

Thomas Deissinger, Oksana Melnyk (Eds.)

Partnership-Based Governance and Standardization of Vocational Teacher Education in Ukraine



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and Standardization of Vocational
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Preface

The goals to ensure inclusive and equitable quality education, promote lifelong learning opportunities for all, and foster sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all are among the 17 goals outlined by the United Nations for sustainable development (SDG 4 and SDG 8). Vocational teachers play a crucial role in the successful achievement of these goals. Therefore, the attention devoted to matters of vocational teacher education should not only be the concern of researchers and scientists but also the focus of policymaking.

It is my honour and pleasure to introduce this preface to a book that addresses and delves into the pressing issues within vocational teacher education. It offers valuable insights to those seeking answers and solutions for challenges in vocational education, the labour market, and youth employment. These complex issues can only be effectively addressed with the assistance of qualified and motivated vocational teachers possessing the necessary and relevant competences to navigate these domains.

This book is the result of a four-year Erasmus + project titled “New Mechanisms of Partnership-based Governance and Standardization of Vocational Teacher Education in Ukraine” (PAGOSTE). While changes in any system take time, the initiatives introduced by this project in vocational teacher training in Ukraine have set the stage for success. Processes aimed at enhancing governance and fostering collaboration among various stakeholders have been set in motion. Despite external challenges such as the Corona pandemic and the Russian aggression, progress has been made, and the momentum continues.

I believe that the insights shared in this book can inspire and encourage the implementation of positive changes in vocational teacher education. By doing so, we can ensure that the welfare of tomorrow is safeguarded by the dedicated vocational teachers of today.

Oksen Lisovyi

Minister of Education and Science of Ukraine

Introduction

THOMAS DEISSINGER & OKSANA MELNYK

One of the significant challenges today is to provide vocational education and training (VET) to young people, which, on the one hand, should be relevant to the needs and expectations of the employment sector while, on the other, correspond to individuals' interests and capabilities. VET is widely acknowledged not only for its economic importance but also for its role in shaping individuals' professional identities and social integration.

The society of tomorrow depends on how young people are trained today. Hereby, competent and engaged vocational teachers, who possess twofold expertise as pedagogues and as specialists in their professional field, are relevant actors in the context of the VET system. Competences of vocational teachers define how successful the gap between the classroom instruction and real-world application of competences will be bridged. Additionally, professionalism of vocational teachers determines to a great extent learning outcomes by vocational learners and their smooth transition into professional life. At the same time, the profession of vocational teachers and trainers in many countries is considered as a semi-profession (Attwell, 1997; Grollmann, 2008). Such social recognition and standing reflects on the field of vocational teacher education (VTE). On one hand, it is expected to produce highly qualified specialists with dual competences as both pedagogues and experts in their respective professional fields (Deissinger et al., 2019). On the other hand, it often operates in the shadows of policy-making (Grollmann, 2008). Consequently, VTE faces a range of challenges that require special attention.

This publication addresses the pressing issues of VTE, focusing on institutional, organizational and governance aspects. *Firstly*, it summarizes the results of the four-year Erasmus+ capacity-building project “New Mechanisms of Partnership-based Governance and Standardization of Vocational Teacher Education in Ukraine” (PA-GOSTE), funded by the European Education and Culture Executive Agency. The project's focus has been governance in VTE in Ukraine. An overarching quality criterion of successfully setting up VTE is to ensure that expectations of vocational schools and the motivations and competences of future teachers can be aligned. This “matching problem” is mainly rooted in a “theory-practice gap” as the “users” of vocational teacher qualifications, being the employers of future teachers, are normally not involved in deciding or at least influencing how teachers are trained and how their competences obtained in universities can be successfully applied in the classroom. This one-sided institutional reality explains why teachers do not feel well-prepared for their future occupational destination. *Secondly*, the book project was set up to reach beyond the narrow country context of the project and tried to explore challenges as well as good practices in VTE systems of other countries in and outside of Europe. Therefore, contribu-

tions from England, New Zealand, Australia, Italy, Germany, Austria and Switzerland have been written for this book.

The book is composed of three parts. The *first part* provides insights into global practices of VTE, addressing both theoretical frameworks and practical governance aspects. In the first chapter, VTE in Switzerland is analysed through the prism of historical development up to the present time. It deals with approaches to vocational teachers' professionalization that have changed over time and have to be adjusted to new challenges. The contribution on Germany comes up with a theoretical perspective of modes of governing against the background of the VET and VTE system. The next three chapters depict and discuss reforms and changes in VTE in Anglophone countries, such as England, Australia and New Zealand. By referring to these countries, it is possible to implicitly compare structures and institutional architectures of VTE in different skill formation systems – the collective system of Germany and Switzerland and the liberal skill formation system, which characterizes England, Australia and New Zealand. The first part also includes a chapter on Austrian VTE and the issue of competences of vocational teachers and their representation in training standards. The last chapter in the first part analyses the role of strategic competences for teacher professionalization discussed by the Italian project partners.

The *second part* is dedicated to analyzing the governance changes at the four Ukrainian universities that took part in the project. Within the Erasmus+ project PAGOSTE, each Ukrainian partner-university developed and piloted a concept of new or revised governance mechanisms based on the notion of partnership and cooperation with key stakeholders in VTE – above all vocational schools and employers. While each university tailors its concept to its specific programme specializations, common threads emerge: enhanced partnerships with vocational schools and employers obviously influence the competence development of prospective teachers both in a pedagogical and subject-specific way, as well as its professional relevance, and there are also increases in student satisfaction. The contributions from these universities also shed light on the impact of the ongoing war on higher education systems and how universities try to tackle these specific environmental challenges.

The *third part* covers issues beyond VTE. In the first chapter, the issues of standardization of the teaching profession are problematized and critically evaluated. The question of the role of civil society in the policy dialogue in the Ukrainian VET system is addressed in the last chapter. This question is of especially high relevance due to the ongoing transition of the Ukrainian state and the establishment of democratic institutions in the country.

We express our deepest gratitude to the authors, project partners and all individuals and organisations involved in the creation of this book. It is a result of collective efforts, dedication and commitment to enhancing vocational teacher education worldwide. We also extend our thanks to the European Education and Culture Executive Agency for providing the financial support to publish this book and, thus, contributing to raising awareness about the teaching profession in VET.

This book might be of particular interest not only to researchers and scientists from the field of vocational education but it can also serve as an introduction to the governance questions in vocational teacher training for readers from other target groups, such as students, policymakers, and other stakeholders dealing with VTE or its broader implications.

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**PART I. Theory and Practice of Governance in
Teacher Training for Vocational
Education and Training (VET)**

The Vocational School Teacher (VET Teacher) Training System in Switzerland

LENA FREIDORFER^{*} & PHILIPP GONON

Abstract

This chapter examines in detail the training of VET teachers in Switzerland, which is characterized by a high proportion of practical work. Starting from a few historical cornerstones, this chapter will take an introductory look at the origins and history of VET teacher training.

In addition, we will address the question of the extent to which there is currently a discussion of VET teacher training in education, education policy, and vocational training research.

In order to better understand the system as we find it today, we explain in detail its specifics and, specifically, the two main training strands (VET teacher training for general education within vocational education and teacher training for specific occupational subjects).

In addition, we give insight into the place of activity and work of VET teachers: the vocational school.

Finally, we show that today's VET teachers, also due to newer requirements and ongoing changes (e.g., around transversal competencies or technological developments) are increasingly developing into "adaptation virtuosos" who are continuously professionalizing themselves in their daily working life.

Keywords: VET teacher education, systemic view, development, current system, Switzerland

1 Introduction: The Rise of VET School Teacher Training – a Genealogical Perspective

For vocational education, the first decrees in Switzerland in the 1880s did not address vocational schools or teachers, although some learners were already being taught. Teachers at general, commercial, or industrial training schools, as they were called at the time, were trained primary school teachers¹ or experienced specialists who taught

^{*} Corresponding author

¹ Women in particular were also trained early on to become primary school teachers.

They then later on entered the training system for vocational school teachers primarily through nursing and social professions or through training to become household teachers (Häfeli, 1983; Renold, 1998).

basic or additional knowledge specific to the profession. In addition, civic education, which was intended to prepare students for their tasks in the military and in society, played a special role and could be taught by the same teachers (Nager, 1914). Incidentally, from 1877 on they were also trained in drawing lessons (Wettstein, 2020).²

The fact that instruction took place at all was viewed very positively in the publications of the time; indeed, an expansion was enthusiastically advocated. With regard to the teachers, however, much was in flux or unregulated. For example, Gottlieb Hug, a teacher from Winterthur and author of the prize pamphlet "Das gewerbliche Bildungswesen" ("The Industrial Education System"), complained that teacher training and teacher remuneration were "inadequate" in many places. He considered the elementary school, as a feeder to vocational training, "insufficient" in terms of general education, as it violated the federal constitution, which required the cantons to provide "sufficient instruction" (Hug, 1881, p. 19).

The reformer expressly welcomed the efforts of local non-profit associations to promote instruction at general and industrial training schools, noting that many teachers "lack the necessary education" and that, in addition, these schools had to teach both fourteen-year-old secondary and supplementary students and thirty-year-old workers in the same occupational class (Hug, 1881, p. 21). Hug therefore unequivocally demanded that the state take over the teaching and learning at the upper secondary level and provide uniform management and supervision with the participation of the trade associations, based on expedient principles for this instruction and provided with the necessary financial resources and teaching materials. In addition, he argued that it must also be responsible for the training of suitable teachers (Hug, 1881, p. 23). Finally, he also deemed it necessary to move teaching from the late evening or even weekend hours and to conduct it instead as a daytime class (Hug, 1881, p. 53).

For merchants, the educational institutions, which were run by local merchant associations, were primarily intended to teach foreign languages – such as French, English, and other languages – in oral and written form, but also accounting and commercial arithmetic. Even Latin was taught in one association, the Bernese Association for Merchants, and advertised as a "general means of education" (EDH, 1896, p. 316). The situation of the teachers was described by one expert as "no special teachers" for these lessons. Inclination and chance played a role in filling positions and led to teachers of all school levels from elementary school to university teaching these subjects. In many cases, commercial teaching was a small sideline for these teachers. The marginal position of such teaching was not unproblematic, as other reports also indicate. The teacher, who had "worked herself tired" during the day at her actual teaching position, could not appear "with the freshness that would be necessary even for the somewhat jaded visitors to the commercial evening school" (EDH, 1896, p. 330). Nevertheless, it was a great advantage that the rich treasures of knowledge were revealed to the young world of commerce "in popular form" (EDH, 1896, p. 330). The beginning of schooling in the field of vocational education was characterized by a less formalized education,

2 In Switzerland, drawing schools and Sunday drawing schools later transformed into industrial training schools and, thinking a few steps further, ultimately into vocational schools (Wettstein, 2020).

imparted by more or less voluntarily motivated teachers for willing and eager apprentices and apprentice daughters.

Only few more or less scientific writings already dealt with the training system of vocational school teachers before the turn of the millennium. Rather than taking a look at the system, numerous writings focused on the persons providing the training (initially master teachers, “Lehrmeister,” and later also teachers) as well as the training locations (companies and then also vocational schools) (e. g., Jeangros, 1945; Spring-Zürcher, 1954).

After this introduction to the roots of the VET teacher training system, the following chapter will now focus on current scientific debates in education and vocational training research concerning the training of VET teachers in Switzerland.

2 Current Scientific Studies about VET Teacher Training in Switzerland

A systematic literature research and analysis showed that there are only a few scientific publications and non-scientifically based reports that provide information on the VET teacher training system in Switzerland. Occasionally, books on vocational education in Switzerland deal with the VET teacher training system in sections and then only sporadically (e. g., Wettstein & Gonon, 2009; Wettstein et al., 2014; Wettstein, 2020).

Among the scientific publications, reference should be made to a more recent publication by Barabasch and Fischer (2019). The authors discuss the Swiss VET teacher training system, its current opportunities, and challenges and compare it with the education system in Germany in order to identify similarities and differences between the two systems. In another publication, Keller and colleagues (2019) shed light on Swiss VET teacher training from a comparative perspective with the US.

Furthermore, Eberle et al. (2009), in addition to looking at teacher training in Switzerland as a whole (including grammar school education), deal with the training of VET teachers and also refer to the place of work of VET teachers: the VET school.

Even before the turn of the millennium, there were a few scientific publications that focused in different ways on the training of VET teachers. For example, a publication by Dubs (1999), entitled “Praxisbezug oder Wissenschaftsorientierung—Widerspruch oder proaktives Spannungsverhältnis in der Handelslehrausbildung” (Practical orientation or knowledge orientation – contradiction or proactive tension in trade teacher training³), deals with the training of trade teachers. Another example is a 1992 publication by Howald, which deals with the specifics of the VET teacher training system in Switzerland and provides an overview of teacher training and continuing education. Straumann (1990) also discusses the pedagogical qualification of prospective teachers and describes the Swiss teacher training system in more detail. In 1988, another scientific article deals with the challenge that new technologies pose for voca-

3 Own translation by the authors.

tional school teachers (Kunz & Leist, 1988). Another earlier publication deals with the training of vocational teachers in Switzerland (Weber, 1982).

Furthermore, in the past and still today, educational reports (e. g., by the Swiss Coordination Office for Educational Research, SKBF) refer to the training of VET teachers and the courses of study available to them during their training, as well as their motives for taking up VET teacher training (e. g.: SERI, 2022; SKBF, 2007; SKBF, 2023).

In addition to scientific and non-scientific publications focusing primarily on the VET teacher training system in Switzerland (some of which have already been listed above), there are numerous analyses and research papers that deal with other more specific topics related to VET teachers in Switzerland. Some works take a historical perspective, for example by focusing on the emergence of the profession of “VET teachers”, the beginnings of teaching at VET schools, or the development of professionalization of VET teachers (e. g., Barabasch & Fischer, 2019; Gonon, 2019; Wettstein, 2020). Others take a contemporary perspective, focusing more on VET school instructional design (Caduff et al., 2010; Schmid Leupi, 2013), in-service and continuing education of teachers (Fischer, 2017), various teacher portraits, and different understandings of the roles of VET teachers (e. g., educating, training, etc.) (Spring-Zürcher, 1954; Gassmann, 2015).

Other publications in Switzerland also focus on the mobility of VET teachers (Novak, 2018) or, more recently, on issues related to the acquisition of competencies, such as digital competencies for VET teachers (Rauseo et al., 2021).

The next section of this article focuses on the training of VET teachers. It will begin by introducing the specifics of the Swiss education system and presenting the desired characteristics of VET teachers, before providing an overview of the two main training strands.

3 Training of VET Teachers

3.1 Specifics of VET Teacher Training in Switzerland in Advance

The training of VET teachers in Switzerland runs according to a “consecutive organizational model” (Barabasch & Fischer, 2019, p. 6). This means that a higher vocational education or a university degree is required to complete the training to become a VET teacher. Accordingly, the secondary vocational pedagogical training follows initial professional training (Barabasch & Fischer, 2019; Maurer & Gonon, 2013).

Furthermore, training in Switzerland is characterized by a close integration and interlocking of theory and practice. Before beginning their training, prospective teachers are already expected to have a certain amount of professional experience (at school and/or at the workplace), depending on the branch of training they have chosen (see section 3.3. for more details on this topic), and thus already have some knowledge of school and/or workplace (training) practice (SKBF, 2007). Some VET teacher training

institutions require, for example, letters of reference from companies or VET schools where the prospective teachers are working currently (Wettstein & Gonon, 2009).

Another specific feature of the training of VET teachers in Switzerland is that the training is not only possible in a full-time but also in a part-time programme. It is also possible to choose between training as a teacher in the main or secondary profession (see, e. g., PHZH, 2023).

The aim of the training courses is to provide prospective teachers with appropriate training in subject-specific, pedagogical, and methodological-didactic areas (The Federal Assembly of the Swiss Confederation, BBG, 2002, Art. 46).

3.2 “Desired Characteristics” of VET Teachers

In some publications on the training of VET teachers or on the training system in Switzerland, desirable characteristics of prospective teachers at VET schools are also noted (see, among others, Gonon, 2019; Städeli & Grassi, 2012; Schmid-Leupi, 2013; Wettstein & Gonon, 2009).

VET teachers are described therein as persons who show patience, empathy, assertiveness, or, for example, enthusiasm (e. g., Gonon, 2019; Schmid-Leupi, 2013). They show pleasure in working with young people and are able to deal with unexpected situations. Furthermore they are able to cope with apprentices who show a lack of interest or who resist specific learning tasks. Moreover, they are able to maintain a certain inner distance and are willing to question and understand the behaviour of young people (Schmid-Leupi, 2013). VET teachers should see themselves in a certain way as educators, be aware of their role as role models, and enjoy leading a class (Schmid-Leupi, 2013). They should also be interested in learning processes and be willing and able to patiently and persistently promote individual learning (Schmid-Leupi, 2013).

Today, in light of the development of new technologies as well as an increasing flood of information, VET teachers also have to be “learning facilitators” (Gonon, 2019, p. 438) in order to accompany learners in their individual learning process to an ever greater extent. This means that VET teachers are capable of assisting apprentices in their acquisition of knowledge and taking an interest in their learning processes (Gonon, 2019). As a result, there is an increasing demand for teachers to engage with apprentices’ individual learning and to take on the role of a learning coach (Keller & Barabasch, 2022).

It also seems to be increasingly necessary for VET teachers to continue and further their education individually in the interest of their own professionalization (Fischer, 2016).

3.3 Overview of the Two Main Training Paths: VET Teachers for General Education (ABU⁴) and Occupation-Specific Education (BKU⁵)

There are two main training courses for teachers of VET schools in Switzerland. One is the teaching diploma for general education (ABU) and the other is the teaching diploma for occupation-specific education (BKU)⁶.

In addition, there are the following (post-qualifying) training strands, which also seem worthy of mention.

For post-qualification, ABU or BKU teachers or also teachers who already have a gymnasium teaching qualification can still acquire a diploma for teaching in the area of the Berufsmaturität⁷ (BM) (see, e.g., PHZH, 2023; or EHB, 2023). As a rule, this is called an additional vocational pedagogical qualification and is offered, for example, at the University of Zurich ("Universität Zürich," abbreviated: UZH) or also several universities of teacher education ("Pädagogische Hochschulen," abbreviated: PH), often in cooperation with the Swiss Federal Institute for Vocational Education and Training (EHB) (see also UZH, 2023).

For people who want to teach not only in VET school classes at secondary level II, but also in the area of higher vocational education at tertiary level B, there is also the possibility of obtaining a teaching diploma for teaching at higher VET schools ("Höhere Fachschulen," abbreviated: HF) as a secondary profession (see, e.g., SDBB, 2022).

Training for VET school teachers is regulated in legislative terms by the Federal Vocational and Professional Education and Training Act (BBG, 2002), the Vocational Training Ordinance (Swiss Federal Council, BBV, 2003), and the framework curriculum for VET professionals (SERI, 2015).

It should be added that the training of teachers of VET schools in Switzerland is carried out at universities of teacher education (PH), the Swiss Federal Institute for Vocational Education and Training ("Eidgenössische Hochschule für Berufsbildung," abbreviated: EHB), and at the University of Zurich (UZH)⁸.

In the following two subsections, the two main training strands, (a) general education teacher (ABU) and (b) professional education teacher (BKU), will be described in more detail.

3.4 Teacher Training for General Education (ABU)

Persons who want to become ABU teachers must have a teaching diploma for compulsory schooling (a teaching diploma recognized by the EDK⁹) or a university degree (from a university of applied sciences, a university, or the Swiss Federal Institute of Technology) in a subject close to the ABU subject complex (consisting of the two main

4 The German term is "allgemeinbildender Unterricht" or the abbreviation "ABU".

5 In German, "berufskundlicher Unterricht" or in abbreviated form "BKU."

6 This includes the teaching diploma Teaching at Commercial Vocational Schools.

7 This means a professional baccalaureate, which in Switzerland can be obtained accompanying the apprenticeship or even after completion of the apprenticeship.

8 Concerning the training of the additional vocational pedagogical qualification for teachers at vocational baccalaureate schools.

9 The EDK is the Swiss Conference of Cantonal Ministers of Education. It is an association of cantonal government members who are responsible for the areas of education, training, culture, and sport in Switzerland.

areas of society and language). Below are some examples of degree programmes with a proximity to the two subject complexes – a degree in German studies, history, or even economics.

In addition, certain training institutions have further requirements, such as on-the-job experience (usually six months) or ongoing employment on a smaller scale at a VET school. This is to ensure that the prospective teachers are already familiar with the practice of VET school or company-based training (see, e. g., EHB, 2023; Caduff et al., 2010).

The training to become an ABU teacher takes between two and four years, as does the training to become a BKU teacher. This depends on whether the course of study is completed full time or part time, or whether the qualification as a teacher is sought in the main or secondary profession. The teaching degree in the major includes a total of 1,800 learning hours¹⁰, equivalent to 60 ETCS. The training in the minor subject comprises 300 learning hours and corresponds to 10 ECTS (Swiss Federal Council, BBV, 2003).

