovative teachers (facilitators, coaches) who can organize student-centred learning, develop competencies through participation in research, and use innovative learning technologies (business games, case studies, professional-situational modelling) with ICT support. The PhD programme on “015 Professional Education / Theory and Methods of Professional Education” seeks to prepare highly qualified and competitive research officers who can carry out creative, autonomous, and responsible innovative-research, scientific-pedagogical, project-related, managerial, and expert-advisory activities in the field of professional education. Besides, they should be able to conduct and defend independent scientific research with their further integration into the global scientific and educational space to enhance the image of Ukrainian professional education. The goals defined in the above-mentioned programmes lie in developing those skills and competencies in students that will contribute to realizing the objectives of the current education legislation in terms of reforming professional education, improving its quality and prestige (IPTO NAPN Ukrainy, 2020, p.4).

To modernize managerial processes in P(V)E schools, research officers of the Institute have justified their management as such of project-oriented organizations, and how one uses content solutions to manage their project activities. For this purpose, they have prepared, validated, and implemented methods of marketing support for P(V)E schools; a project management technology; a project implementation algorithm; a technology of social partnership development; a roadmap for employers to implement dual education in P(V)E schools.

To evaluate the quality of educational and managerial activities of P(V)E schools, one can use certain criteria (grounds for evaluation), indicators (reflecting the state of the observed objects, their qualitative or quantitative characteristics) and methods of collecting information. Thus, those teachers who have obtained a scientific degree are more motivated towards student-centred learning and comprehen-
sive solutions to problems in professional-pedagogical and innovative activities of educational institutions, and thus more able to meet state-defined criteria for assuring professional education quality and evaluate educational and managerial processes effectively.

It is also essential to expand the use of pedagogical innovations developed by the research officers of the Institute to solve urgent problems regarding the assurance of professional education quality. The Institute of VET of the NAES of Ukraine serves as a scientific platform whose communicative basis is close practical cooperation with P(V)E schools, learning (research) and methodical centres (offices), various stakeholders interested in the modernization of the Ukrainian professional education system, state and local authorities, ministries, departments, agencies, as well as promotion of international scientific collaboration.

Conclusions. The article identifies the two main drivers of addressing the research problem on the assurance of professional education quality (the focus of educational management on learning outcomes, as well as the conditions to achieve them). Besides, it singles out the main objectives regarding the assurance of professional education quality: creating an effective educational environment; promoting the professional development of teachers who should be willing to bring professional training of specialists for the post-industrial economy to a new level; improving educational management in P(V)E schools. The article describes the main conditions for assuring professional education quality. They are as follows: improving the policy in the field of P(V)E; adjusting its content to the needs of society, economy, labour market; accelerating the modernization of professional education at the regional level; expanding the autonomy of P(V)E schools; enhancing professional qualifications of the research and teaching staff. The article shows that the prerequisite for realizing these objectives is the effective scientific-methodical support for P(V)E schools in terms of an internal system of education quality assurance. Importantly, the article justifies the mission of such scientific-methodical support: promoting scientific achievements and advanced scientific-pedagogical experience; training the research and teaching staff for professional and professional pre-higher and higher education systems; providing the research and teaching staff with advanced training; enabling scientific management of innovative educational activities in P(V)E schools in the framework of all-Ukrainian and regional experiments to verify the effectiveness and further implement the author’s pedagogical innovations to assure the quality of professional education; carrying out analytical and consultative activities to influence the state’s education policy and activities of educational institutions regarding education quality assurance. In doing so, the appropriate scientific-methodical support for the modernization of Ukrainian P(V)E will provide both the society and the economy with highly qualified specialists who can effectively work in the dynamic conditions of the post-industrial society.

List of references

Артюхова О., 2016. Моніторинг якості вищої професійної освіти в українських університетах. Педагогічні науки: теорія, історія, інноваційні технології, 7(61), c.133-143.


Сліпикова, Г. та Рябова, З., 2007. Моніторинг як ефективний засіб оцінювання якості загальної середньої освіти в навчальному закладі. Культура народов Причерномор'я, 115, т.1, с.35-43.