The content for the training to become an ABU teacher is divided into the following two learning areas:

The first is society, comprehensively the following eight thematic areas: ethics, identity and socialization, culture, ecology, politics, law, technology, and economy. The individual topics are not considered in complete isolation from one another but rather in an interdisciplinary manner (Uhr et al., 2022).

The second is language and communication (communicative language skills and their use in personal, professional, and social contexts).

It should also be noted that these two learning areas are equally important in the training of ABU teachers (Gonon, 2021; OPET, 2006; SERI, 2015). Both learning areas refer to different subject-specific parts and provide general knowledge that can later be used by the apprentices, for example in solving professional problems. In connection with this, both learning areas refer to the personal, professional, and social reality of the learners (SERI, 2015).

In the course of the training, the prospective teachers deal with questions about the subject didactics of general education or vocational education, get to know and use different methods of knowledge acquisition and transfer, and complete courses set under titles such as “Introduction to Vocational Education,” “Constitutional Law,” “Economics,” or “Young Adults in Vocational Education” (see also PHZH, 2023).

In addition, they also complete internships in the course of their training (PHZH, 2023).

It should also be added that future ABU teachers are prepared for a topic- and activity-oriented design of lessons (Barabasch & Fischer, 2019). However, ABU teachers are prepared not only to impart specific subject knowledge to learners but also to

¹⁰ Learning hours include attendance times, independent learning and development phases, personal as well as group work, further events in the course of the training, learning checks, or also the practice and testing of what has been learned (e. g., in the course of internships at vocational schools) (Swiss Federal Council, BBV, 2003).

accompany and advise apprentices in their professional training and development. (The same applies to BKU teachers.)

In the preparation for teaching internships and also in their later everyday professional life, the (prospective) VET teachers refer to the framework curriculum for general education, which is the basis for the development of school curricula in the area of ABU throughout Switzerland and across the cantons (OPET, 2006).

In the course of their training, prospective teachers of VET schools can take elective subjects in addition to the prescribed compulsory subjects. At some training institutions, ABU and BKU teachers can choose from the same overview of electives. Electives are offered, for example, in the following subject areas: collaborative learning, social skills, ICT skills, or entrepreneurship (PHZH, 2023).

The ABU teacher training programme concludes with a federally¹¹ recognized diploma for teaching general education at VET schools. Subsequently, the teachers can undergo further training at teacher training colleges or other training institutions. Some ABU graduates take a Master of Science in Vocational Education at the Swiss Federal Institute for Vocational Education and Training (EHB) or a Master in Educational Science at the University of Zurich (Wettstein & Gonon, 2009; Barabasch & Fischer, 2019).

After completing their training, ABU teachers usually work in full- or part-time positions at VET schools or teach in various adult education institutions (Wettstein & Gonon, 2009; Barabasch & Fischer, 2019).

3.5 Teacher Training for Occupation-Specific Education (BKU)

The training mentioned in the title usually requires a degree from a higher vocational education (e. g., completion of a vocational examination¹² or a higher technical examination¹³) or a university degree (e. g., degree from a university of applied sciences or university) in the area to be taught. In BKU teaching, and thus also in teacher training, there is a strong focus on the connection between theory and practice, so that particular emphasis is also placed on a good practical knowledge of the prospective teachers (SERI, 2015).

Depending on the institution providing the training, further professional expertise or knowledge in a particular area to be taught is required. As a rule, practical experience at a company (six months), teaching experience at a VET school, or, for example, a letter of recommendation from the VET school where the prospective teacher last taught are also specified as additional requirements by the training institutions (Wettstein & Gonon, 2009; Schmid-Leupi, 2013).

¹¹ "Federal" means that, in accordance with the Swiss Constitution, a diploma is recognized throughout Switzerland.

¹² The professional examination (abbr. "BP") is the first form of professional specialization after completion of basic vocational training. The BP is part of higher vocational education and training, which in the Swiss education system is located at the tertiary level (B) alongside universities (tertiary A). Upon passing the examination, students are awarded a federal certificate of proficiency (Wettstein & Gonon, 2009).

¹³ The Higher Professional Examination (abbr.: "HFP") is also understood as a further specialization at tertiary level B, which represents an extended professional specialization and usually qualifies the holder to take on management functions in the respective professional field (Wettstein & Gonon, 2009).

BKU students are often lateral entrants (Hof et al., 2011; Schmid-Leupi, 2013). They are often proven specialists with comprehensive job-related competencies who held management positions or were active as project managers before starting their education. As a result, they are not infrequently also used to working in teams, planning work processes, or organizing and leading group work and ultimately know working life very well (Schmid-Leupi, 2013).

The duration of the training is the same as that of ABU teachers and can be read again in section 3.4.

Furthermore, teachers for economy and society (W&G), classical commercial teachers, and teachers for information, communication, and administration (IKA – in former times these were office teachers) are also counted as vocational teachers (Barabasch & Fischer, 2019).

In the course of their training, prospective BKU teachers are taught thematic areas such as vocational pedagogy, general didactics, and professional field didactics or subject didactics (depending on their professional field). As part of their training, they partly complete similar modules as the prospective ABU teachers – for example, “Didactics of Vocational Education,” “Introduction to Vocational Pedagogy,” or also “Young Adults in Vocational Education”¹⁴ (PHZH, 2021). In the course of their training, prospective BKU teachers, just as ABU teachers, also complete internships at VET schools.

In their training, they acquire methodological-didactic competencies and the ability to prepare vocational content didactically, to stimulate learning processes and processes of knowledge acquisition, and to support learners in these processes (SERI, 2015). In doing so, they also succeed in linking the specialist knowledge relevant to a specific occupation with practice (theory–practice transfer). For example, they learn how to teach apprentices what substances make up bricks and mortar, but also how to proceed in order to combine these two elements.

In the course of their training, prospective BKU teachers are also enabled to adapt the content they teach to the development of professions, company practice, and educational regulations. In addition, they are shown the importance of constantly dealing with changes in the world of work (Schmid-Leupi, 2013).

The training to become a BKU teacher is completed with a federally recognized diploma for teaching at VET schools in the professional field.

After completing their training, BKU teachers usually work at VET schools or in the further education sector. Many teachers only work part time at a school and also work at a company or run their own business (Schmid-Leupi, 2013; Wettstein & Gonon, 2009).

BKU teachers also have access to a wide range of continuing education and training opportunities. These are offered, as in the case of ABU teachers, at teacher training colleges or other training institutions (for examples, see also the section on the training of ABU teachers above).

¹⁴ Own translations by the authors.

Now that the education of VET teachers in Switzerland has been descriptively presented, the following chapter explains the place where teachers work and have a professional impact. The focus will then be on the vocational school as a place of learning and work.

4 The VET School in Switzerland as a Place of Teaching and Learning

Alongside companies and inter-company courses, VET schools are one of the three learning venues for basic vocational education in Switzerland. The sponsors of VET schools are usually the cantons, in some rare cases also associations or federations, and in even rarer cases the municipalities (Wettstein & Gonon, 2009).

Attendance at a VET school is compulsory for apprentices regardless of the vocational training they have chosen. Young people who complete a dual VET programme (rather than a full-time school-based VET programme) usually attend the VET school one or two days per week. Depending on the vocational apprenticeship or industry chosen, the proportion of school-based instruction in the first years of apprenticeship may be more than in the final years (Wettstein & Gonon, 2009; Maurer & Gonon, 2013).

The VET school is the one of the three learning venues where teachers teach theoretical training components to apprentices. Training at the VET school consists of vocational and general education (SERI, 2022; Wettstein & Gonon, 2009). “By teaching the theoretical foundations for practising a profession and through general education.” learners are promoted here by the VET teachers in “professional, methodological, and social competencies” (SERI, 2022, p. 10). At this learning site, teachers not only impart theoretical knowledge but also reflect with the learners on their experiences from company practice. Gonon (2019) also describes VET schools as “competence centres” with regard to their increasing tasks and requirements in the areas of education and continuing education (Gonon, 2019, p. 438).

VET schools have an independent educational mandate. Thus, teachers working at VET schools are responsible for supporting students in their personal development and in the acquisition of social skills. Through the general knowledge that they impart to apprentices, they give learners the opportunity to build up an important knowledge base that they can draw on, for example, in solving problems in the learning environment (BBG 2002, Art. 21). This knowledge base should then provide the learners with orientation in the two other learning locations and in their later everyday working life (see also Swiss Federal Council, BBV, 2003). Teachers at VET schools also take into account – and this is another educational mandate of VET schools – the different learning prerequisites and talents of learners and encourage them accordingly. Moreover, they consider the different needs of apprentices (e. g., learners with learning difficulties or with special abilities). They also ensure the equality of male and female learners and

strive for the elimination of disadvantages, for example with regard to apprentices with disabilities (Wettstein & Gonon, 2009).

A particular challenge for VET teachers can be the different learning performance as well as the different prior knowledge of the learners (depending on their basic vocational training).

In addition to conventional general and vocational education, VET schools also offer optional subjects, support courses, and preparatory courses for the vocational baccalaureate (Wettstein & Gonon, 2009). Occasionally, inter-company courses or final apprenticeship examinations are also held at VET schools. The VET teachers are involved in these additional areas of responsibility in different ways (Maurer & Gonon, 2013).

The working spaces of VET teachers are classic classrooms, group rooms, or, for example, rooms at self-study centres (Wettstein & Gonon, 2009).

The following section, which concludes this article, will now focus on challenges and the future of VET teacher training, with the aim of giving the reader a final outlook.

5 Challenges and the Future of VET Teacher Training in Switzerland

Vocational schools are currently undergoing a transformation process from traditional schools to “competence centres” that have to perform a variety of tasks related to education and training, which will sooner or later also have an impact on the training of vocational school teachers (Grollmann, 2005, p. 9). Further vocational training and higher qualification after basic vocational training play an increasingly important role. This must already be taken into account in basic vocational training. In addition to the special focus on other places of learning and the inclusion of cooperation between places of learning, it is in particular the requirement to be a learning guide that suggests a modified self-image of the teachers (Hartmann, 2012, p. 98).

As early as the 1990s, a diagnosis of impending change was made, primarily due to new technologies. Because of the “growing flood of information” to be managed, the teacher’s task was to “assist apprentices in acquiring the knowledge necessary for a particular application” (Howald, 1992, p. 80). This role of learning support has been emphasized in studies since the turn of the millennium. At the same time, however, the task that teachers should continue their education and training is also emphasized (Fischer, 2016). In addition, it is still important to consider the further professionalization of those responsible for education in learning support and readiness for further training as a new professionalization requirement for vocational school teachers in vocational education as a significant task (cf. Gonon, 2018). In this context, prestige and status, i. e., the social recognition associated with this activity, must also be fought for, as Wolfgang Lempert noted in an empirical study at the beginning of the 1960s (Lempert, 1962, p. 104).

In order to secure the next generation of teachers at vocational schools and to open up career opportunities, it is particularly important to guarantee appropriate vocational

training and to present this as an attractive option. This even applies to Germany, which traditionally has a much more comprehensive range and corresponding structures for the training of teachers for vocational and commercial schools. Frommberger and Lange (2018) state that a high degree of formal professionalization is necessary for a “successful education”.

In Switzerland, the new Vocational Education and Training Act (2002) and the Vocational Education and Training Ordinance (2003) have created clear regulations for the training of teachers at vocational schools. Teachers for the school-based parts of basic vocational education as well as for the vocational baccalaureate should have a teaching qualification for secondary level II, with an additional vocational pedagogical qualification at university level, a specialized education with a degree at tertiary level, and six months of in-company experience. The vocational part is further specified. In the framework curricula for VET professionals, the different types of teachers are described in more detail. For example, a distinction is also made between secondary and main occupation for vocational education and training. The timeframe for training and the standards for obtaining a diploma for general education teaching at vocational schools (1.800 hours) and for the additional vocational education qualification (300 hours) for teachers with a grammar school teaching qualification were also determined (OPET, 2011).

The typical vocational school teacher, however, is still often a career changer, whether after completing a university degree outside of school or after several years of professional activity in a school or non-school setting. The motives for entering a vocational school range from the desire to reorient oneself to dissatisfaction with one’s previous work and professional position and the opportunity associated with entering teaching to accomplish a type of advancement and retraining (Novak, 2018).

On the basis of the work situation, which today requires largely individualized and permanent adaptation processes, the new vocational school teacher is also characterized as a “virtuoso of adaptation”¹⁵ (Münk, 2001, p. 230), an attitude that – in view of unfavourable institutional conditions – is sometimes presented as a constraint (Maltritz, 2016) or, conversely, as a heroic disposition (see Gassmann, 2015, p. 13). Accordingly, the (new) professionalization should be geared towards acquiring specific competencies (transversal competencies such as critical thinking and problem solving) and indispensable attitudes situationally by testing possible alternatives for action. In this context, research-based learning is important (Schaffenrath, 2008, p. 367).

A corresponding need for action to adapt and revise the framework curricula for general education at vocational schools has been postponed until now in connection with other reform postulates within the framework of the alliance-partnership reform project “Vocational Education 2030” (Sterel et al., 2018, p. 189). Not only should vocational teachers be recruited on the basis of a solid professional foundation, but they should also undergo regular individual further training (Sterel et al., 2018, p. 192).

Overall, the position of the vocational school teacher has also changed since the early days of the VET system. They are no longer regarded merely as adjuncts in a sec-

15 Own translation by the authors.

ondary role to in-company training but rather as professionals providing independent learning support (or coaching). Vocational teachers in the 21st century are expected to be learners themselves and even more, enthusiastic learners. In addition to that they should also be creative, digitally professional, flexible and able to react quickly to changes, i. e., deal with new didactic requirements (Rauseo et al., 2021; Zhou et al., 2022; Zogolowek, 2018). In this way, they enable young people to develop further in the world of work and in the education system on the basis of pedagogical training and technical scientific knowledge. It is also part of their “new” role to empower learners, who engage independently and critically in social coexistence and should be prepared for the demands of an open and unknown future.

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Bibliographical notes

Prof. Dr. **Philipp Gonon** has served as Professor of Vocational Education at the University of Zurich, Institute of Education since 2004. His research interests include international comparative education, VET, quality and evaluation of VET, and philosophy and history of education. Prof. Gonon is also editor of numerous journals and international journals, such as the *Journal of Continuing Education Research* or the Peter Lang book series *Studies in Vocational and Continuing Education*.

University of Zurich, Institute of Education
Kantonsschulstrasse 3, 8001, Zürich, Switzerland
philipp.gonon@ife.uzh.ch

Dr. **Lena Freidorfer** is a postdoctoral researcher at the University of Zurich, Institute of Educational Science. Her research interests include critical thinking and problem solving, entrepreneurship education and interdisciplinary entrepreneurship competencies, issues around teaching and learning in vocational education, and the history of vocational education.

University of Zurich, Institute of Education
Kantonsschulstrasse 3, 8001, Zürich, Switzerland
lena.freidorfer@ife.uzh.ch

VET Teacher Education in Australia: Three Levels across Two Sectors

ERICA SMITH*

Abstract

This chapter examines the governance of VET teacher-education in Australia. In Australia, VET is generally a post-school activity for students rather than part of the secondary schooling system; VET is delivered via public and private training providers. The chapter begins by describing the VET system and explaining the working conditions of VET teachers. The qualifications for VET teachers – offered at three levels, two within the VET sector itself (Certificate and Diploma) and one (associate degree or above) at universities – are then described and examined. The VET teacher-education qualifications offered in each sector – VET and universities – are analysed against four governance features selected by the author. The features are: qualification development and review, the regulatory framework, initiatives by groups of VET teacher-educators, and partnerships between the VET teacher-education providers and the training providers who employ teachers and trainers. The chapter compares the governance for VET teacher qualifications with that for other education sectors in Australia – early childhood and schools – and with other discipline areas whose courses are accredited by industry bodies or professional associations. The chapter concludes that the Australian system of VET teacher-education is under-governed compared with other sectors, and makes some suggestions for improvement, which could also be adopted in other countries. The chapter proposes that the Australian initiatives by groups of VET teacher-educators, arguably set up in the absence of other forms of governance, could be replicated in other countries.

Keywords: VET teacher-education in Australia; governance improvements; groups of VET teacher-educators

1 Introduction

In Australia, the vocational education and training (VET) system is primarily for people over the age of 18. It does not operate as part of secondary schooling as VET does in some other countries, although VET is taught in schools to a minor extent. Only qualifications for VET teachers in the post-secondary system are discussed in this chapter, as the qualification systems for so-called ‘VET in schools’ (VETIS) teachers are complex

* Corresponding author

and contested, and differ from State to State. Qualifications for post-secondary VET teachers are offered at various levels in the VET sector and in higher education.

The chapter begins with background information about the Australian VET system, its students and its teaching workforce. An overview of VET teacher qualifications follows, covering both the qualifications offered within the VET sector and those taught by universities. The ways in which those qualifications are governed and regulated are then discussed, concluding with an analysis of lessons learned, aspects of good practice that are transferable, and some improvements that could be made.

The chapter was written at a time (early 2023) when, like many other countries, Australian VET employers were reporting a shortage of applicants for positions. This situation has inevitably led to pressure to waive requirements for proper teacher-education for the VET workforce, as it has done in other countries (e.g. Santera, 2023, in Sweden).

2 Background on Australia's VET system

Australia has a well-developed VET system. It is overseen by the national ('Commonwealth') government, but the eight States and two smaller Territories provide funding for VET courses, and employ VET teachers in the public system, TAFE (Technical and Further Education). In Australia, VET is usually understood to have two main purposes. One is to improve people's skills by training them before they enter the workforce, or by upskilling them after they enter the workforce. This helps improve the overall skills of the Australian workforce and provides economic benefit by lifting productivity, reducing accidents, and making movement of workers among industries and occupations easier. The other purpose of VET is to provide social benefit. Completing VET qualifications or parts of qualifications improves individual people's life chances, provides them with confidence, and helps them find appropriate employment.

The benefits of VET in Australia are often expressed in economic rather than social terms, although with a new Labor government elected in 2022 this began to change. Industry and employers had, for many years, felt that they have ownership of VET and while this could be seen as legitimate to an extent, it is often the social benefits that are observed and experienced more by teachers, and which attract them to the occupation.

2.1 Courses and Students

VET qualifications are mainly delivered in the post-secondary sector although they are also available for adults of any age and sometimes also for people in employment. This includes people in apprenticeships and traineeships; the latter are apprentice-like arrangements, introduced in the mid-1980s for occupations not previously served by the apprenticeship system. In Australia, the apprenticeship system is primarily for people who have already left secondary school, unlike in many other countries.

The VET system has qualifications covering most industry areas, in occupations that are not regarded as needing university preparation. The Australian Qualifications Framework (www.aqf.edu.au) ranges from AQF 1 (pre-employment courses) to AQF 10 (university doctorates). VET covers AQF levels 1 to 6¹⁶. The first four levels are Certificate I to Certificate IV, Level 5 is Diploma and Level 6 is Advanced Diploma. Most VET students are in Certificate II to Certificate IV qualifications, with apprentices, for example, usually studying Certificate III qualifications; in 2019, almost half (47.2 %) of students were in Certificate III programs (NCVER, 2020).

The Australian VET system has been competency-based since the mid-1980s. As in many countries, competency-based training has been heavily critiqued on a number of fronts; a summary of the arguments can be seen in Smith (2010). Most qualifications are contained in one of 65 'Training Packages', based around industry and/or occupational areas, all of which have large numbers of units of competency gathered into multiple qualifications¹⁷. Many occupations, especially in service industries, health and community care, did not have formal VET qualifications until the advent of Training Packages, which were first introduced in 1997 (Smith & Keating, 2003).

Each Training Package can be viewed at <https://training.gov.au/>¹⁸. Each package contains three components:

- **Units of competency** define the skills and knowledge needed, and how to apply them in a workplace context.
- **A qualifications framework** contains groups of units of competency used to develop learning outcomes. These groupings range from Certificate I to Graduate Diploma level.
- **Assessment guidelines** cover the qualifications required by assessors, the design of assessment processes and guidelines for assessment management. Assessment guidelines explain the industry's preferred approach to assessment. (<https://www.asqa.gov.au/about/vet-sector/training-packages>).

VET teachers are generally required to deliver very highly-specified training based on the units of competency in the Training Packages. While Training Packages do not specify the method of teaching delivery, except by proxy via the assessment guidelines, in practice many TAFE Institutes and other training providers control curriculum delivery very tightly. This is because the training providers are keen to ensure they are meeting VET-sector regulatory requirements, which are very much based around auditors' examination of curriculum and assessment documentation. In many industry areas there are also industry/sector regulatory requirements; these are mainly addressed in the development of the Training Packages, although a few relate to delivery methods and teacher staffing.

16 Some Training Packages contain Graduate Certificate and Graduate Diploma (Levels 7 and 8) qualifications, but these are becoming less common and are rarely taught in VET.

17 There are also a small number of other 'accredited programs', usually accredited by individual States.

18 This web site was changed in 2022 and is now difficult to navigate; to view Training Packages, select 'national recognised training' and type 'Training Package' into the search engine to access a list of Training Packages.

Until 2016, Training Packages were developed and updated by Industry Skills Councils, which had previously been known as Industry Training Advisory Bodies (Smith & Keating, 2003, p. 49). From 2016 until 2022, the system was different, with funded bodies called Skills Service Organisations providing support services for Industry Reference Committees (IRCs) for each specific industry (Smith, 2022). These committees typically managed a small number of Training Packages; the committee members were drawn from the relevant industry¹⁹, and were therefore providing voluntary services to the IRC. However, the system was found to be deficient (Commonwealth of Australia, 2019 – the ‘Joyce’ review), and from early 2023 it was abolished, with new bodies known as Jobs and Skills Councils established. While their functions are as yet unclear, they are likely to be similar to the former Industry Skills Councils. In this chapter the generic term ‘skills councils’ is used to refer to all of these bodies.

VET students are evenly distributed across age ranges, with the largest concentration in the group 25–44 years (NCVER, 2020). The six most popular Training Packages overall in 2019 were Community Services (which includes child-care training), Construction, Business, Tourism and Hospitality, Electrotechnology, and Health (NCVER, 2019). For non-TAFE providers, Business was number one; and the top six also included Sport and Fitness (Pre-COVID figures are provided, to avoid distortion caused by COVID).

2.2 Training Providers

Training providers are known as ‘Registered Training Organisations’ (RTOs). There is a public provider, TAFE (Technical and Further Education), and around 5,000 other training providers (Smith, 2022), many of which are very small and in niche areas. Often the term ‘RTO’ is used to refer only to non-TAFE training providers. TAFE is organised differently in different States and Territories; most have a State-wide system with individual sites known as ‘colleges’ or campuses; but in Victoria, the system consists of independent ‘Institutes’.

Generally, non-TAFE RTOs are divided into four major groups (Harris, Simons & McCarthy, 2006):

- Adult and community providers (not for profit)
- Enterprise-based (providing qualifications to their own workers) (see Smith, Smith & Walker, 2013)
- Industry providers (e. g. employer associations)
- Commercial (often known as ‘private’) training providers.

The latter group has the greatest proportion of non-TAFE RTOs.

Australia also caters for international VET students, mainly studying in Australia, but also a small number in other countries with Australian RTOs, mainly TAFE Institutes, delivering training there. The students living overseas may achieve Australian qualifications or may not, depending on local arrangements. VET qualifications are

19 For example, the author was a member of the Education Industry Reference Committee, which included oversight of the Training and Education Training Package.

also taught in most senior secondary schools (students aged 16–18), but that sub-sector is not the focus of this chapter. For secondary school students to gain VET qualifications, they may attend an ‘outside’ TAFE Institute or RTO, or may be taught in the school by school-teachers.

2.3 Funding and Quality Issues

The Australian government funds much of the vocational education and training effort, with funding channelled through State and Territory governments. In 2019, just over one million students – 1.11.000 – undertook government-funded VET (NCVER, 2020); 565.400 were enrolled in TAFE Institutes. Also, some training is delivered on an entirely fee-paying basis. There are parameters around government funding, both for RTOs and for students. The marketisation of VET is comparatively recent; government funding was first made available to non-TAFE RTOs in the 1990s, initially only for training associated with apprenticeships and traineeships (Smith & Keating 2003) and then later for mainstream courses, actively encouraged by conservative (Liberal) national governments who tied State funding to the extent of marketisation (Forward, 2022). However, a new Labor government 2022 is working actively to prioritise TAFE in its policies.

While the Australian VET system is recognised as being fundamentally strong, in recent years there have been a number of financial scandals, mainly involving misuse of government funding by commercial RTOs (Smith, 2018). This problem has led to a heavy focus on regulatory compliance, with strict rules put in place to try to prevent further problems. There is a national regulatory body for the VET sector, known as the Australian Skills Quality Authority (ASQA) (www.asqa.gov.au). This body registers and re-accredits RTOs, as well as carrying out special audits in qualifications known to be ‘at risk’. (The Certificate IV of Training and Assessment was one of these.) As the system is competency-based, theoretically it does not matter how, or even whether, training is delivered, which creates risk (Smith, 2019). Because of fraud, further measures are taken by State governments, who fund the training. For example, the Victorian government has a list of ‘nominal hours’ for each qualification and even for each unit of competency, and RTOs who receive government funding need to show how they will meet these hours, and are required to keep records of ‘evidence of participation’ for each student.

The number of students in VET declined over the eight years to 2019, from a high of 1.54 million government-funded students in 2012 to 1.01 million in 2019 (NCVER, 2019) due to these financial scandals and due to national and State governments withdrawing funding from some qualifications, regardless of the type of provider, with flow-on effects for the viability of RTOs including TAFE Institutes.

3 Overview of VET Teachers in Australia

The VET system is of low status in Australia as in many other countries (Cedefop, 2017). It is generally accepted that, perhaps as a result of this, or perhaps as a result of the hegemony of ‘industry’ in the formation of competency-based VET curriculum, VET teachers are similarly undervalued. As a simple example, for many years the national training awards had no category for VET teacher/trainer (Smith & Keating, 2003, p. 228). This was rectified some time ago, but the perception persists that the teaching workforce is a minor player in the system. The occupation is not of high status; the Commonwealth department in its documentation, including in the RTO Standards, refers to VET teachers as ‘trainers and assessors’, thus naturally putting them on a lower rung than teachers in other sectors.

As mentioned in the introduction to this chapter, VET teachers within secondary schools are required in most States and Territories to hold school-teaching as well as VET teaching qualifications. Required qualifications for the latter teachers (i.e. those working within schools) vary from State to State, and there have been a number of recent government reports to inform attempts to regularise the qualification regime for these teachers, but with no resolution. These teachers are not included in the discussion here, but teachers in TAFE or other RTOs, who teach students from secondary schools, on the other hand, have normal VET teaching qualifications and are included in this chapter. They often deliver to a range of classes, which may include school-student classes among them. Teaching very young students has been identified as a problematic matter for many of these teachers²⁰.

While there are many full-time VET teachers, many work part-time in VET, sometimes as well as working in their industry areas, but some teachers working, rather, part-time in a range of RTOs. It is frequently stated that the VET teaching workforce in Australia is very diverse. Because of the wide range of training providers, teachers operate in widely different contexts. Examples of these contexts are shown in the box below. The box is an extract from a chapter in a VET teaching textbook (Brennan Kemmis & Atkins, 2014). They show the different contexts of VET in Australia and the differing challenges faced by hypothetical teachers in those contexts.

While they are presented in the box below as fictional examples, they were all drawn either from research studies or from previous VET teacher-training students taught by the chapter’s author.

Brian: Teaches IT and graphic design learners at high AQF levels. The learners attend in full-time mode. One issue of Brian’s is that there is quite a high prevalence of mental illness among his students.

Bill: Teaches carpentry apprentices who are undertaking work-based apprenticeships in a rural area. One issue of Bill’s is that it is hard to schedule visits, and some-

20 A new unit of competency was developed in 2022 for teachers experiencing this difficulty: TAEDEL416 *Facilitate learning for young vocational learners*.

times when he turns up to work with an apprentice, the employer says there isn't time for the training and assessment.

Bob: Works in an enterprise RTO, training call centre workers. One issue of Bob's is that once the learners have finished their initial off-the-job training, it is really difficult to get them released from the phones to attend further training sessions.

Brad: Works for an RTO but is remote from the headquarters, and is embedded, with some fellow teachers, in a steel works. One issue for Brad is that he sometimes finds his loyalties divided between his employing RTO and the company in which he is embedded, especially since he used to work for the company.

Janet: Teaches tourism learners working in caravan parks. One issue of Janet's is the sheer amount of time that she spends on the road, because the parks are in tourist areas which are remote.

Jennifer: Teaches food processing to students who work in a manufacturing company that employs people with disabilities. One issue of Jennifer's is that the learners can be distressed by assessment events, and sometimes she has to reschedule them for another day.

Julie: Teaches hairdressing students who attend the RTO on block release. One issue of Julia's is that many of her learners have language, literacy and numeracy challenges.

Jessica: Teaches hospitality at a specialist private RTO, mainly to overseas students who are attending full-time. One issue of Jessica's is to ensure that her overseas students participate fully in class, as she finds that they tend to be shy.

Jane: Works for a TAFE Institute but is based in a prison, where she works with inmates on literacy programs and indigenous cultural programs. One issue of Jane's is that her students are not allowed access to the internet.

Despite this diversity, some generalisations can, however, be made. Most teachers teach in a specific industry area²¹ and they are required to have industry qualifications and experience. Hence VET is always their second career, and often their third or fourth. Because of this, the VET teaching workforce has a high proportion of mature aged workers. For example, almost half of TAFE teachers in 2008 were aged 50 or over; with only 21% aged less than 40 (Guthrie, 2010). It is generally believed that teaching staff in non-TAFE RTOs tend to be younger. Because of the diversity of teachers and contexts, data collection is difficult. It is estimated that 57,800 people worked as TAFE teachers in 2008 (Guthrie, 2010) but this is likely to under-count part-time and casual staff. The following general characteristics applied (Guthrie, 2010):

21 Those who do not teach in a specific industry area may be teaching Foundation Skills (language, literacy, numeracy and related skills) or may be teaching VET teaching itself (see below for more information).

- The proportion of females in the TAFE workforce increased in the decade up to 2008, making up slightly more than half in 2008
- The TAFE workforce was getting proportionately older in 2008
- About half of the TAFE workforce was not permanent
- The TAFE workforce was aligned with the areas of study of students.

No firm data are available on the non-TAFE VET teaching workforce. A report in 2011 by the Productivity Commission (2011, p. XL) said that estimates varied from 72.800 to 541.00 depending on data sources. This estimate was presumably based on data attaching to certain occupational descriptors in censuses and other generalist government surveys.

A report on the VET workforce, released by the National Centre for Vocational Education Research (NCVER), was based on a 2019 survey of TAFE Institutes and other RTOs (Knight, White & Granfield, 2020). The survey data proved to be problematic, as for example, the survey included schools that were registered as RTOs, and all workers in schools (not just VET teachers) may have been included. Removing the staff of the 385 school RTOs from the data, a workforce of 173.755 was reported by the other VET providers, with 45.628 reported by TAFE providers (Knight et al, 2020, p. 10). The workforce figures were 'headcounted', thus including part-time and casual employees. Only a proportion of the workforce were 'trainers and assessors' – i. e. VET teachers; 32.0 % of private RTOs' staff and 58.5 % of TAFE staff were reported as teaching staff²² (Knight et al, 2020, p. 12). According to these data, just under 50.000 VET teachers were employed by these two core categories of RTO, slightly more in TAFE than in non-TAFE RTOs. It seems, then data problems aside, that the VET workforce had decreased over the 2010s, in line with the decrease in student numbers, when compared with the 57.800 reported by Guthrie (2010).

4 Working Conditions for VET Teachers

Pay and conditions for TAFE teachers are determined by bargaining between the employer and employee bodies. In most of the eight States and Territories (six States and two smaller Territories), the employer body is the State or Territory government itself, while in Victoria the teachers are employed by individual Institutes, of which there are 16²³. In all States and Territories, the trade union is the Australian Education Union (TAFE) <http://www.aeufederal.org.au/our-work/tafe>, which has a branch in each State or Territory.

Several States or Territories offer higher pay scales for TAFE teachers with higher level VET pedagogy qualifications; the example of Victoria is discussed later in this chapter. The teachers do not have to be promoted to other types of work; they can get

²² Proportions of staff who are VET teachers are not given here for other types of provider, as the data appear unreliable.

²³ Four of these are attached to universities, forming 'dual-sector universities', e.g. Federation University Australia and Swinburne University.

the pay rise while remaining as classroom teachers. On the other hand, higher-level pedagogical qualifications are often required for designated managerial or supervisory positions. Generally, the higher level qualifications are gained while working as a TAFE teacher. There is no common industrial agreement for VET teachers in non-TAFE RTOs.

Working terms and conditions for TAFE teachers in Australia are reasonably generous (Productivity Commission, 2011). Using the state of Victoria as an example, TAFE teachers' conditions may be summarised as follows (using 2020 data, see Smith, 2020):

- Pay rates for commencing VET teachers are almost the same as for starting school teachers and higher than entry-level university lecturers
- Working hours are 38 per week, but teachers are only required to attend the workplace for 30 hours a week, being expected to spend the 'non-attendance' days on professional development, curriculum work and so on
- No more than 21 hours a week of teaching is expected (with a maximum of 800 hours a year out of the required 1,748 hours of work); with 'unsociable' hours (e. g. evenings) weighted, or paid at overtime rates
- Except for casual teachers, TAFE teachers receive four weeks' annual leave and employer-paid superannuation (at 9,5 % of salary), as well as paid sick leave and other entitlements.

As might be expected, however, many TAFE teachers are highly dedicated to their jobs, and work well above the hours outlined above.

5 Qualifications for VET Teachers

In Australia, VET teachers are the least well-qualified compared with other teaching workforces. School teachers in Australia are required to have at least a full teaching degree before starting work. Except in highly exceptional circumstances which must be approved. For early childhood, teaching although the basic qualification is a Certificate III, 50 % of teachers in each early childhood centre must have a Diploma and degree-qualified staff must be employed depending on the size of the centre.²⁴ University teachers are expected to have a Graduate Certificate in university teaching; most universities require this before appointment, or write into the employment contract the requirement to complete it within a short period of time.

The situation in VET is quite different. The NCVER study referred to above, found that three-quarters of VET teachers had a Certificate IV qualification as their highest pedagogical qualification, with only 11,1 % of TAFE teachers and 4,4 % of other VET teachers having a degree in VET teaching (Knight et al, 2020, p. 12). Even allowing for the data problems in the survey, this is a very low level of qualification.

24 For the regulations, see <https://www.acecqa.gov.au/qualifications/requirements/children-preschool-age-or-under>

This has not, however, always been the case. In the 1970s and 1980s, full-time TAFE teachers were required, on appointment, to gain a university diploma in VET teaching within a specified period of time. These qualifications were completed while working. From around 1990 (varying by State) the requirements were upgraded to a full degree, or a Graduate Diploma if they already had a degree in another discipline area (Guthrie, 2010). In each State, at least one university provided such qualifications (Harris, 2015). Generally, TAFE systems paid university fees for their teachers, and also gave them time release for study. The Commonwealth and State governments retained a strong interest in the training of VET teachers, as recorded in detail by Harris (2020) in an important 'Landmark Document' of historical developments relating to the VET workforce. At this time there were also close linkages between the State TAFE systems and the universities providing VET teacher-education. Students were taught at least partly face to face and strong peer groups were formed among the commencing VET teachers.

Over the first decade of the 21st century, the requirement for pedagogical qualification for full-time TAFE teachers in each State-based TAFE system was progressively removed, primarily to reduce the cost to the employing State, as employers generally funded time-release and study costs for their new teachers. Victoria was the first State to remove the requirement for degree-level training, in 2000, and New South Wales was the last, in 2008.

5.1 VET Sector Qualifications in VET Pedagogy

One reason for the reduction in qualification expectations was that, in 1998, a lower-level VET sector qualification for VET teachers was approved, and was written into the then regulatory system for VET. The Certificate level qualification (then called the Certificate IV in Assessment and Workplace Training) was approved, containing only 300 nominal hours of training, as part of a new Training Package²⁵. The qualification was intended to provide a mandated 'floor' for qualifications for VET teachers; however, it rapidly became a 'ceiling' (Smith & Keating 2003; Wheelahan & Moodie, 2011). Thus, new teachers joining the VET workforce were now less qualified than their colleagues.

In recent years, Australian government-sponsored reports have shown, on many occasions (e.g. Skills Australia, 2011), deficiencies which could, at least in part, be attributed to a low level of qualification among VET teachers. For example, an ongoing concern has been the quality of assessment of students (Department of Education and Training, 2016).

One problem is the level of the new qualifications. It was at an Australian Qualifications Framework (AQF) level 4 rather than the AQF level 7 degree required of full-time TAFE teachers at that point in time. As well as the inadequate *level* of the qualification, problems with the *delivery* of Certificate IV in Training and Assessment have been well-recognised. Unfortunately, the Certificate IV qualification has always been notorious for being delivered in an unduly short manner, often partly or even wholly by Recognition of Prior Learning, or in weekend courses (Smith & Keating, 2003). Such prob-

25 At that time, Training Packages were a very new concept.

lems in this qualification exceed the sector norm, and the VET-sector regulator has investigated these, along with other ‘high-risk’ qualifications such as aged care.

The qualification has been updated and improved over time, to meet such concerns. The current, mandatory, Certificate IV qualification in Training and Assessment (known as the ‘Cert IV TAE’ after the Training Package’s name ‘Training and Education’), is the 2016 version. Its nine core units of competency are shown below²⁶.

- TAEASS401 Plan assessment activities and processes
- TAEASS402 Assess competence
- TAEASS403 Participate in assessment validation
- TAEASS502 Design and develop assessment tools
- TAEDEL401 Plan, organise and deliver group-based learning
- TAEDEL402 Plan, organise and facilitate learning in the workplace
- TAEDES401 Design and develop learning programs
- TAEDES402 Use training packages and accredited courses to meet client needs
- TAEELN411 Address adult language, literacy and numeracy skills.

The qualification has ten units, and in addition one elective must be chosen. This is an unusual proportion of core units compared with other VET qualifications.

There is also a Diploma of VET, which has six units and four elective units. The core units are:

- TAEASS501 Provide advanced assessment practice
- TAEASS502 Design and develop assessment tools
- TAEDEL502 Provide advanced facilitation practice
- TAEDES501 Design and develop learning strategies
- TAEELN501 Support the development of adult language literacy and numeracy skills
- TAEPPDD501 Maintain and enhance professional practice.

The Diploma of VET, or a higher-level qualification in VET pedagogy, must be held by people teaching the Cert IV TAE. More information on this provision is provided later in this chapter.

As has been noted by many commentators, the current Certificate IV qualification offers almost no content on pedagogy; the only ‘teaching practice’ in the current Certificate IV TAE is in the unit of competency ‘TAEDEL401 Plan, organise and deliver group-based learning’, which requires only:

“Facilitating group-based learning by preparing and delivering at least three training sessions, including:

- at least two consecutive sessions of at least 40 minutes duration, that follow one of the learning program designs, to a learner group of at least eight individuals
- at least one session delivered to a learner group of at least eight individuals, with evidence of how the characteristics and needs of this group were addressed.”

²⁶ As explained later, a new version is now available, but is unlikely to be taught until mid-2023 at the earliest. New VET teacher-trainees may still be enrolled in the 2016 version, as there is a lengthy ‘teach-out’ period.

Extract from performance evidence, <https://training.gov.au/Training/Details/TAEDEL401>
 The Diploma of VET, however, has two units of competency on teaching, with 100 hours of teaching practicum required in the unit of competency ‘TAEDEL502 Provide advanced facilitation practice’.

- The candidate must be able to show evidence of having conducted a minimum of 100 hours of group facilitation, in addition to any evidence provided of work with individual learners, or in a different learning context
- The candidate must show evidence of feedback from at least two peers and 10 learners, and evidence of reflection on this feedback.

Extract from performance evidence, <https://training.gov.au/Training/Details/TAEDEL502>
 Further, smaller, amounts of teaching and assessment practice are required in other units of competency in the Diploma of VET. The numbers of enrolments nationally in the Certificate IV qualification were fairly consistent²⁷ across 2018–2021 at around 38,000 per annum, according to the National Centre of Vocational Education Research (<https://www.ncver.edu.au/research-and-statistics/data/databuilder>). The numbers enrolled in the Diploma of VET were around 900 each year, with a small peak in 2020 of just over 1,000. During the COVID years, rules were relaxed to allow training providers to deliver the course online.

As mentioned above, in Australia, teachers in the VET system are also required to have industry qualifications, as well as experience in the industry for which they are preparing or upskilling students. Generally, teachers’ qualifications in the industry area need only be at the same level as the qualification being taught by that teacher, but some industry Training Packages have additional requirements. (By contrast, in the higher education regulatory framework in Australia, there is a general ‘one level higher’ rule.) It should be noted, however, that in some discipline areas, VET teachers routinely have degree level industry qualifications; these are often apparent in, but are not confined to, ‘professional’ areas such as nursing, marketing and social welfare. All VET teachers (except those in specialist roles such as literacy support) are required to maintain their industry currency and engagement, as set out in the RTO standards (discussed later).