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Кремень, В. Г., ред., 2016. Національна доповідь про стан і перспективи розвитку освіти в Україні. Київ: Педагогічна думка, с.95-97.

Кухта, М. та Рацюк, О., 2009. Основи педагогічної кваліметрії у змісті професійної підготовки майбутнього вчителя. Науковий вісник Ужгородського національного університету. Серія: Педагогіка, соціальна робота, 16-17, с.63-64.


Міністерство освіти і науки України (МОН України), 2021. Про затвердження методичних рекомендацій з питань формування внутрішньої системи забезпечення якості освіти у закладах професійної (професійно-технічної) освіти» наказ Міністерства освіти і науки України (№509 від 06.05.2021 р.) [online] (Останнє оновлення: 06 Травень 2021) Доступно: file:///C:/Users/Deluxe/Downloads/6095138581846122442806%20(2).pdf [Дата звернення 26 Травень 2021].


Сокол, Є, Романовський, О., Підбуцька, Н., Гура, Т., Книш, А. та Шаполова, В., 2019. Психолого-педагогічна кваліметрія в оцінці якості освіти майбутніх фахівців у Національному технічному університеті «Харківський політехнічний інститут». Теорія і практика управління соціальних системам: філософія, психологія, педагогіка, соціологія, 3, с. 38-55.


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tytorchoh osobystosti u vyschhii i zahalni shkolakh [Pedagogy for Developing Creative Personality in Higher Education Institutions and Comprehensive Schools], 34, s.140-146, [in Ukrainian].


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**НАУКОВА ПЛАТФОРМА ЗАБЕЗПЕЧЕННЯ ЯКОСТІ ПРОФЕСІЙНОЇ (ПРОФЕСІЙНО-ТЕХНІЧНОЇ) ОСВІТИ**

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**Реферат:**

**Актуальність** дослідження визначається викликами постіндустріального суспільства щодо забезпечення якості професійної (професійно-технічної) освіти (далі – П(ПТ)О).

**Мета:** охарактеризувати місію і завдання науково-методичного супроводу забезпечення якості П(ПТ)О в умовах її модернізації.

**Методи:** теоретичний аналіз освітнього законодавства України в галузі П(ПТ)О, наукових джерел, освітньо-професійних та освітньо-наукових програм з підготовки здобувачів вищої освіти – для визначення основних напрямів і способів приведення якості професійної освіти у відповідність з техніко-технологічними та соціально-економічними викликами постіндустріального суспільства.

**Результати:** виокремлено два основні вектори формування наукової проблеми забезпечення якості професійної освіти – зосередженість освітнього менеджменту на результатах освіти та умовах, необхідних для їх отримання; визначено основні завдання щодо забезпечення якості професійної освіти та необхідні для їх реалізації умови; обґрунтовано роль наукових установ у підвищенні ефективності закладів П(ПТ)О щодо забезпечення якості їхньої освітньої й управлінської діяльності та формування внутрішньої системи забезпечення якості освіти.

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Висновки: визначено основні завдання вітчизняної професійної освіти щодо забезпечення її якості (створення ефективного освітнього середовища, підвищення кваліфікації педагогів; удосконалення освітнього менеджменту закладів П(ПТ)О; розроблення ефективної системи внутрішнього забезпечення якості освіти); показано, що важливою умовою ефективного вирішення визначених завдань є якісний науково-методичний супровід діяльності закладів П(ПТ)О, охарактеризовано його місію (підготовка фахівців нової якості, готових ефективно й успішно працювати в динамічних умовах постіндустріального суспільства) та завдання (популяризація наукових досягнень; поширення передового науково-педагогічного досвіду, підготовка педагогічних і науково-педагогічних кадрів для системи професійної освіти; здійснення наукового керівництва інноваційною освітньою діяльністю закладів П(ПТ)О; проведення інформаційно-аналітичної, експертної, консультативної і дорадчої діяльності для забезпечення впливу на освітню політику держави та практичну діяльність освітніх установ у питаннях забезпечення якості освіти).

Ключові слова: професійна освіта, якість професійної освіти, внутрішня система забезпечення якості професійної освіти, науково-методичний супровід професійної освіти.

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