Neither the VET-sector teacher-training qualifications nor the higher education qualifications in VET pedagogy contain specific content related to the industry or discipline area in which the VET teacher is currently teaching or will be teaching. Instead, people are expected to have gained such qualifications prior to entering the pedagogy qualification. Thus, the Certificate IV qualification (2016 version) states: ‘Those entering this program must be able to demonstrate competency in their proposed teaching and assessing area. Vocational competency is defined as broad industry knowledge and experience, and may include, but is not limited to, holding a relevant unit of competency or qualification.’

²⁷ An anomalous Cert IV increase in 2019 – to nearly 64,000 – can be ascribed to people being required to ‘upgrade’ to a new version of the qualification by completing two specified units of competency.

5.2 Recent Improvements to the VET Sector Qualifications

The Certificate IV qualification was recently reviewed and improved comprehensively as part of the review of the TAE Training Package. The author of this chapter was a member of the Industry Reference Committee, working on the project all through 2022. The changes provided much more focus on pedagogy and also provided more diversity, with greater numbers of elective qualifications. The Diploma of VET was also changed. For details of both qualifications, see ‘Release 5’ at <https://training.gov.au/training/details/tae>

The new structures are as follows:

Certificate IV in Training and Assessment

- Core units reduced from nine to six; six electives
- Elective group headings introduced to reflect the variety of job roles requiring specialised knowledge areas. A: Training and Assessment (three units must be from this), B: Learner Support, and C: General

Diploma of Vocational Education and Training

- 3 core units only; nine electives
- Specialisations introduced (which are cited in certification): A: Advanced Training and Assessment, B: Design & Development, and C: VET leadership.

Fifteen ‘skill sets’ have been introduced, which are available for upskilling teachers; examples include e-learning, advanced assessment, teaching young learners, and integrating foundation skills into teaching.

The existing teaching practicum units of competency have been retained in the Diploma; and a new (albeit elective) practicum unit introduced into the Certificate IV: TAED415: *Complete a practicum in the VET environment*. The new Certificate IV level practicum unit requires 30 hours of practicum in an RTO. While this is small, it was felt that the VET sector would object to a higher number of hours. The unit of competency states that evidence must be provided as follows:

The above 30 hours must consist of:

- 15 hours of either face-to-face or online facilitation, or a combination of both, based on nationally recognised products, either co-delivering with, or being directly observed by, a qualified VET teacher and/or trainer, including:
- a minimum of 10 hours with groups of at least 4 learners
- at least 1 training session of a minimum of 30 minutes observed by the assessor of this unit
- 15 hours completing the following tasks, with a minimum of 2 hours spent on each:
 - seeking feedback from learners and other qualified VET teachers and/or trainers

- observing other qualified VET teachers and/or trainers facilitating training
- undertaking professional development to inform own facilitation techniques.

As well as the above improvements, the words ‘VET teacher and trainer’ are used throughout the Training Package documentation, including all relevant units of competency, to describe VET teachers, rather than the previous nomenclature of ‘trainer and assessor’. There is also much more emphasis on learning theories than in previous versions, and a unit of competency providing background knowledge and understanding of the VET sector and VET learners, which had been removed in the 2011 version of the qualification. There was extensive consultation throughout 2022, providing high awareness among VET teachers and all RTOs that deliver the TAE qualifications. While a vocal minority of people active in the VET sector opposed all improvements, especially those introducing more rigorous material, such as the practicum unit, in general the reception was very favourable, and only one State government raised objections.

5.3 Interest in Higher Level Qualifications

Since the advent of the Certificate IV as the mandated qualification, it has been left to individual TAFE Institutes or private training providers to encourage teachers to undertake higher-level pedagogical qualifications; or to teachers’ own initiative and drive. The Diploma of VET qualification has been especially popular in the State of Victoria where for some years there has been a TAFE teacher pay rise associated with completion, predating the 2018 agreement described below. In addition, certain positions in Victorian TAFE, such as ‘Education Manager’ have only been open to people with at least a Diploma of VET. TAFE colleges tend to deliver the Diploma to their own teachers during working hours, reducing perceived burden on teachers.

6 University Qualifications in VET Pedagogy

Since the introduction of the Certificate IV qualification, the numbers undertaking university qualifications in VET pedagogy have fallen. Guthrie, McNaughton & Gamlin (2011) pointed to the relatively small numbers of teachers undertaking university degree or graduate diploma qualifications in VET teaching at that time, and while the number was around 1.500 a year throughout the 2010s, it has recently declined, to an estimate of around 500 currently. No formal data are available, and numbers are complicated by the fact that a small number of university qualifications double-qualify VET teachers as school teachers as well. The decline in numbers has occurred despite the clear benefits of a more highly-qualified VET workforce shown by Smith & Tuck (forthcoming), in the Executive Summary of a national Australian research project²⁸ and, in Sweden, by Antera (2023).

²⁸ See <https://federation.edu.au/institutes-and-schools/ieac/research/rave-researching-adult-and-vocational-education/recent-research/research-project-addressing-quality-in-vet>

As numbers have fallen, several universities decided they could no longer afford to offer the programs. Unlike in the period 1975–2000, there is no longer at least one designated university offering the qualifications in each State or Territory. In the 1980s and 1990s, by contrast, there were large university departments offering VET teacher-training, whose academic staff also undertook substantial bodies of VET research (Harris, 2015). Unfortunately, the VET research effort has fallen to the lowest level for many decades.

All students in university VET teacher-training courses now study part-time and at a distance (online and/or printed learning materials), sometimes with occasional face to face workshops. The students are predominantly VET teachers who are already working, with occasional students working in industry who wish to move into VET teaching. Programs generally offer credit for the Certificate IV and occasionally for the Diploma of VET, with a small number of courses offering the alternative of studying a Certificate IV as part of or alongside the university qualification.

Three States offer pay incentives on completion of university qualifications in VET teaching and, especially in the State of Victoria, this has led to an increase in enrolments; more detail on the Victorian example is provided below. VET teachers report a high level of satisfaction with their experiences studying university VET teaching qualifications (Smith, Yasukawa & Hodge, 2015).

The box below shows typical content areas for university qualifications in VET teaching. It will be noted that document was created around a decade ago, and omits mention of online learning. Naturally, all university providers have updated their content on this aspect of VET pedagogy since then, particularly during the COVID pandemic.

Core knowledge and skills in university qualifications in VET teaching

- 1. Context – social, policy, systemic**

This focus area concerns the multiple contexts of VET, from international developments, national demographics, economic settings and policy frameworks to national and state systems.

- 2. Curriculum, program and learning strategy – planning, design and development**

This focus addresses the practice and theory of curriculum, including competency-based training and training packages.

- 3. Teaching and learning – theory and practice**

This focus includes learning theories, instructional theories, theories of development, critical perspectives and applications.

- 4. Literacy and numeracy**

This focus addresses literacy, numeracy and communication in and for work and the challenges of integrating literacy and numeracy teaching in VET practice.

5. Learner diversity

This focus area addresses the multiple challenges and opportunities of learner diversity in VET and other post-compulsory learning contexts.

6. Assessment and evaluation

This focus area encompasses the wide range of theories of assessment and evaluation, including competency-based assessment.

7. Workplace and organisational context – learning, issues

This focus area covers workplace, workforce and organisational learning, development and policy.

8. The VET profession – identity, practices, issues, content knowledge

This focus area concerns the complex issue of the nature and development of the VET professional, including industry knowledge and teaching capability development.

9. VET research

This focus area covers quantitative and qualitative research methodologies, data collection and analysis methods, research ethics and critically reading research (AQF Levels 7 and above only).

10. Leadership and management

This focus area covers organisational leadership and management theories and application (AQF Levels 7 and above only).

Document created by the Australian Council of Deans of Education Group (ACDEVEG) c.2013 <https://www.acde.edu.au/networks-and-partnerships/acde-vocational-group/>

The courses also include periods of teaching practice. These are generally undertaken within the VET provider for which the student is already working. Teaching placements have to be found for those not already working in VET, and the academic staff generally work with the students to find suitable placements. Practicum courses generally involve student-teachers being required to record a certain number of teaching hours, liaise with a suitable practicum supervisor, observe other teachers, be observed by other teachers, seek feedback on teaching from peer teachers and from students, as well as reflect on their own teaching, and sometimes to try out improvements.

The university qualifications normally require for entry, and provide substantial credit for, industry qualifications and experience. No VET teacher-training qualification offers content knowledge; students are expected to have the relevant industry or discipline qualifications prior to entry, as with the Certificate IV TAE. Therefore, unlike in some countries, the universities are not associated with particular content areas; all degrees are ‘generalists’. However, the concept of subject-specific pedagogy is taught, and students are taught how to enhance their industry knowledge and skills; they are encouraged to frame relevant assignments around their own industry or discipline areas. This is quite different from undergraduate secondary school teacher-education in Australia, where a ‘major’ is normally included in degrees, developing knowledge and expertise in the teacher’s proposed content area.

How Has the Decline in Numbers Been Addressed?

An example of a drive to increase the qualifications of the VET workforce, specifically in TAFE, is the State of Victoria. A new pay scale has recently been introduced (2018) that can only be accessed by those with an AQF 6 (Associate Degree) or above qualification in VET teaching. This pay scale is higher than the scale that could be accessed with a Diploma of VET. The TAFE employer association (the Victorian TAFE Association) worked closely with the Australian Education Union on this matter, and there are certain criteria that must be adhered to for a qualification to be accredited, for example 200 hours of practicum, and subjects on research and on learning theory. The 2018 TAFE Teaching Staff Agreement and associated advice documents can be found at <https://vta.vic.edu.au/victorian-tafe-teaching-staff-agreement-2018/>

One example of a qualification which has gained additional numbers as a result of this agreement is Federation University's Associate Degree of VET, whose student numbers have increased markedly, from a low point of 17 in 2019 to 127 in 2022. The program can be viewed at <https://study.federation.edu.au/course/DTV3>

7 Governance of VET Teacher Education Programmes

In this section, the governance systems for VET teacher-education qualifications in the VET sector (the Certificate IV TAE and Diploma of VET) are addressed first and then the university qualifications. For each sector, there are three main topics and one minor topic:

- the process for qualification development and review
- the regulatory framework
- initiatives by groups of VET teacher-educators
- partnerships between the VET teacher-education institutions and training providers.

As of early 2023, 114 training providers are registered to deliver the Certificate IV in Training and Assessment, according to www.training.gov.au, the National Training Register. 33 providers are registered to deliver the Diploma of VET. There is no similar register for higher education, as universities are not registered in the same way for the courses that they deliver. In 2011, the research project by Guthrie et al (2011) reported that there were 20 university providers of teacher-education, with 75 % of students enrolled in only seven providers, and several reporting that they were likely to close courses due to low numbers. An internal ACDEVEG document in 2020 found seven providers, but some of those were teaching only overseas students or specialities (e.g. language, literacy and numeracy). There are no private providers of higher education qualifications in VET pedagogy.

7.1 VET Sector and VET Teacher Education

Qualification Development and Review

As for all other VET-sector qualifications, the skills council system performs qualification development and review for VET teachers. (As mentioned earlier, the term ‘skills council’ is used generically here, as nomenclature changes over time.) ‘Industry’ (in this instance, the VET sector) proposes qualifications and units of competency, with approval submitted to a government committee²⁹. Most recently, the Industry Reference Committee, in line with the make-up of other IRCs, was constituted by representatives of the employer associations (for example the TAFE Directors Association and the private providers’ association ITECA), the Australian Education Union’s TAFE branch, industry associations, and invited experts.

As with all VET sector qualifications, all stakeholders and other interested parties and individuals can make suggestions for the development and review of the qualifications, through meetings, invited contributions, or submissions to the developing body’s web site. Traditionally the VET teaching qualifications have attracted a great deal of interest, with the 2022 review attracting several thousand submissions. State governments also have the opportunity to make comments in an additional step before submission for national approval. Their comments are considered by the national committee but do not have to be actioned. Some State government input has been quite influential, and not necessarily helpful; for example in the first version of the Training and Assessment Training Package (as it was then known) the Certificate IV qualification did not include a unit of competency on teaching face to face as one State (New South Wales) stated that it was not necessary.

An important matter in Training Package reviews is whether revised qualifications are stated to be ‘equivalent’ or not. If they are not deemed equivalent, then training providers must re-apply to have the qualifications on their scope of registration. This matter was used as part of an ingenious quality improvement strategy on the part of the Commonwealth government. To address instances of poor quality delivery of the Certificate IV TAE, noted earlier, an update in 2016 was made ‘non-equivalent’ which meant that all training providers had to re-register to deliver either the Certificate or Diploma qualification. Approval of re-registrations for both the Certificate IV and the Diploma was rigorous and deliberately slow. As a result, the numbers of providers of both qualifications fell considerably.

Regulatory Framework and the RTO Standards

The regulatory agency for the VET sector, the Australian Skills Quality Authority, has responsibility for maintaining quality in VET. In 2011 it replaced a system of state and territory regulation. ASQA does not focus directly on, or observe, teaching delivery, but rather on organisational and governance matters in RTOs and systems. ASQA auditors operate using the ‘RTO Standards’ (Commonwealth of Australia, <https://www.legisla>

²⁹ The name of this committee has changed over time, and the future arrangements are uncertain following changes to the skills council system. Its most recent name was the Australian Industry and Skills Council.

tion.gov.au/Details/F2019C00503). ASQA audits have traditionally been extremely detailed, causing training providers to worry a great deal about paperwork being correct. Teachers typically complain about the amount of ‘compliance’ work they have to do, and whole departments in TAFE Institutes ensure that the Institute meets the RTO standards. However, ASQA is moving towards a risk-based approach where, for example, TAFE Institutes typically do not have to apply each time they want to offer a new qualification.

In response to the problems outlined in government reports, in research, and in reports from the regulator, a degree of regulation and a special compliance framework specifically for the Certificate IV qualification were implemented via changes to the RTO Standards in 2016. Revised regulatory standards for training providers were introduced in 2016, requiring, *inter alia*, evidence of VET teachers’ professional development in VET pedagogy as well as in teachers’ industry areas, in an attempt to boost teachers’ capabilities. Extra units of competency were introduced into the core of the Certificate IV qualification. Also in this update, a Diploma of VET or higher-level VET pedagogy qualifications were required to teach the Certificate IV qualification. These higher level qualifications in what was termed ‘adult education’³⁰, i.e. VET teacher-training courses at universities, were also deemed to be equivalent to Certificate IV level qualification for regulatory purposes.

The RTO standards are currently being redeveloped, with new standards expected to be implemented in 2024. The intent is for the standards to be less prescriptive, and the process includes consultation with all VET sector stakeholders and ACDEVEG. ACDEVEG argued, in early 2023, among other matters, that the new approach must not dilute the requirements for VET teacher qualifications.

VET Teacher Education Initiatives in the VET sector

In Victoria, the teachers of the TAE Training Package Certificate IV and Diploma have formed a group called the VET Practitioners’ Network (VPN), which meets regularly. (Other states and territories may have similar groups.) The VPN’s LinkedIn page states:

“The VET Practitioners’ Network (VPN) supports providers of Training and Education (TAE) programs through a forum for:

- discussion around the development of the teaching skills
- sharing of resources
- dissemination of information about delivery strategies
- validation of assessment tools
- providing information and feedback to various groups and organisations such as ASQA and the SSO
- This group is not funded, and is managed by volunteers.”

The group is considered a major stakeholder by the skills councils, and liaises regularly with ACDEVEG, the universities’ grouping (see later in this chapter).

³⁰ This wording is vague and unfortunate, as ‘adult education’ actually has a different meaning in Australia to VET. ACDEVEG worked with ASQA to assist with guidance notes on this matter and to provide examples of suitable courses.

Partnerships between the VET Teacher Education Institutions and Training Providers

The institutions delivering the Certificate IV and Diploma qualifications in VET are themselves RTOs. Many RTOs deliver both the Certificate IV and the Diploma of VET to their own teaching staff. (The regulations allow people to start teaching ‘under supervision’ with just a skill set from the Certificate IV which is why those people may be studying with their RTO.) RTOs may also deliver the qualifications to ‘outsiders’ either in the same class as the class for their own staff, or separately. As there has previously been no practicum requirement in the Certificate IV, there has been no need for the delivering RTOs to find sites for their students to undertake teaching practice. The Diploma has quite rigorous practicum requirements. Many studying this qualification are already working as VET teachers, so they normally undertake the practicum in their own work; the delivering RTO requires records to be submitted but anecdotal evidence suggests that the practicum is not always well-administered by some RTOs. There appears to be no research into the delivery of the Dip VET to people not yet employed in the sector.

7.2 University (Higher Education) VET Teacher Education Qualifications

Qualification Development and Review

Australian universities all have similar processes for development and review of courses which apply to VET teacher-training courses along with all other discipline areas. Courses must align with the broad parameters of the Australian Qualifications Framework (i.e. they must be developed at an appropriate level). They are generally developed by teams of academic staff and pass through multiple approval processes at Faculty and University level, ending with approval by an Academic Board or Senate, the lead governance body in a university. The course approval process will always require the developers to explain any accreditation provisions that apply to the course and show how they have been met. In addition a business case must be made for a qualification – i.e. proof of a potential market – generally before the academic processes commence. The committees which scrutinise the courses will not necessarily have any members with specific expertise in the discipline area, but the proposed course co-ordinator will explain the course at least to the lowest level committee.

Courses are reviewed on a regular timeframe – generally at least every five years – and universities require the academic teams to institute an external panel and to benchmark against other courses. Modifications to courses and the constituent subjects may be made at any time, albeit modifications must proceed through the various committees.

Courses offered in Victoria must meet the requirements of the TAFE Teaching Staff Agreement (described earlier) if they wish to attract students looking for the associated pay rise. The Victorian TAFE Association (VTA) has a committee to consider applications from VET teacher-training courses and may require amendments to be listed on the VTA web site. As the Agreement is currently being renegotiated, these arrangements may change in the future.

Regulatory Framework and the TEQSA Standards

The regulatory body for higher education is the Tertiary Education Quality and Standards authority. It regulates private higher education providers ('HEPs') as well as universities. TEQSA was, like ASQA, established in 2011, replacing state-based higher education panels, which were, however, only used for private HEPs. At one point it was intended that the two agencies would combine, but it quickly became apparent that the sectors required different approaches. TEQSA has a far 'lighter touch' approach to audits and other activities than ASQA. This may be because there are far fewer private HEPs than RTOs, and because government funding is not provided for private HEPs, and so fewer major problems would be expected. And it may also be because universities have very stringent internal governance systems. Therefore, the two agencies have remained separate.

The TEQSA standards include, as one of 7 domains, 'Teaching'. The standards in this domain cover the following three topics³¹:

- Course design
- Staffing
- Learning resources and educational support.

While the establishment of TEQSA has led to more emphasis in universities on what is usually called 'compliance quality' than previously, the extent of this emphasis is much lower than in the VET sector.

VET Teacher Education Initiatives in Universities

The relevant universities have formed a group within the Australian Council of Deans of Education (faculty heads of the Education discipline in universities) known as ACDEVEG, the Australian Council of Deans of Education Vocational Education Group. The group began informally, but was later accorded formal status by the Australian Council of Deans of Education. A predecessor organisation, in existence from 1999 to 2005, was known as AVTEC, the Australian Vocational Teacher Educators' Colloquium (Smith & Keating, 2003, p. 236). AVTEC was very active during its existence, for example, holding a major national workshop in late 2004, funded by the Commonwealth government, to discuss articulation between the then redesigned Training Package qualifications and university VET teacher-education courses.

ACDEVEG lobbies for higher qualifications for VET teachers, as well as working with VET sector stakeholders to improve the Certificate IV qualification and generally lift the standard of VET teaching. ACDEVEG's terms of reference are to:

- Work towards better quality VET teacher preparation at all levels of qualification
- Develop quality criteria for university VET teacher-education programs, to meet the needs and expectations of the VET sector and the personal and professional development needs of the students
- Promote clearer pathways from VET teacher qualifications in the VET sector to higher education VET teacher qualifications in the higher education sector

31 See <https://www.legislation.gov.au/Details/F2021L00488>

- Promote the importance of university qualifications as contributing to the professional standing of VET teachers, and work towards increasing the proportion of the VET workforce holding university level qualifications
- Work with stakeholders including accreditation and registration bodies to seek recognition of higher-level qualifications through industrial awards and career progression incentives
- Work with those responsible for qualifications in school teaching and higher education teaching to improve transferability of teachers across the education sector
- Promote research into Australian VET teaching and teachers, and collaborate with international counterparts, in order to use research evidence to inform and influence policy and practice relating to VET teaching and training
- Through regular cross-institutional meetings, collegial discussions and sectoral engagement, ensure the currency, relevance and quality of higher-education VET teacher education programs for new VET teachers and trainers, and for those already in the sector (<https://www.acde.edu.au/networks-and-partnerships/acdevocational-group/>)

ACDEVEG holds annual conferences on VET teaching and VET teacher-education, and liaises with overseas VET teacher-educators, international bodies such as the OECD, and the commonwealth government in Australia. It engages closely with the skills councils responsible for the VET sector qualifications; in the 2022 review of the TAE Training Package, ACDEVEG as a group proposed, and wrote the first draft of, the new practicum unit. ACDEVEG has engaged over the past decade with all key VET stakeholders, beginning with a major meeting in 2011 where attendees were asked to discuss the following questions:

- What would you and your organisation/members like to see from higher education VET teacher-training courses? Is there anything lacking in current course offerings?
- What would make your organisation/members more likely to require and/or encourage teachers/trainers to have higher education qualifications in VET teaching/training?
- What degree of consistency do you think is desirable among the different universities?
- How can we improve access to practicum for students not currently working in VET or those needing to broaden their experience beyond their own workplaces?

However, as ACDEVEG operates on volunteer labour, and there are relatively few VET teacher-education academics, its activities have needed to focus on lobbying work and input into VET policy developments, rather than other liaison with stakeholders. ACDEVEG has suggested in submissions to government that an accreditation process be set up for university VET teacher-education courses, but this proposal has not been taken up.

Partnerships between the VET Teacher Education Institutions and Training Providers

Universities offering VET teacher-education will normally have either formal or informal arrangements with training providers, usually TAFE Institutes. These training providers may pay the student fees. They may appoint a staff member as a liaison person and to assist the students with their studies. As with Diploma of VET students, the ‘teacher-trainees’ are already working as VET teachers, and so the practicum subjects are generally undertaken within the students’ own RTO. The universities require the involvement of a practicum supervisor who will oversee the student in his or her practicum.

Where students are not employed, a practicum site will need to be found; as with the VET-sector qualifications, there is no available research on how this is undertaken – for example, whether universities have formal or informal arrangements with training providers for this purpose.

8 Analysis, Conclusions and Recommendations

In Australia, in both the VET and higher education sectors, the systems for offering and monitoring VET teacher-education courses do not extend beyond those applying to any other qualification in the sectors. By contrast, in many discipline areas which produce graduates to work in certain sectors or industries, such as school education, early childhood education, engineering, social work, pharmacy, and nursing university, the content and delivery modes are accredited by sector or industry bodies, and the content of VET qualifications is also accredited, albeit only at the Training Package development and review stage.

Specifically in the education sector, in school education, ‘AITSL’, the Australian Institute of Teaching and School Leadership, a company owned by the Commonwealth government, determines the content and delivery of university school-teacher-education courses in some detail among many other functions, and the same applies for early childhood education with an independent statutory body, ‘ACEQA’, the Australian Children’s Education Quality and Care Authority. These overseeing bodies supplement and do not replace the more general quality and regulatory systems described in the previous section for VET and higher education courses. But in the VET sector, governments show no willingness to set up similar systems, despite the Commonwealth government being responsible for quality in VET and the state governments for managing the systems within their boundaries, and employing the TAFE workforce. Similarly the employer bodies – the peak bodies for TAFE and for the various types of non-TAFE providers – do not seek an active role in the nature and quality of teaching of VET teachers, beyond input into the Training Package qualifications in VET teaching.

One may speculate on the reasons behind the lack of interest on the part of the VET sector and governments in the quality of VET teacher-education, especially considering concerns about quality in VET. As Braithwaite (2016) puts it “At the heart of the

debilitation of the VET sector has been lack of respect for and support for teaching professionalism in the [VET]reform process.” It is likely that the low status of VET lies at the heart of the problem. However, these debates are beyond the scope of this article. It is likely that the low VET-sector interest in university VET-sector teacher education stems from traditional rivalries between the sectors leading to two outcomes: firstly, VET institutions have argued that the VET sector is quite capable of training its own teachers; and, secondly, TAFE in particular sees universities as a rival for student numbers, especially at a time when education funding is curtailed, and is not inclined to encourage its own teachers to enrol at a university.

Even though there are many shortcomings in the Australian system, and local politics affect the debates, some lessons learned and good practice examples may, nevertheless, be drawn from the discussion.

As there are no formal accrediting bodies for courses for VET teachers, the processes for teacher-training accreditation in the two other education sectors could be examined and adapted. Nor is there a registration board for VET teachers as there is for school teachers, although, in fact, that possibility has been raised in many quarters over the last two decades. The school-teacher registration process could be examined here, too. However, the Commonwealth government and State governments would need to agree on an appropriate body to manage both processes, and care would need to be taken to avoid burdensome ‘compliance’ activity. AITSL, the school teacher registration and accreditation body, is particularly viewed as having unnecessarily complex requirements.

The initiatives taken by groups of VET teacher-educators, both in VET (e.g. the VPN in Victoria) and in higher education (e.g. ACDEVEG), are to be applauded and built upon. However, they cannot be taken for granted, and governments at both levels need to ensure their continuation and monitor their uniformity across the country. These groups are run on volunteer labour, and in busy time, progress is limited. Modest funding, or the provision of a common administrative support team for such groups, could be considered. These bodies could be replicated in other countries as well as Australia.

Because of the nature of VET teacher-training, partnerships between VET providers and VET teacher-education providers are ill-defined, for different reasons for each qualification level. For the VET teacher-education qualifications, the VET provider of teacher-education is often the same as the RTO itself. The requirements of the new practicum unit of competency in the Certificate IV qualification could well change this situation. The need to seek teaching placements for students could well lead to longer-term forms of collaboration.

For the universities, there is lack of research and data on several aspects of VET teacher education, including partnerships with VET providers. This stems partly from the dearth of academics now working in the area; and partly from the lack of involvement by governments in the delivery of VET teacher-education (at any level). For students in the university courses, who are generally undertaking practicum at their own workplace, as with the Diploma of VET, it could be argued that learning is necessarily

limited, although students do in fact report learning a great deal from reflecting on and extending their practice in their own workplaces. Students could be required to undertake periods of practicum elsewhere to extend their understanding of the sector; this would require the formation of partnerships.

The State of Victoria, where the industrial parties collaborated to create incentives for teachers to undertake high-level qualifications, sets a good precedent for other Australian States, at least until there are national agreements on qualification levels. There is a problem in that some States and Territories do not have a university equipped to offer VET teacher-training. This is a matter which ACDEVEG will be considering. Other countries currently without substantial university provision of VET teacher-education may also encounter a stumbling block in attempting to improve qualification levels, but if all parties collaborate, solutions should be possible.

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Bibliographical Notes

Erica Smith is an Emeritus Professor at Federation University Australia. She has managed many national and international research projects on VET and related matters and until recently co-ordinated a substantial VET teacher-education program, at Associate Degree level. Erica was for many years the convenor of the Australian Council of Deans of Education Vocational Education Group (ACDEVEG), the national group of

university VET teacher-educators. She currently serves on two major government committees, including one on the VET workforce.

Federation University Australia
Ballarat, Victoria, Australia
e.smith@federation.edu.au

Initial Teacher Education in the English Further Education Sector: Continuity and Crisis

KEVIN ORR* & NENA SKRBIC

Abstract

The most prominent purpose and component of the English Further Education (FE) sector are the provision of work-related education and training, especially for young people aged 16–19. The sector includes both private and public sector organisations, from small training companies to huge multi-site FE colleges with an important civic profile. FE colleges alone enrol 1.6 million students, yet despite the size and significance of the sector, there is no statutory requirement for teachers in the sector to hold a teaching qualification. Nevertheless, FE colleges generally require teachers to have or to gain a teaching qualification as a condition of employment. This chapter explains the current complexity of the unstable policy and practice associated with the sector and particularly with initial teacher education for FE teachers. We argue that despite the frequent churn of policy, much has remained consistent, but that major change may be imminent.

Keywords: Further Education; initial teacher education; policy; practice

1 Introduction

Education policy in the four nations of the United Kingdom (England, Scotland, Northern Ireland and Wales) has diverged over the past decade and this chapter focuses on the largest jurisdiction, England. The Further Education (FE) sector in England encompasses a vast array of private and public sector organisations, large and small, and many thousands of vocational as well as academic courses. The FE sector is so diverse that it is occasionally characterised by what it is not: it is not schools and it is not universities (see Stanton et al., 2015, p. 69), though even those boundaries are also quite permeable. While the FE sector includes general adult education and also a significant portion of academic education for 16-19-year-olds, the most prominent purpose and component of the sector are the provision of work-related education and training. In this chapter we examine the most significant element of the sector, Further Education colleges, and how teachers working in those colleges are trained through their initial teacher education (ITE). Instability is a characteristic feature of policy in the English FE sector, which is especially apparent at the time of writing.

* Corresponding author

In September 2022 there were 228 FE colleges in England in total, of which 161 were large general further education (GFE) colleges that offer very wide curricula from low-level preparation for work (often called work readiness courses) to bachelor's degrees. The remaining colleges are more specialised by subject (such as art or agricultural) or by their exclusive focus on 16-18-year-olds. Together all of these colleges enrol 1.6 million students, including 650.000 16-18-year-olds and 913.000 adults. Most of the latter are on part-time courses (all figures from AoC, 2022a and see also ETF, 2020 for more information on the FE sector). Most cities and large towns have at least one GFE college, and London has more than twenty. While their sizes differ, GFE colleges such as The Manchester College, "with more than 26 % of Greater Manchester's learning provision" (LTE Group, 2023) or Leeds City College with more than 20.000 students (Leeds City College, 2023) are huge multi-site institutions with central importance to the communities and economies within which they operate. FE colleges operate within the public sector, while the many smaller training organisations in the FE sector are companies operating in the private sector. Whether operating in the public or private sector, the provision of technical and vocational education and training (TVET) in the FE sector is mainly funded by the government.

Time and again policymakers have highlighted the importance of the FE sector in developing workforce skills to enable economic development, and in providing opportunities for social inclusion and social mobility (see, for example, Augar, 2019, p. 138). Yet, despite its economic and social significance, the FE sector suffers from a weak perception and a weak position in relation to other sectors of education. Hodgson and Spours (2015, p. 205) help to explain the sector's weakness:

It is impossible . . . to understand the position of GFEs without taking into consideration the dominance of academic over vocational education in the perception of politicians and the wider public. Broadly speaking, the middle classes do not send their children to GFEs and vocational education still struggles for recognition and esteem.

That weakness is evident in there being no statutory requirement for teachers in FE to hold any teaching qualification at all. Ironically, that weakness is also evident in the numerous teaching qualifications that are available for existing or would-be FE teachers. Remarkably, there is no comprehensive central inventory of teacher education providers for the FE sector and many teaching qualifications aimed at FE teaching have dubious legitimacy and poor recognition even within the FE sector. The government's Office of Qualifications and Examinations Regulation (referred to as Ofqual) has an online Register of Regulated Qualifications that currently lists more than twenty organisations offering teaching qualifications for the FE sector at level 5 (equivalent in level to the second year of a three-year undergraduate degree), but that register is by no means comprehensive (Ofqual, 2023). Someone with little knowledge of the FE sector seeking information about teacher training courses might well be baffled by the limited information available on official websites.

ITE in FE is especially similar in one regard to the sector as a whole: beneath the froth of policy churn and fresh initiatives, away from government announcements and

new directives, much remains constant. Despite there being no statutory requirement, the overwhelming majority of FE colleges do require their teaching staff to hold well-recognised teaching qualifications, or to gain them part-time and in-service within a few years of taking up a position within the college, as a condition of employment. Moreover, despite the range of available teaching qualifications, most trainee teachers follow courses leading to a university awarded qualification (ETF, 2022a). Most frequently, these courses are provided through many of the 161 GFE colleges mentioned above. The colleges do the teaching; the associated university provides much of the quality assurance and the eventual qualification. Some colleges pay for the in-service teacher training of their employees, but most trainee teachers on the ITE courses described above have to take out government supported student loans to pay for their course fees. A typical full-time one-year course will cost over £9,000, and a part-time two-year course over £3,600 per year.

The contradiction between continuity and policy change will reoccur in this chapter as we set out routes into FE teaching in England, including recent innovations and the governance of the sector. We also discuss related concerns about the recruitment and retention of teachers in FE. Before turning to the training of those teachers, we start by examining what is causing the churn of policy associated with the sector to better understand the context for ITE, and the government's intentions for reform.

2 Policy Instability in the English Further Education

Keep characterised the English system of Training and Vocational Education and Training (TVET), much of which sits within the FE sector as we have established, as being “highly fragmented, complex and unstable”; he further noted that it had “tended to oscillate between centralised command and control, and attempts at marketisation” (Keep, 2015, p. 164). As we explain below, that oscillation is also apparent within ITE for the English FE sector. It reflects a strain between the government's aspiration for a loosely regulated approach to skills policy based on a free market ideology where employers can decide what skills their workers should have, and the failure of that approach to bring about the government's desired improvement in the skills of the workforce. Informed by a reductive interpretation of Human Capital Theory, many policymakers have encouraged the supply-side of skills over the demand-side. They anticipate that high skills will lead to highly-skilled jobs with many anticipated social and economic benefits (see for example Halfon, 2023). England's policymakers are far from alone in this regard. Wheelahan et al. (2022, p. 1) have described how, in many countries, “Education policy discourse is based on skills.” They continue, “The extraordinary policy enthusiasm for skills is premised on an unwavering belief that skills are the solution to all social, economic and personal ills.” Both that enthusiasm and unwavering belief have shaped the thinking of English policymakers around FE for decades (Orr & Terry, 2023, p. 546), and so the sector has been repeatedly subject to fresh policies each seeking to address similar economic and social problems. As each new policy has failed

to achieve its intended purpose, another was introduced to address the previous one's shortcomings (Orr, 2020, p. 508). The FE sector has, consequently, been identified as an exemplar of policy failure in the UK (Norris & Adam, 2017, p. 3) and the influential thinktank, *The Institute for Fiscal Studies* (IFS) has described a "near-permanent state of revolution" in English FE (Belfield et al., 2018, p. 38).

This is the context for teacher development in FE, but initial teacher education has been directly affected by this churn of policy too. In 2006, the then Labour government introduced a legal requirement for teachers in colleges to hold or gain a teaching qualification but, by 2013, the then Conservative-led Coalition government removed that requirement (see Keep et al., 2021 and for further detail of the cycle of policies and initiatives over the past 30 years). Below we scrutinise other more recent initiatives associated with the reform of ITE, but it is worth recalling the extent of the continuity of practice and expectations in FE and specifically in ITE, despite the frequent policy initiatives.

3 Governance of FE sector

A major report on the governance of the FE sector throughout the UK describes even the term governance as "contested" (Watson et al., 2021, p. 1). Nevertheless, the writers of that report draw upon Kaplan (2004, p. 23) to define governance as "the means and actions by which a collective entity decides matters of policy and strategy." This wide and inclusive definition is helpful in comprehending the difficulty inherent in governance of the broad and politically unstable FE sector. Every FE college in England has a governing board, members of which are selected by the board itself. These members of the governing board are unpaid despite the often-considerable demands of the role involving "weighty board papers accompanying lengthy board meetings" (Watson et al., 2021, p. 11). Watson et al. (2022, p. 1) state that:

In policy documents [governance] is most commonly equated with the function of the governing board. It is widely assumed by policymakers that an effective board provides the necessary direction to ensure that the organisation meets its strategic aims and objectives. Governance is therefore seen as a key means for improving the performance of colleges in delivering employment-ready skills and a necessary condition for the success of many of the policy changes currently being implemented.

Incorporation in 1992 removed FE colleges from the control of local government, and they became independent entities, though still almost entirely dependent on public funding. Colleges were actively encouraged to compete and the governing bodies of colleges comprised many more members from private business, between 1993 and 1997, at least 50 percent of the governing body. One member of a governing body from that period remembers how a college principal "saw success as 'turning the college up the road into a car park'"; in other words, success was about the annihilation of competing institutions (Graystone et al., 2015, p. 136). That would have been an extreme view

even then, but the accountability of college governors, or rather the lack of clarity about to whom they are accountable, has been a concern for some time (Graystone et al., 2015, p. 144). Governments have intervened frequently to alter the terms of governors, most recently in November 2022, when the responsible minister reiterated to governors their primary duties:

- determining or... and developing your college's educational character
- setting and communicating your college's strategy and goals
- holding executive leaders to account for the educational performance and quality of your college, and for the performance of staff
- exercising effective control to ensure that funds and assets are protected, your organisation remains solvent and legal obligations are met. (DfE, 2023)

The governing board should, therefore, take part in both the setting of a college's strategy and in monitoring the achievement of that strategy. They also have responsibility for finance. But governing bodies encounter strong headwinds. With specific reference to the problems of governance of the sector, Keep (2015, p. 164) identified three disrupting trends, "fiscal retrenchment, moves towards 'employer ownership' of provision and the growing drive towards localisation." The "fiscal retrenchment" is evident in the response to the swingeing cuts of funding for the FE sector (Drayton et al., 2022), which means that college leaders and governing boards are frequently focused on protecting the very existence of the college rather than long-term planning. The particular problem with 'employer ownership' of provision is that employers in Britain are less willing than counterparts in other countries to invest in the training of their employees (Busemeyer, 2015, p. 78). Finally, the drive to localisation is a factor in the persistent instability of the political and financial context in which colleges must operate. These disruptive trends that Keep identified, as well as the fluctuation between tight and loose central control of FE, have meant that coherent and consistent decisions around "matters of policy and strategy" (Kaplan, 2004, p. 23) have been difficult to sustain in the sector as a whole. The role of governance in FE also raises questions about trust in the FE sector, which also helps to explain the government's periodic interventions.

As already indicated, successive governments in the UK have placed demands on the FE sector both to support the development of the economy through the training of skilled workers, and to address social inequality through better employment opportunities provided by widening participation in education (Orr, 2020). However laudable those aims may be, their achievement is difficult within a sector that is poorly funded and subject to political turmoil. The repeated failure of colleges to achieve those aims may, however, partly explain the lack of trust that has frequently been characteristic of the relationship between central government in England and the FE sector. Donovan (2019) has researched trust in the FE sector and concluded that for the government, "The best way to regulate behaviour of Colleges is to actively, and increasingly, distrust College leadership through the use of strategic policy intervention" (see also Thompson & Wolstencroft, 2018). This recurrent "use of strategic policy intervention" runs

counter to the marketisation of education that has frequently directed policy on governance since the incorporation of colleges in 1992; another example of oscillating policy.

It is not usually within the role of college governing bodies to provide direction to ITE, as their scope is far broader. Beyond the role of individual governing bodies, there are a myriad of national agencies which scrutinise and judge the English FE sector, including the provision and quality of ITE. These bodies include the Office for Standards in Education (Ofsted), which is the national inspectorate of schools and colleges; the Education and Skills Funding Agency, which is the largest funder of the FE sector; the Institute for Apprentices and Technical Education (IfATE) and the Office of Qualifications and Examinations Regulation (Ofqual) which “regulates qualifications, examinations and assessments in England” (Ofqual, 2023). Much higher education provided in colleges, including university awarded ITE, is also subject to regulation from the Office for Students (OfS). For ITE in FE, Ofsted is, arguably, the most powerful body. Ofsted periodically inspects providers of ITE before writing a report and providing a one-word grade (outstanding, good, requires improvement and inadequate), the latter two of which can be very damaging to a provider, threatening its ability to run ITE provision. Ofsted gives less than a week’s notice of inspection, the prospect of which can cause anxiety for ITE providers.

4 The ITE Curriculum

Below we outline some recent initiatives, but most established ITE courses leading to qualifications that are recognised within the sector follow a similar format. Currently, as mentioned, universities have the largest role in designing and delivering ITE for FE in England, most often through partner FE colleges. Providers of courses leading to university awards offer a similar variety of Certificate in Education (CertEd) and Professional (or Post) Graduate Certificate in Education (PGCE) courses. The ITE offer in England includes pre-service pathways aimed at trainee teachers who are not currently employed as FE teachers (often a one-year full-time course, though part-time options are becoming more available); and in-service pathways for those who are already employed in FE settings (normally a two-year part-time course). These pathways are available at both sub-degree and degree level. Both in-service and pre-service pathways confer the 120 credits that are required to be fully qualified as a teacher and allow subsequent application for Qualified Teacher Learning Skills (QTLS) status. The award of QTLS is disaggregated from the main teaching qualification (for example, the PGCE) that is awarded by the university. QTLS is separately awarded by the Education and Training Foundation (ETF), which is “the expert body for professional development and standards in Further Education (FE) and Training in England” and which works very closely with the Department for Education from which it receives most of its funding (ETF, 2023a). Working towards QTLS is undertaken by the trainee only once they have their teaching qualification. QTLS is not, however, a requirement in many colleges, so many teachers do not apply for that status. To reiterate, neither teaching award nor

QTLS are statutory requirements to teach in FE. Both are achieved at the discretion either of the employer or the individual teacher.

ITE curricula (including apprenticeship routes into teaching that we describe below) share the same broad essential features, reflecting the four stages of the teacher learning continuum described in Figure 1 below.

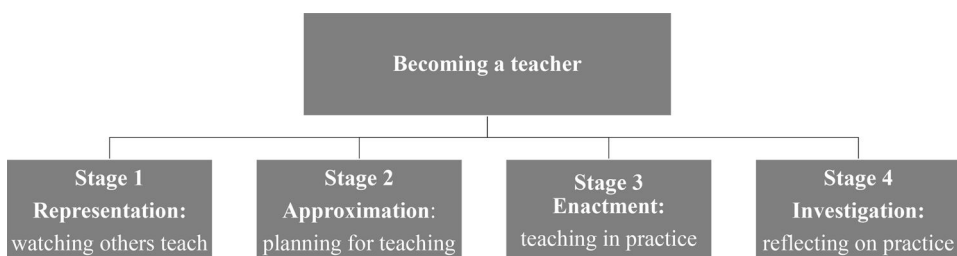


Figure 1: Becoming a teacher (Source: Adapted from McDonald et al., 2013)

These key stages structure the trainee teacher's experience. The first stage is based heavily on practical preparation and is particularly important in the formation of beginning teachers; representations of practice enable trainees to learn about the processes of teaching and learning. Micro-teaching is a key component at the second stage, giving trainees an opportunity to approximate practice through planning for and rehearsing lessons with their trainee teacher peers. Trainees are also encouraged to critique the practice of others (usually a subject-specialist mentor) and to engage in peer observation of fellow trainee teachers.

Stage 3 has a strong experiential component and focuses on the assimilation of theoretical and work-based learning. A typical trainee has 100 hours of teaching across the programme; this is usually split across two practical modules. The practical modules focus on the development of the trainee's teaching skills and the application of specialist pedagogical principles to the practice of teaching. Subject-specific mentoring from a designated mentor with experience teaching the trainee's subject is critical to the third stage alongside opportunities to engage in collaborative planning and teaching with the mentor and other experienced subject-specialists. In line with stage 4, ITE programmes promote critical reflection on experiences, primarily through reflective writing and the critical investigation of practice. All elements of the curriculum are mapped against the Professional Standards for Teachers and Trainers for Teachers and Trainers in the Further Education and Training Sector developed by the ETF (2022a). The classroom-based element is around 120 hours in total. The practice-oriented element may be in the form of a placement (around 100 hours in total) or may be trainees' own contracted teaching if they are taking an in-service course while already employed. Assessment of trainees is largely through written assignments and through observation of their teaching.

The curriculum content of most ITE for FE teachers in England is generic; courses may involve some attention to subject-specialist teaching but, with a few relatively unusual exceptions in Maths and English, for example, the eventual qualification does not

specify a particular subject area. Trainee teachers learn about general curriculum design and pedagogical techniques from teacher educators who likely have no experience of teaching in the trainee's particular subject area. Knowledge and practice directly connected to teaching their particular subject are assumed to be learnt, or absorbed, from their time on placement or from their designated mentors, who normally are specialist teachers in their subject. This weak subject-specialist component has recently drawn criticism from the Department for Education and from the national inspectorate, Ofsted. That criticism has, in turn, informed some of the recent changes in FE ITE.

5 ITE and Recruitment of Teachers

The proliferation of policy noted above has largely ignored teachers in FE; policy has instead focused on institutional re-organisation or the reform of qualifications (Hanley and Orr 2020). Yet, for the ETF, the recruitment and retention of teachers in FE constitute a “critical issue” (ETF, 2022b, p. 2). To some extent, this has been compounded by “the Covid-induced recession on interest in entering teaching” (Worth & Faulkner-Ellis, 2022, p. 3). Poor recruitment and retention have caused an acute shortage of teachers, particularly in technical subjects like engineering or digital skills where salaries in industry can be much higher than in colleges. The IfS (Sibieta & Tahir, 2023, p. 3) found that,

[a]round 25 % of college teachers leave the profession after one year compared with 15 % of school teachers. Three years in, almost half of college teachers have left compared with around a quarter of school teachers. Ten years after beginning teaching, less than a quarter of college teachers remain in the profession compared with over 60 % of school teachers.

The IfS (Sibieta & Tahir, 2023, p. 3) also found high levels of staff turnover in colleges: 16 % of college teachers leave the profession each year, compared with 10 % of school teachers. This has meant that new TVET courses are being developed, such as T levels for 16–19 year-olds and Higher Technical Qualifications (HTQs), with not enough teachers to teach them in many colleges.

The shortage of teachers has also prompted the national recruitment campaign titled ‘Teach in FE’ which aims to “encourage industry professionals” in priority areas to join the profession. This initiative has been accompanied by other “capacity building activities” (ETF, 2022b, p. 13) such as the £3 million expansion of the national Taking Teaching Further programme which aims to secure up to 4,000 additional teachers in the FE sector by 2025 (Camden, 2022). The difficulty in recruiting high-quality teaching staff in STEM-related subjects is a national concern and the shortage of teachers in these areas is expected to increase over the next few years. At a time when the FE and Skills sector faces the “worst staffing crisis in two decades” (AoC, 2022b, no page), key priorities for providers of ITE will be to explore new trainee supply opportunities. This might include targeting entrants to the profession who do not align with the standard “FE teacher recruitment profile” (ETF, 2022b, p. 7); this involves sourcing prospective

trainees from adjacent occupations or “proxy” groups, including those with relevant industry experience in vocational subjects (ETF, 2022b, p. 10). The government is also offering bursaries to trainee teachers who successfully complete training to teach in shortage subjects.

In a related response to the challenge of recruitment the government have promoted an approach to boosting the supply of teachers that involves employers working with colleges to provide staff prepared to offer some teaching:

Employers will also develop further mutually supportive relationships with FE providers to share human capital and ensure that teaching is industry-standard. Providers will be able to recruit high-quality teachers who are better equipped to deliver technical education reforms (DfE, 2022, p. 141).

So, providers of ITE are expected to help alleviate the problems of recruitment in the FE sector by utilising their industry connections to generate innovative pathways to teaching in FE. In England, this is notably represented by the Teach Too initiative – a national project that aims to incentivise and support teacher recruitment to FE-based ITE, with a particular focus on aspirant teachers currently working in industry. Significant in this respect is that FE colleges have considerable freedom to initiate change in the development of their ITE curricula. To illustrate this, we present a case study on a Teach Too organisational development project at one FE college.

Case Study of the Teach Too initiative

This project was situated in one large GFE College in a major city in the north of England. The college provides a range of academic and vocational programmes, including academic A-levels, general applied qualifications like BTECs, apprenticeships and T-levels and has forged strong collaborative links with regional employers. Designed by the Initial Teacher Education team to address the shortage of teachers within the fields of science, technology, engineering and mathematics (often referred to as STEM subjects), the project supported the participation and progression of professionals working in STEM subjects into teaching through a paid work placement opportunity and professional development scheme. As part of the project, industry professional would undertake teaching placements in STEM related fields in the college. One of the project's ancillary aims was to promote innovation in STEM education, and specialist training in these areas was provided by the ITE department at the college. Although primarily focused on industry specialists, the project also benefitted industry specialists and vocational tutors from STEM-related sectors within the college. Existing teachers were supported to return to industry to learn about new technologies and industrial developments in their subject specialist areas. This was a strategic priority within the college and had been embedded in all appraisals for vocational tutors. Importantly, the project modelled a way of recruiting industry specialists to the organisation.

All the companies participating in the project were committed to investing in education and viewed this as part of their social purpose. The college's staff and students benefitted from the opportunities for work experience and the career trajectories that their participating companies could facilitate.

Employer involvement is also an important premise of the apprenticeship initiative to recruit and train FE teachers. Numbers of apprentice trainee teachers are still small, but the apprenticeship route may allow greater access to training in FE teaching for

non-degree-qualified subject specialists, for instance, in construction. At one recently inspected provider, leaders and managers draw on the “existing subject and occupational expertise” of apprentices “to plan appropriate employment and learning and teaching opportunities” (Ofsted, 2023, no page), which reflects the government’s desire for greater industry involvement in ITE and in FE more generally. To date, there are eighty-three providers of apprenticeship-based teacher training in the UK and the government is keen for that number to grow. Apprentices still follow the part-time courses explained above leading to, usually, a university award but they also have to complete an additional end point assessment for successful completion of their apprenticeship. Very significantly, apprentices do not need to pay for their course or take out any loans, and nor do the college pay directly for the apprenticeship training. The cost of the training comes from the government’s apprenticeship levy, paid into a fund by all large employers, including FE colleges. The apprenticeship route offers other benefits, too. At one recently inspected provider, leaders and managers draw on the “existing subject and occupational expertise” of apprentices “to plan appropriate employment and learning and teaching opportunities” (Ofsted, 2023, no page).

6 Reform of ITE for the FE Sector

Alongside efforts to recruit and retain teachers, the government is seeking to reform the organisation and content of ITE for the FE sector. A recent government report has provided a pessimistic appraisal of the current ITE offer, highlighting its “too fragmented” and “difficult to navigate” (DfE, 2021, p. 34) qualification structure. This is accompanied by a profound questioning of the quality of ITE for FE provision; “practice across the system is not uniformly good” and is “not always based on sufficiently clear quality standards” (DfE, 2021, p. 34). Moreover, there is a “basic lack of clarity about expectations for teaching proficiency in FE” (DfE, 2022, p. 140). This is perhaps linked to the “ubiquitous inconsistency around what constitutes professionalisation in FE” (Sachdeva, 2023, no page).

The report draws attention to the most significant respect in which the FES (ITE) sector differs from secondary training, regulation. Although not committing to any particular measures to safeguard quality, the Skills and Post-16 Education Act introduces an enabling clause which will allow the Secretary of State to make secondary legislation to regulate initial teacher training courses in the FE sector as deemed necessary – in effect, centralising control of the ITE curriculum (DfE, 2022, p. 17). This is a further example of government fluctuating between allowing autonomy and imposing central control, but, overall, these observations communicate a lack of confidence in contemporary teacher education in FE, which policymakers consider to be significantly out of step with the FE sector.

That lack of confidence is also leading to the reform of ITE qualifications. Towards the end of 2022, the qualification framework for the new Diploma in Teaching (Further Education and Skills), equivalent in level and purpose to existing Certificate in Educa-

tion or PGCE qualifications, was introduced. The framework – which follows the publication of the Occupational Standards for the FE and Skills teacher role in 2021 – marks a transitional moment in FE teacher training in England. Under the framework, trainees must demonstrate how they meet the occupational standards relating to the following key areas: duties, knowledge, skills and behaviours (KSBs). Areas of standardised occupational practice include:

- the application of pedagogical alongside “subject, curriculum and industry knowledge” (Duty 3)
- the interaction of theory and practice through “evidence-informed inclusive teaching, learning and assessment strategies” (K5)
- a commitment to knowledge exchange through “collaborative relationships” (K15)
- the use of “innovative and up to date digital and online technologies” (S25).
- the promotion of “sustainable practices” (D8, S6, B6) and
- a working knowledge of “coaching and mentoring principles and techniques” (K17) (IfATE, 2022, no page).

In terms of the curriculum content of ITE, this is the most comprehensive intervention to date. The ETF make the clear argument that the occupational standards will help to ensure that trainee teachers “develop the knowledge, skills and behaviours they need to demonstrate full occupational competence” (ETF, 2022d, no page). Together, they appear to form a coherent understanding of “the complex systemic nature of teaching” (Stiglar & Miller, 2018, p. 441). For now, alignment with those standards remains voluntary, but there remains the possibility that in the future they may be connected to funding or inspection requirements.

The qualification framework for the new Diploma in Teaching (Further Education and Skills) addresses similar long-standing themes in the debates surrounding the training of teachers in the English FE sector, particularly the role of context in shaping the trainee teacher’s experience and extent of the practice experience. An engagement with multiple contexts should form the basis of teacher preparation practice and, under the new framework, trainees will be required to undertake their placement across two locations. The split-placement model (typically found in other sectors such as Health and Social Care) reflects the “remarkably diverse” (ETF, 2020, p. 4) range of provision within the sector. The change is accompanied by an increase in placement hours (from 100 to 250) and observations of teaching (from 8 to 10). The provision of opportunities to accumulate practical experience and engage in “the contextual nature of teaching” (Stigler & Miller, 2018, p. 439) is indeed a recurrent theme in trainee feedback, particularly amongst pre-service trainees whose experiences of teaching are more limited than trainees on in-service courses. In one of the pandemic-related changes to the competences, the framework includes a commitment to the technology-enabled classroom. Additionally, in a move that is aligned with the school sector, trainees will be entitled to subject and pastoral support from two mentors. This is supported by the *Minimum Core for Teacher Training Qualifications for the Further Education and Skills Sector* (ETF,

2022c) in which personal digital skills have been given strategic consideration. Online observation has become an expectation. The new framework also goes some distance towards bridging the gap between school and FE-based teacher training; in a move that is aligned with the school sector, trainees will be entitled to subject and pastoral support from two mentors.

The changes outlined above do come with certain procedural and logistical challenges. Although, technologically, it has become less problematic to conduct remote observations of trainees' teaching using Zoom or similar platforms, this requirement does present problems in terms of digital infrastructure and the digital competence of staff and trainees. The very significant increase in mentor support will, moreover, place significant strain on mentors; additionally, the increase in placement hours and the number of observations will – from a curriculum design point of view alone – present many logistical difficulties for already stretched FE ITE providers. Without improved funding, which has not been forthcoming, there is a risk that many colleges that are long established providers of ITE will simply leave the field because meeting the new requirements will be so costly.

7 Reform of Inspections

Ofsted's inspections of ITE in FE are also subject to reform, and again the lack of trust in the sector is apparent. A review of reports of inspections of ITE in the FE sector dating from May 2022 to April 2023 reveals Ofsted's evaluation of the unsatisfactory experience of trainee teachers across a range of ITE providers. Together, these inspections provide an early indication of how the criteria in the new Initial Teacher Education Inspection Framework (2019, updated 2022) have been applied to existing post-16 teacher training provision. The reports identify Ofsted's concerns along three basic dimensions: trainees' subject knowledge and their application of subject-specific pedagogy, the quality of mentoring, and the alignment of classroom-based and placement-based training elements of the ITE programme. The observations within the reports are connected to substantive issues that characterise teaching within the FE sector. The route that FE teachers take to become qualified is not conveniently linear and, where subject knowledge (acquired at degree level) characterises the school-based trainee teacher, this cannot be assumed in FE teacher training. In one provider, according to an Ofsted inspection report, "too many trainees do not understand subject-specific pedagogy well enough to be confident in teaching their subject" (Ofsted, 2022, p. 1). Allied to this are concerns that the quality of placement-based subject-specialist mentoring support is sometimes inadequate. Although Ofsted does not write the ITE curriculum, it is important to understand the power that Ofsted holds: what Ofsted inspectors value, which might alter over time, is what ITE providers are obliged to reproduce if they are to gain that crucial good grade. Subject-specialist approaches to teacher training are, therefore, now being adopted by providers to address this issue raised by Ofsted.

8 Conclusion

Ofsted, along with the Department for Education and the Education and Training Foundation, are involved in an ongoing critical debate that surrounds ITE for FE teachers. The current critique of ITE for FE associated with that debate is certainly heightened, but critique is not unprecedented. The first introduction of national standards for FE teachers in 1999 led to a similar assessment of ITE as did the introduction in 2006 of the short-lived statutory requirement for FE teachers to be qualified. As we have argued, this critique of ITE reflects a critique of the FE sector as a whole: that it is apparently not producing the skilled workers necessary to improve the competitiveness of the country's economy. This time, however, the acute crisis in the recruitment and retention of teachers in many areas of TVET in FE has widened the critique to include the capacity of ITE providers to attract FE teachers to the profession. That in turn has led to a series of interventions such as Teach Too, as well as reforms to the content and inspection of ITE courses explained above. Many welcome the scrutiny of ITE for FE and value the reforms in improving the experience of trainee teachers. FE students should, ultimately, be the beneficiaries. Yet, although the government is leading those actions, there is still no statutory requirement for teachers to be qualified. Moreover, much of the content of ITE courses in England today would be familiar to former trainees from a decade or more ago. College leaders have become accustomed to absorbing initiatives, in the knowledge that there will be a new one along soon. That is the case for ITE too. Continuity is, therefore, just as much part of the current situation in ITE as is the prospect of change. Yet, what the government is expecting of ITE in the new curriculum framework, the updated standards, more critical inspections all risk forcing ITE providers to adopt courses that do not lead to QTLS and that do not attract the scrutiny of Ofsted; it may even risk providers giving up ITE altogether. ITE for FE in England is, therefore, at an important juncture.

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Bibliographical Notes

Kevin Orr is Professor of Work and Learning at the University of Huddersfield, UK. He was a teacher in England's Further Education (FE) sector for sixteen years before moving into higher education. He has been involved in teacher education for more than twenty years and he has written widely on policy and practice in the FE sector. He was formerly editor of the *Journal of Vocational Education and Training*.

Huddersfield Centre for Research in Education and Society (HudCRES)
University of Huddersfield
Queensgate, Huddersfield, HD1 3DH, UK
E-mail: k.orr@hud.ac.uk

Nena Skrbic is Head of Initial Teacher Education at the University of Huddersfield, UK. She was a teacher in England's Further Education Sector for over twenty years. She began her career teaching English and since then she has been responsible for developing a range of teacher training qualifications at various levels. A key research interest is the preparation of trainee teachers for practice, which she has written about in several publications.

Huddersfield Centre for Research in Education and Society (HudCRES)
University of Huddersfield
Queensgate, Huddersfield, HD1 3DH, UK
E-mail: n.skrbic2@hud.ac.uk

Reform of Vocational Education (RoVE) in Aotearoa New Zealand: Implication on the Educators of VET Teachers

SELENA CHAN^{*}

Abstract

Across many countries, vocational education and training (VET) is undergoing reform to meet the needs of rapidly changing work practices and functions. Aotearoa New Zealand (NZ) is no exception. In 2019, a programme to reform VET (RoVE) was initiated, generating comprehensive changes. In this chapter, the rationales for RoVE are detailed and discussed. An overview of how the various post-RoVE entities are envisaged to collaborate and coordinate is summarised and considered. The implications on vocational teachers are then presented as they are key contributors towards meeting the aspirations of RoVE. In turn, the educators of VET teachers need to review the present teaching qualifications and programmes offered. Importantly to ensure the post-RoVE VET system provides equity of access to and parity of outcomes for all New Zealanders. The chapter closes with recommendations to inform the post-RoVE system as it moves into the future.

Keywords: reform of vocational education, vocational teachers, educators of VET teachers

*Te tōia, tē haumatia – nothing can be achieved without a plan, workforce,
and a way of doing things.*

1 Introduction

Although a small country, Aotearoa New Zealand (NZ) with a population of five million and situated in the South Pacific, has been a world leader in various aspects of educational reform. Beginning from anglophone roots which somewhat served the country for over half of its modern existence, contemporary education is committed to actioning the obligations of Te Tiriti o Waitangi. Te Tiriti is Aotearoa NZ's founding document, signed in 1840 between Māori iwi (tribes) and the British Crown (Te Papa Tongarewa, n.d). In the past decades, the country has been resolute in addressing the many inequalities (Poata-Smith, 2018 as an example) wrought by colonialism on its

^{*} Corresponding author

indigenous peoples. The present reform vocational education and training (RoVE) is one initiative, along with many others, to meet the intentions of Te Tiriti o Waitangi and redress the long-standing inequities in Aotearoa NZ's social, political, and economic systems (Huntington & Chan, 2022).

As an example of educational innovation, the current proposed Aotearoa NZ school curriculum (Ministry of Education, nd) provides direction for English medium schools for students' learning and guidance in how schools design and review their curriculum across the 13 years of formalised schooling. There is a parallel Te Marautanga o Aotearoa to inform Māori language schools. The curriculum reflects the holistic development (Reinsfield, 2020) for all people in Aotearoa NZ and contributes towards preparing them for a future world which is presently faced with significant challenges globally, regionally, and locally.

Educational innovations of relevance to the vocational education and training (VET) sector include the formation of the New Zealand Qualifications Authority (NZQA) in 1989 (NZQA, 2023). The NZQA structuring of the New Zealand Qualifications framework (NQF) set an international example for the formation of a consolidated and comprehensive national qualification system (Philips, 2003). The NQF is a ten-level framework, covering qualifications offered post-school which are described in terms of knowledge, skills, and attributes (NZQA, 2016). NQF Levels 1 to 4 cover Certificates, Levels 5 to 6, Diplomas, Level 7 Bachelor Degrees, Level 8 post-graduate Diplomas and Certificates and Bachelor's Honours Degrees, Level 9 for Master's Degree and Level 10 for Doctoral Degree. Additionally, in the mid-2000s, the NZQA shifted qualification outcomes from being based on competency-based units (i.e. unit standards) to the meeting of graduate profiles (Chan, 2016). This innovation promoted holistic assessment opportunities and project/inquiry/problem-based learning activities to be more easily aligned to qualification outcomes (Chan, 2016). The NZQA was also an early adopter of micro-credentials, providing the framework for these to be established in 2020 with the setting up a micro-credentials register in 2022 and the provision of guidelines for registration (NZQA, 2022).

The formation of Industry Training Organisations (ITOs) through the previous reform of VET in 1992 may also be acknowledged as an initiative to support workplace-based learners and their employers towards the completion of vocational qualifications (Williams, 2022). ITOs' roles included those of qualification developers for industry qualifications, training support for industry, employers and apprentices/trainees, and the allocation of training subsidies to purchase training from providers (Williams, 2022).

Currently, many issues conspire, with increased complexities, to challenge the way occupations, work, and job composition are organised and defined (NZ Productivity Commission, 2020). These global challenges impact on all nations. As such, Aotearoa NZ is not immune to the multitude of concerns, confronting the world. Hence, in 2019, the process to RoVE was initiated by the then Minister of Education, the Honourable Chris Hipkins. In doing, a radical revision was undertaken. The rationale for RoVE, as in many other countries, was to meet the swift integration of digital technologies and

artificial intelligence into social and economic sectors; shifts in global markets and the accompanying effects of macro/micro-economics on a small country; and the impact of these on the skills for work and job allocation and definition. Preparation and on-going professional development of the Aotearoa NZ workforce is an essential component in ensuring sustainable and enduring economic support towards maintaining and building a cohesive, equitable and prosperous society (Huntington & Chan, 2022).

2 Background and Rationale For Reform

The reasons for RoVE are many. Huntington (2022a) summarises the main reasons for undertaking RoVE. Firstly, there was a perception that the VET system was no longer fit for purpose and required significant structural change to be more strategically directed towards ensuring the Aotearoa NZ education system prepared people for the future of work. The major items presented were that the system was too complex, the many players did not collaborate or effectively communicate their needs to each other, and there were inconsistencies in the quality and reach of various VET programmes of learning. Secondly, the main providers of VET, the Institutes of Technology and Polytechnics (ITPs), having been enmeshed in two decades of neo-liberal market-driven management, were manifesting increased financial instability. In addition, declining enrolments both current and forecasted, did not bode well for future sustainability. The result was to bring about several policy workstreams to investigate the Aotearoa NZ education system, with RoVE as one of the products of the review.

2.1 The Aotearoa NZ VET System before RoVE

VET has a long history in Aotearoa NZ. Apprenticeships (as recognised within Westernised conceptualisation) have existed since settlement of Aotearoa NZ by Europeans but were formalised through legislation in the 1890s (Murray, 2001). Formal tertiary VET in the form of technical colleges have existed since the late 1880s (Dougherty, 1999). The last major modification to the VET system occurred in the 1990s, when Industry Training Organisations (ITOs) were formed to provide better connections between work and training (Williams, 2022). In turn, the formal VET sector of Institutes of Technology and Polytechnics (ITPs) have contributed for over a hundred years, to VET (Doyle, Chan & Hale, 2022). ITPs evolved from technical colleges, set up to support the education of apprentices and the training of the technician level occupations. The last 40 years of ITP history include the expansion of the range of vocational programmes offered and the increase in the range of levels of learning. In 2020, a third of ITP programmes were at levels 7 (Bachelor degrees) and above (Doyle, Chan & Hale, 2022). Therefore, ITPs, offer programmes across the entire spectrum of the NZQA's ten-level framework.

The purposes of RoVE were to undertake a redefinition of educational providers (i.e. ITPs and private providers) and ITOs to ensure the needs of industry and employer leadership are integrated into VET; the creation of a New Zealand institute of

Skills and Technology (NZIST and now known as Te Pūkenga); and to unify the VET funding system (Huntington, 2022a).

2.2 The Post-RoVE System

Huntington (2022b) provides an overview of the Aotearoa NZ VET system post-RoVE. The major impacts involve major structural modification of organisations, objectives, funding, and responsibilities. These include:

- Formation of NZIST/Te Pūkenga, bringing together the support of work-based learners provisioned by the ITOs and all the 16 ITPs. Even by international standards and let alone for a small country, Te Pūkenga's reach is large (Huntington & Chan, 2022). With over 200,000 students and 8,000 staff, it provisions almost the entirety of VET in the country.
- Work Development Councils (WDCs) assuming the standards setting and stakeholder engagement responsibilities of the former ITOs. WDCs were formed to help meet several strategic goals of RoVE including nationally consistency for VET provision; to ensure Te Pūkenga is to be more responsive to industry needs; extension of on-job training; to lower barriers for engagement of 'non-traditional' learners with better support systems; and make contributions to guiding the funding mechanisms for a more effective VET (Huntington, 2022b).
- Regional Skills Leadership Groups (RSLGs) to represent the labour and work skills needs of each of 15 regions through the conduct of skills and workforce analysis and iwi (Māori tribes)/stakeholder engagement. This is to ensure future needs and current provisions in regional Aotearoa NZ (i. e. beyond the larger urban centres) are met (Huntington, 2022b).
- Centres for Vocational Education Excellence (CoVEs) to assure and support outstanding and innovative pedagogy. So far, only two CoVEs have been formed. ConCoVE representing the construction and infrastructure industries, and the Food and Fibre CoVE supporting primary industries including horticulture, forestry, farming, viticulture etc. CoVEs are mandated to champion teaching and learning with a focus on teaching, learning and research and support the development and sharing of high-quality curriculum and programme design (Tertiary Education Commission, n. d. a)
- Changes in how VET is funded, encouraging greater focus on work-based learning with the new VET unified funding system which increases funding for work-based delivery (Tertiary Education Commission, n. d. b).

From the above, we can surmise systemic change across the VET sector, as roles and responsibilities of key players shift and are replaced by new paradigms. These changes, impact on both VET teachers and the educators of VET teachers. The effect on pedagogical and delivery approaches are profound, given the enactment of new objectives by Te Pūkenga to meet its charter and vision.

2.3 Te Pūkenga

A large component of RoVE was the formation of Te Pūkenga, bringing together the two VET learner support systems (i. e. ITOs and ITPs), into one entity. The commencement of Te Pūkenga has been challenging, with a major overhaul of the leadership team a year and a half into its existence (Radio New Zealand, 2022) and a precarious financial situation caused in part by contracting enrolments due to high employment (Radio New Zealand, 2023). By 2023, the institute's organisational structure was being worked through, with many changes made to bring consolidated or defined systems, processes, and policies into place. Of note is the formation of four regional networks or Rohe (Te Pūkenga, 2023). Two situated in Te Ika-a-Maui (the North Island), one covering the southern end of Te Ika-a-Maui and the northern end of Te Waipounamu (South Island), and one other in Te Waipounamu. Each rohe is tasked with the day-to-day administration of the ex-ITP campuses. Additionally, in response to the formation and range of industries supported by WDCs, Te Pūkenga organisational structure for co-ordinating its range of disciplinary/occupational programme offerings includes the formation of 'Ako³² Networks' which align to those of the WDCs (Te Pūkenga, 2023). These Ako Networks are tasked with strategic planning. They oversee the design and development of learning content and delivery models, assessments and recognition of prior learning approaches, educational pathways, and the ongoing monitoring of quality assurance activities (Te Pūkenga, 2023). The implications of this are a closer connection with the industries represented by WDCs with respect to enabling WDCs to meet their goals which include greater consistency with the delivery of VET and responsiveness to industry needs.

2.4 The Impact of RoVE on the VET Workforce

Given the changes detailed in the sections above, it stands the VET workforce has experienced several years of constant and swift modifications in the way organisations are ordered and managed. Granted, the VET teacher workforce is the least impacted thus far as ITPs have combined into Te Pūkenga with minimal interruptions to programmes of learning. However, many changes have occurred and will follow, changing the nature of VET teachers work. These include:

- A stronger emphasis on meeting the mandate of Tiriti o Waitangi and on achieving equitable outcomes of Māori and priority learner groups (including Pacific peoples, people with disabilities, neuro-diverse peoples etc.).
- Unification of programmes of study, as currently, there are large numbers of similar programmes offered through the ex-ITPs.
- Changes in management structure and reporting lines including the shift of many teaching disciplines into clusters known as Ako Networks which align to the industries supported by each of the WDCs (see above section for implications of Ako Networks).

32 Ako is the term used by Te Pūkenga to denote "reciprocal relationships between teaching and learning" with "emphasis on the notion that 'teachers' or 'educators' are also learners and can learn from their 'learners'". "Ako is grounded in the principle of reciprocity that recognises learner and whanau (family, tribal affiliations etc.) cannot be separated. Adapted from Te Pūkenga glossary.

- Update, amalgamation and re-classification of many policies, regulations, and processes to bring consistency into the academic regulations and procedures of Te Pūkenga.
- Increased interaction of discipline and VET teacher support (including teacher education) into regional and national networks.
- Shift in emphasis in teaching and learning delivery to meet the requirements for ‘flexible-delivery’ including seamless work-based/campus-based access, increased blended learning (i. e. the provision of online/digital resources and learning); incorporation of work-integrated learning into all programmes of learning; and support for learners to move between regions during the duration of their learning programme (Te Pūkenga, 2023).

All the above require teacher qualifications and teacher education to provision a range of learning and professional development to support the goals and objectives of the post-ROVE landscape.

3 Literature Review of VET Teacher Qualification and Education

As summarised in an OECD report (2021) VET teachers and leaders are crucial to the future as they contribute towards the preparation of people for the labour market. The report recommends the importance of ensuring there is an adequate supply of well-prepared VET teachers; the need to effectively prepare and continually develop VET teachers; the support and encouragement for the promotion, development and mainstreaming of innovative pedagogical approaches; and the strengthening of VET leadership. Supporting the first two OECD recommendations above and as proposed by Feiman-Nemser and Norman (2000), “what teachers know and can do is the single most important factor in determining what students will have an opportunity to learn” p.732). Hence, educational opportunities from initial teacher education training, through to continuing professional development across vocational teachers’ career, are crucial (Maurice-Takerei & Anderson, 2022).

In general, the research on professional development of teacher educators emanates from the higher education sector (Murray et al., 2021b). Predominant topics have been on teaching pedagogy, and career development stages with an emphasis on induction and early career teaching. Murray et al. (2021b) also concluded that the corpus of studies as not sufficiently cohesive across and within sectors, leading to fragmented understanding of the complexities inherent in how teacher educators engage with professional development. Therefore, not only is the initial education and training of VET teachers challenging, ongoing professional development for teacher educators themselves, requires exploration, understanding, resourcing, and understanding. This is especially important in a country like Aotearoa NZ, with its strong emphasis on bi-cultural approaches for teaching and learning across all educational sectors with the

requirement for all educators to be confident in ‘two-worlds’ as they guide their students.

Various countries have developed qualifications and preparation programmes for VET teachers. Grollman (2009) provides an overview of the dominant formal teacher qualifications across several countries. Teaching diplomas which focus on ‘training methods’ are the norm in the United Kingdom (UK) and for Danish VET teachers. In several countries, completion of qualifications in the professional arena, followed by the completion of a teaching degree (e.g. in the U.S.A) are typical. The two degrees usually run concurrently. Germany, Norway, and China require a teaching qualification at Master level to be completed, post the completion of a degree qualification for VET teachers. Deissinger (2022) details the German system, which requires VET educators to attain Master level qualifications, undergo a mentored/ guided initial induction into teaching, and pass an examination to register as VET educators. In Australia, Smith (2022) reports on the devaluing of the VET teaching profession through many years of policy neglect. Australian VET educators are mandated to complete a Certificate at Level 4, provisioning introductory teaching and assessment competencies. Although envisaged as an introductory qualification, the Australian ‘Cert IV’ has become the main or default qualification completed by VET teachers, with little incentivisation to progress onward to higher qualifications (Smith, 2022).

In Aotearoa NZ, the UK model has prevailed for many decades. Many VET teachers, complete a NZ Certificate in Adult and Tertiary Teaching at Level 5 whilst they are employed as VET teachers. The qualification is usually completed in the first few years of VET teachers’ employment. A difference between UK and Aotearoa NZ is that the Aotearoa NZ qualification includes the selection, and application of facilitative teaching strategies, with stronger emphasis on the design of learning, creation of learner-centred learning environments, and critical evaluation of VET teaching practices. The Australian Certificate at level 4 on the Australian Qualifications Framework is mandated for all trainers (in companies, industry skill centres, public and private technical and further education colleges) and VET teachers in secondary schools (Smith, 2022). However, currently there is no mandate of certification of VET teachers in Aotearoa NZ.

Beven (2009) compares the generic employability skills for Australia, UK, Canada, and the USA and finds commonalities across all of these. An extension is provided by Gerds (2009) on raising the levels of teaching qualifications from the first qualification level for trainers (e.g. certificate) to that of VET specialist (Diploma), and then into Bachelor and Master qualifications. Certificate level qualifications focus on the essentials for teaching in VET learning environments including the competencies to plan, conduct and evaluate teaching lessons and instruction, provision occupationally relevant resources for learners, and provide for and conduct assessments. At the VET specialist level, the design and selection of training materials and facilities, and design of assessments are required. Bachelor degree studies include the leadership aspects of VET teaching, including the moderation of materials and assessments, development of whole programmes of learning instead of individual courses and to engage in VET research. The Master level qualifications should then extend VET teachers, provision-

ing them with the knowledge and skills to design, conduct and coordinate VET research. Hence, there are many examples to draw from, with regards to the outcomes of VET teacher qualifications and the progression of these from initial induction into the VET teaching profession and onwards into post-graduate qualifications.

4 Present VET Teacher Qualification and Education in Aotearoa NZ

In a survey conducted by a group of ITP academic developers in 2021/ 2022 to establish a baseline on the provision of initial training and professional development for VET teachers across Te Pūkenga, the availability and scope of VET teacher education was found to be mixed (Learning and Teaching Advisory group (LTAG), 2022). ITPs with strategic and governance support of teacher education, were able to resource and mandate the completion of teaching qualifications by VET teachers. Historically, smaller ITPs often struggled to provide similar opportunities. Completion rates for qualifications was challenging as VET teacher education and professional development, competed for VET teacher time, already consumed by high teaching workloads, assessments, pastoral care of students and administrative and compliance tasks. Findings from the LTAG (2022) survey are consistent with the results of previous studies conducted to assess the levels of ‘qualified’ teachers employed across the Aotearoa NZ tertiary sector. Viskovic’s study (2009) which covered all tertiary teachers (i.e. from ITPs and the university sector), contended that opportunities for and resourcing of teacher education for tertiary teachers to be mixed, with opportunities ranging from non-existent to high levels of provision. Additionally, Eadie et al. (2010) concluded the data on completion rates for the education of tertiary teachers was confusing with graduate profiles of different qualifications being highly variable and that there were distinct variations across providers. Both the Viskovic (2009) and Eadie et al. (2010) reports were commissioned by Ako Aotearoa, the NZ Center for Tertiary Teaching Excellence, set up in 2007 to support quality teaching across the tertiary sector. As a result of these reports, a major focus for Ako Aotearoa, into the present, is the provision of professional development resources, workshops, webinars, conferences and mentoring opportunities for tertiary educators (Ako Aotearoa, n.d.).

There has been a need for structured and mandated teacher qualifications in Aotearoa NZ for many years (see Maurice-Takerei & Anderson, 2022 for overview). Recently, work began to create a ‘unified programme’ to be utilised across VET sector. The goal is to ensure consistency of graduate and learning outcomes through greater consistency in the delivery structures of the programme. Previously each provider (including ITPs, private providers (PTEs) and wananga (Māori tertiary providers) worked independently on the enacted curriculum, leading to difficulties with transportability of outcomes when learners transferred across providers. A range of tertiary teaching qualifications was developed a decade ago by NZQA through a review process for all qualification (NZQA, 2009). Included are Level 4 and 5 Certificates in Adult and Tertiary

Teaching which pathway into Level 6 Diploma in Adult and Tertiary Teaching (120 credits which is the equivalent of one-year full-time study) or Level 7 Post-graduate diplomas. Additionally, there are 5 Level 6 ‘advanced practitioner’ certificates (60 credits) for specialisations in learning design, quality assurance, educational technology etc. and a level 5 Certificate in adult literacy and numeracy education. Hence, unification will re-organise the current range of qualifications available and consolidate graduate profiles for qualifications, leading to better understanding of the purposes and outcomes of tertiary education and VET teaching qualifications.

5 Impact of RoVE and Changing VET Teacher Qualifications on Teacher Educators

Looking through the academic and ako (teaching and learning) frameworks availed thus far from Te Pūkenga (Te Pūkenga, 2023) we see the definition of kaiako (the Māori name for teachers or mentors) to be an all-inclusive title for lecturers, teachers, tutors, trainers, apprentice mentors, and workplace-based trainers. Given the diversity of roles and responsibilities for Te Pūkenga kaiako, the objectives for the educators of VET teachers in planning their development activities, requires clarification. This is especially important to ensure there is equitable access for all kaiako to initial training to help them succeed in their roles, and to tailor relevant professional development across the various teaching and learning contexts and delivery methods.

The expectation through the Te Pūkenga vision statements is that all learners will have ‘seamless’ transitions between work and campus-based learning. Therefore, there are requirements for all kaiako, not just those who are designated as teachers/lecturers/tutors, but also those who support, mentor, and teach workplace-based learners, to be competent with both face-to-face (f2f) and non-f2f ways to engage learners. For example, kaiako whose only role is assessing learners on the job would be well served with a Level 4 Certificate in Assessment Practice (40 credits). Another key requirement may be the preparation and support for all kaiakos to ‘boundary cross’ between, for example, delivery modes (i.e. f2f/online), learning environments (i.e. workshop/classroom), and/or cultures (i.e. the dominant ‘westernised’ approaches to teaching and learning/Māori knowledge systems, customs and protocols (tikanga). The processes of ‘boundary crossing’ are complex, requiring clear role clarity and professional development support (Akkerman & Bakker, 2011).

Additionally, as prefaced in the above section, Aotearoa NZ requires integration and honouring of Mātauranga Māori (i.e. ways of doing, being, thinking). The major challenges include the small available human resource of Māori available to support the professional development processes required to integrate Mātauranga Māori across programmes and the complexities inherent in shifting practice to assure the authenticity and validity of the integration (see Bishop, 2012 for a summary of the challenges). Hence, professional development is a key contributor to enabling Te Pūkenga objectives.

6 Recommendations

Across Aotearoa NZ, educators of VET teachers are in the position to apply their knowledge, understandings, and experiences, towards informing how the intended curriculum for kaiako is organised. The advent of Te Pūkenga provisions the opportunities for all VET teacher educators to draw on and leverage off their combined wisdom and experiences. Their contribution is even more important now as the ways teaching and learning enacted across the VET sector require extension and renewal. As such, the recommendations presented in this section, are some ways to assist with the actualisation of the objectives of RoVE. That is, to assure equitable access to quality VET education across ‘flexible delivery’ approaches, through the preparation and on-going professional development of VET teachers.

7 Post-RoVE Teacher Qualifications and Education

Firstly, as summarised by Maurice-Takerei & Anderson (2022), the creation of Te Pūkenga represents an opportunity for ensuring all kaiako (whether as new entrants to VET teaching, or who have been teaching for some years) are afforded the opportunities for completing formal VET teaching qualifications and on-going professional development activities. In congruence with the flexible and individualised learning programmes for Te Pūkenga learners, VET teachers/kaiako must also be provisioned with similar learning approaches. Completion of formal VET teaching qualifications, as appropriate for their roles, should be mandated for all kaiako, and professional development activities may comprise the formal completion of modules of learning leading to micro-credentials or digital badges or participation in communities of practice and learning relevant to their roles.

Pathways upward through the levels of qualifications, will assist VET teachers to attain common understandings of VET teaching and learning as pertinent to the Aotearoa NZ context. A kaiako in a workplace mentoring role, may through completion of a Level 4 qualification, seek employment at Te Pūkenga to teach in-campus courses and go on to complete the Level 6 Diploma in Tertiary Teaching. A pipeline from workplace training into the formalised VET teaching environment leads to a sustainable career pathway. In doing, Te Pūkenga gains up-to-date industry skills and knowledge, along with competent teachers with an understanding of VET teaching and learning.

7.1 Professional Development for VET Educators in Aotearoa NZ

Secondly, although referring mainly to teacher educators who prepare people for teaching in the formal school sector, Murray et al. (2021a) postulates some direction into the design of professional development for teacher educators. They propose the following:

- The purpose of professional development and learning must be to create sustainable teaching practice relevant to participant's teaching context.
- Professional learning should be 'experiential' and structured to be 'continuous' i.e. not just one-off events but with systematic follow-up and follow through.
- Micro 'communities of practice' may be effective at maintaining learning attained through professional development events.

Hence, it is not only the provision, but the on-going support from teacher educators themselves and other pedagogical support players (e.g. learning technology advisors, learning and curriculum designers etc.) which enable new learning attained through professional development activities to be integrated and embedded into teaching practice. Of relevance is the need for teacher educators themselves, to be conversant with the teaching and learning approaches (i.e. 'flexible delivery through a wider range of 'modes' of learning across diverse learning contexts), along with the important integration of Mātauranga Māori approaches required to meet the aspirations of RoVE.

7.2 Establishing a Research Focus

Thirdly, there is a need to establish and support the evidence-base for informing Aotearoa NZ VET teacher education. The paucity of VET research in general may be traced to the lack of a clear pathway in Aotearoa NZ from Certificate and Diploma level Adult and Tertiary Education qualifications into higher levels. In particular, into post-graduate degrees which help provision an opportunity for aspiring VET teachers to undertake scholarship of teaching and learning (SoTL) studies of their teaching practice (see Case, 2015 for greater discussion on SoTL). In the past, a few ITPs have introduced and implemented post-graduate teaching Diplomas, mainly for their post-graduate qualified teachers. In the main, graduates of these programmes research in their own disciplines and few make the horizontal shift into VET research. However, the formal inquiry projects undertaken during the Post-graduate Diploma in Tertiary Teaching are educational practice related. Some research-active graduates have expanded these inquiries into formal research projects. Greater engagement with on-going 'scholarship of teaching and learning' should be supported and encouraged. Numbers may be small, but a small corpus of relevant Aotearoa NZ VET practitioner research is better than none.

Hence, as suggested by Vanderlinde et al. (2021) in the context of professional development for teacher educators, ways forward include a focus on identifying, nurturing, and supporting teaching mentors; ensuring the focus of professional development includes the introduction, initiation and resourcing for the development of innovative research methods to improve pedagogical processes; and encouraging teacher educators to be the drivers and owners of their own professional development learning.

8 Conclusion

In this chapter, the rationale, and details of a major reform on vocational education and training in Aotearoa NZ are described and discussed. The chapter explores the effects of the reform on VET teachers, and in turn, the educators who prepare VET teachers for their work, and provide on-going professional development. The chapter discusses the challenges and proposes several recommendations to inform the way forward post-RoVE. Of note is the call for the professionalisation of VET teaching as Aotearoa NZ moves into the future, with its many challenges wrought by social, economic, and political shifts both locally and internationally. To assist VET Aotearoa NZ's aspirations, VET's role to prepare people to attain the skills, knowledge, and attributes to sustain work life in a world of rapid change, requires effective training and education of its VET workforce. VET teacher educators themselves, must engage with professional development and be advocates for equitable access to education, training, and professional development for the VET workforce. In doing, teacher educators may ensure the graduates of VET teacher education, are well-prepared to meet the teaching capabilities required to meet RoVE's aspirations. At the end of 2023, a change of government brought in a reversal of RoVE. RSLGs ceased to exist and the disestablishment of Te Pūkenga commenced, to possibly be replaced by few number of ITPs. However, the disestablishment process would take some years and the relationships fostered are likely to be maintained, especially for academic services, including VET teacher education which could remain centralised.

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Bibliographical Notes

Selena Chan is an educational and academic capability developer. She has published widely in vocational research journals, authored two books (the most recent – Digitally Enabling ‘Learning by Doing’ in Vocational Education(2021)), co-edited the book ‘Reshaping VET in Aotearoa (2022), and is the co-editor for the International Journal of Training Research and on the editorial board for the Journal of Vocational Education and Training.

Ara Institute of Canterbury/Te Pūkenga, Academic Centre Learning Systems
PO Box 540, Christchurch New Zealand
Selena.Chan@ara.ac.nz

Vocational Teacher Training in Germany from the Governance Perspective

THOMAS DEISSINGER* & OKSANA MELNYK

Abstract

In comparison to other countries, vocational teacher education (VTE) and professional requirements for prospective teachers in Germany are more institutionalised and more complex than in many other systems. They encompass a master's degree, a minimum of one year of relevant practical experience in the subject specialisation, and at least 18 months of practical training, leading to around a minimum of 7.5 years until admission to the teaching profession in one of the German federal states as a vocational teacher. Such training requires effective coordination and clear functional division between different stakeholders, a necessity partially stemming from the complexity of the German vocational education and training system (VET), which consists of both part-time and full-time vocational pathways.

The aim of this chapter is to outline VTE in Germany and to analyse challenges and problems from a governance perspective.

The analysis provides clear evidence that the governance of VTE in Germany is pursued primarily by institutions providing vocational teacher training and professional units and agencies. Institutions bear a common responsibility for enhancing the occupational status of teachers and aligning VTE with the needs of vocational institutions, teachers and learners. Challenges exist concerning the heterogeneity of higher education institutions engaging in VTE, a growingly heterogeneous school population and problems with permeability between federal states.

Keywords: vocational teacher education, vocational schools, governance

1 Introduction

Cooperation and partnership in vocational education and training (VET) have been enjoying support and encouragement from economic and government sectors of countries with market economies for a long time. Increasing the employability of VET graduates, enhancing the relevance of skills and knowledge to the real work setting, and matching the needs of labour markets are the main drivers (Arribas, 2018; International Labour Organisation, 2020). The dual apprenticeship systems in the German-speaking countries (Austria, Germany and Switzerland) or Denmark show that coope-

* Corresponding author

ration between sectors and stakeholders can be successful models in the field of VET (Deissinger, 2010; Greinert, 1994). Moreover, the term “employability” has recently become a keyword of policymaking in higher education and the dual form of skill formation is now increasingly adapted even in the tertiary sector (Deissinger, 2005; Deissinger & Ott, 2016; Ulicna et al., 2016). However, these trends hardly touch teacher training as a whole or vocational teacher training (VTE) in particular. This is astonishing since the vocational teacher profession is at the nexus of the skill formation system where vocational teachers’ expertise and competences play a decisive role in the quality of provided training and the formation of the professional identity of VET graduates. In this context, it is obvious that higher education institutions (HEIs) providing vocational teacher training, vocational schools and industry should cooperate closely when it comes to governing VTE.

In standardised VTE systems, where pre-service training for this profession is widely realised at universities via bachelor and/or master programmes (e.g. Austria, Germany, Estonia, Spain) cooperation between vocational schools and HEIs usually includes internships in schools and/or industry (CEDEFOP, 2016). However, this is mostly the only aspect that takes into account the complexity of teaching in vocational school settings within the organisation of VTE. Therefore, the question arises of how the governance of VTE may be changed or at least newly designed in order to extend formal cooperation and partnerships between different stakeholders in VTE, namely VET institutions and HEIs. The cooperation of these stakeholders can contribute to bridging the theory-practice gap as the “users” of VTE qualifications, schools as well as employers of future teachers, are normally not involved in setting up or at least influencing how teachers are trained at universities. The existing one-sided institutional reality explains why many future teachers hardly feel well-prepared for their future occupational destination. The overarching quality criterion of initial VTE should be to ensure that the expectations of vocational schools and the motivations and competences of future teachers can be aligned.

Looking at the German system of VET and VTE is interesting since governance structures in VTE here are quite elaborate and the role of scientific teachers is clearly the ideal type of a vocational teacher. However, when we want to derive impulses from the German system, or other European systems, the specific context and the respective standing of VET in a given society needs to be taken into account (Billett, Choy & Hodge, 2020, Deissinger, 2022). Therefore, we do not want to overstress the German system as a “blueprint” for other countries (Melnik, 2021; Braun & Melnik, 2023).

2 The German VET System as the Background Context of VTE

What is called the “dual system” has its roots in the corporatist framework established by changes in the trade law in the late 19th century (Greinert, 1994; Deissinger, 1994, 2010, 2021, 2022), as its company part is up to now mainly regulated by the Vocational

Training Act (*Berufsbildungsgesetz*) passed in 1969 and revised twice since then (2005 and 2020). Apprenticeships as the major sub-system for which VET teachers are trained, are characterised by the partnership of companies and schools. There is a number of historical and cultural reasons for calling the dual system the “*centrepiece of vocational education and training in the Federal Republic*” (Raggatt, 1988, p. 166), which can still be seen when looking at the statistics of VET: At the end of 2022, some 1.22 million young people were receiving initial training in the dual system while some 1.1 million were attending a vocational school outside the apprenticeship system (Statistisches Bundesamt, 2022a, 2022b). The focus on the apprenticeship model in the dual system implies a huge dependence of this sub-system of VET on the labour market situation. If employers choose not to, or cannot, employ young people, then it is difficult for school-leavers to access non-academic vocational qualifications in many relevant employment sectors such as crafts, industrial-technical occupations and commercial and service fields. Hereby, the complexity of the VET system has to be looked at in more depth: Besides the dual system, half of the student population in vocational schools in Germany enter the VET sector on different pathways, either in terms of qualifications lying outside the regulatory framework set up by the Vocational Training Act (e. g. in the health sector, social work or child nursing) or they want to obtain a higher school certificate, which can be a full university-entrance qualification (*Abitur/Allgemeine Hochschulreife*). Besides these “regular” pathways emerging from the post-war years, the so-called “transition system” developed as the “third sector” of VET, also in vocational schools which offer vocational preparation classes or special classes for refugees (Dionisius & Illiger, 2019; Euler & Nickolaus, 2018).

Against this background, the German VET system mirrors the conviction that VET has to react to the growing pressure that VET should not only produce portable skills for the labour market but also enable individuals to master the transition from school to VET, as well as to progress even to higher education. This means that different pathways (e. g. workplace learning in the dual system or full-time vocational education in schools or colleges) but also the notion of “hybrid qualifications” (Deissinger et al., 2013) and with it a “functional diversification” of VET is now a typical feature of the German system (Zabeck, 1985; Deissinger, Smith & Pickersgill, 2006; Dobischat, 2010; Seeber & Michaelis, 2015; Deissinger, 2019). The context and with it the challenges for VET have, therefore, become utterly complex as teachers normally work in a number of school types or classes, teaching students with different educational and social backgrounds as well as heterogeneous age groups.

When looking at VET in the German federal states we may distinguish at least six subtypes of vocational schools/courses:

- Part-time vocational schools which provide theoretical occupation-related knowledge and general education for apprentices in the dual system (*Berufsschulen*);
- Full-time schools that qualify young people in so-called “school occupations”, mainly “assistant occupations”, based on federal state law (*Berufsfachschulen, Berufskollegs*);

- Full-time schools that provide skill formation for young people via so-called “school occupations” based on the Vocational Training Act (*Berufsfachschulen*);
- School-based formalised training leading to a nationally recognized qualification in the health and human services sector (hospital nurses, nurses for the elderly, physiotherapists) (*Schulen des Gesundheitswesens*). This is the largest category of school-based training besides the dual system (Bundesinstitut für Berufsbildung, 2023, p. 7);
- Full-time courses within the “transition system” (mostly aiming at vocational preparation and/or bridging general education and apprenticeships) (*Berufsvorbereitungsjahr* and similar courses);
- Full-time vocational schools that lead to educational qualifications (lower secondary school standard, intermediate secondary school standard, university of applied sciences entry qualification, general university entry qualification, e. g. in *Wirtschaftsgymnasien*). These schools/courses partly comply with the academic aspirations of young people though they may lead to an apprenticeship.

The following chart shows the shares of teachers employed in different types of German VET schools, which are normally the workplace of young teachers after completing their teacher training.

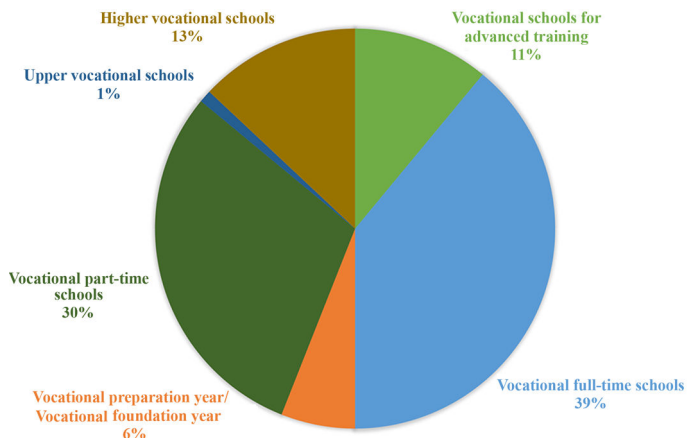


Figure 1: Areas of employment of teachers at vocational schools according to type of school (Source: Frommberger & Lange, 2018, p. 9)

These categories show that “full-time” in Germany is a term, which only partly describes the character of these educational institutions correctly. In fact, it is necessary to distinguish two major types overarching the above-mentioned categories: Only a proportion of courses work as full-time VET in the sense that the objective of attendance is actually training and with it achieving a labour-market relevant qualification. Apart from school-based courses, the transition system, by offering “*young people an opportunity to improve their individual chances of gaining training*” (Federal Ministry of Education

and Research, 2017, p. 60), is a heterogeneous catch-basin for those striving to become apprentices, but also for disoriented school-leavers and drop-outs from schools. Another feature of the transition system is that there exist not only school-based measures but also company-based internships (called “entry qualifications”) and vocational preparation and orientation courses offered by private training providers (Euler & Nickolaus, 2018). Therefore, teachers at vocational schools work in various school types, although the vocational part-time school has the largest share within the school system (Frommberger & Lange, 2018, p. 9). Vocational orientation and preparation in the transition system (e.g. vocational preparation year) also require new competences from professionally trained staff in the school-based vocational system. Another relevant sub-system is vocational further training (e.g. leading to a technician qualification). In addition, there are classes in vocational courses that lead to a subject-related or general higher education entrance qualifications, including the *Abitur* (the German “A level”), which is obtainable after attending years 10–13 in technical high schools or commercial high schools (Deissinger, 2019).

3 VTE – the System Perspective

One of the features of German VET teacher training is that it evolved with the formation of the dual system of vocational training, which is basically an apprenticeship system (Deissinger, 2010; Frommberger & Lange, 2018). The fields of conflict mentioned above are reflected in these historical processes, which have to be understood if we wish to comprehend the essential characteristics of both the VET system and the VET teacher education system in Germany. In the following we will depict these structures in a more general way but also by looking more precisely at the training of VET teachers for commercial schools in Business and Economics Education. The University of Konstanz in the State of Baden-Württemberg introduced a typical course structure of this kind in 1998, although some changes have occurred in recent years, both in the organisational structure of the VET teacher training course and in its clientele, which is now much more diverse due to the Bologna reform in the higher education system (Deissinger & Seifried, 2010; Deissinger, Braun & Melnyk, 2018). The German example shows that, despite the difference in the ways general and higher education on the one hand and vocational education on the other are perceived and regarded, there is not a lot of substantial difference in the ways general and vocational teachers (as academic teachers) are trained in Germany since both enjoy civil servant status and equal pay in the German school system once fully qualified (normally after 7.5 years). The latter aspect implies that, like in France, but unlike in the UK, Germany's VET teachers and their training are associated with “a relatively high degree of professionalization in accordance with their colleagues in general education” (Grollmann, 2008, p. 540).

Against the background that the VET system creates, the range of professional requirements in VTE is very broad and significantly more extensive than in all other teaching professions (Frommberger & Lange, 2018, p. 9). In the vocational school

classes of the dual system, the subject areas corresponding with the academic disciplines, such as business administration or mechanical engineering, can be very diverse due to the varying contents of, e. g., the well-established commercial training occupations in the apprenticeship system (e. g. banking clerk, insurance clerk, IT clerk or shop assistant). Therefore, the KMK (the Conference of German Education Ministers) refers to the necessity to integrate the respective technical and didactical contents related to occupational domains in the study programmes, by emphasising both the corresponding scientific disciplines but also the professional practice typical for the target groups of VET in the various occupations (KMK, 2017; Loughran, 2010). This means that the professional competence of teachers at vocational schools is not only about mastering one or two academic subjects (e. g. business and administration or construction engineering, electrical engineering, metal technology, etc.) as VTE should clearly reach beyond the academic topics of a bachelor or master course: Teachers at vocational schools are expected to know the operational and professional areas of application in the various occupational fields and need to include them fundamentally within their lessons. Unlike a teacher at a grammar school (*Gymnasium*) with its general education focus, the commercial, industrial-technical and service-based occupations are subject to rapid change with which teachers in VET have to cope, let alone the fact that many of them normally study and later teach a general subject as well (Frommberger & Lange, 2018).

In the first decade of our century, many federal states (e. g. Baden-Württemberg, Berlin and North Rhine-Westphalia), introduced the so-called school “practice semester” (Weyland, 2014). Normally, the workload corresponding with these practical components of VTE is not reflected in the university curriculum and reaches beyond the 300 credits of a combined bachelor/master programme, which is the formal prerequisite for becoming an “academic teacher”. The second phase of teacher training after graduation from university adds to this although it is more substantial and systematic in terms of didactical competences since the so-called “*Referendariat*” or “*Vorbereitungsdienst*” (“preparatory service” – a term used in the German public law) can be understood as workplace-related VTE since it takes place in vocational schools and seminars building up the scientific foundations of university-based education (KMK, 2016). Hereby, the focus of VTE switches from academic learning to the classroom and the school as an institution. The “learning teachers” now are meant to observe and evaluate lessons, prepare and carry out their own teaching, as well as perform tasks within the social environment of the school. The focus of this phase of training is markedly didactical and pedagogical in the first place building up on the pedagogy taught at the university (Frommberger & Lange, 2018, p. 14).

All in all, in Germany, 53 HEIs offer VTE (in the first phase) in a formal, science-based way (universities, pedagogical universities, universities of applied sciences or forms of cooperation between higher education institutions) (Frommberger & Lange 2018). The University of Konstanz is one of these in the federal state of Baden-Württemberg and represents a VTE course that is located in the field of Economics and Business, which means that the typical graduate of this course would teach at a commercial school centre in this federal state unless he or she does not opt to enter the second

phase of VTE (*Referendariat*). The course structure of what in Konstanz is called “Master of Business and Economics Education” consists of three major components: One or two major subjects (Business and Economics or an additional general subject from a range of 13 subjects); Pedagogy and Didactics (of Vocational Education); company- and school-based internships (42 weeks/10 weeks respectively). The structure of VTE is based on the concept of the acquisition of fundamental knowledge in the chosen disciplines and vocational pedagogy, but also in interlinking theoretical and practical learning concerning the future teaching profession. The latter aspect is particularly visible in the second phase of VTE, which is under the auspices of the federal state ministry of education and the subordinated seminars of initial and further teacher training (*Seminare für die Aus- und Fortbildung der Lehrkräfte*, see e. g. <https://bs-gymwgt.seminare-bw.de/Startseite>). In the university part, i. e. the bachelor and master parts of VTE, the students learn full-time at the university although they are required to spend 10 weeks of teaching internships in vocational schools under the guidance of a mentor of the respective school. This practical component of VTE is partly accompanied by the university and needs to be proved for admission to the second phase (18 months) after graduation from the university. The same applies to practical experience (training or internships) in enterprises, which can be a preceding apprenticeship or studies at a dual university (Deissinger, 2005; Deissinger & Ott, 2016).

The German system tries to take into account both the content-related and the pedagogical dimensions, i. e. the “dual agendas for learning”, in the VTE system. It is obvious that teaching and learning to teach hereby is not just defined as “delivery of information” but stretches to the notion of “knowledge of practice” (Loughran, 2010; Russell, 1997). The complexity of VTE based on such an understanding can be illustrated in the following table. It depicts the basic structure and the cooperation structure in the master course “Business and Economics Education” at the University of Konstanz:

Table 1: Master's Programme "Business and Economics Education" at the University of Konstanz and cooperations (Status: 02.05.2023, University of Konstanz)

1st semester	2nd semester	3rd semester	4th semester
Business Education (33 ECTS)			Thesis (4 months, 20 ECTS)
Educational Psychology	Didactics II	Educational Science advanced seminar	
Introductory seminar in Vocational and Business Education	Didactics Economics II	Educational Science research methods	
	Educational Science advanced seminar		
Compulsory area of economics: a total of 5 ECTS through the course “Accounting and accounting policy”			
Field of Study I		Field of Study II	
Elective area of Economics: a total of at least 52 ECTS through courses from the bachelor's degree in Business Administration or Economics, the master's degree in Economics and the master's degree in Politics and Administration (in the field of Management and Administration)		Compulsory elective area of economics: a total of at least 5 ECTS through course(s) from Business Administration or Economics	
		Elective subject from other departments (one of 13 subjects in total to choose from, such as a foreign language, sport or mathematics): a total of at least 47 ECTS	
Practical school studies (10 ECTS in total). The internships are to be completed at a business and economics school in Baden-Württemberg. The school internships include accompanying courses in educational science as well as subject didactics (business economics and second subject) of the State Seminars for Teacher Training and Further Education Freiburg and Weingarten (vocational schools).			
Business internships. The internships have to be completed in various commercial fields/departments in companies according to governmental regulations by the respective federal state if students want to enter the school service after graduation			

4 Governance of Vocational Teacher Education and Relevant Stakeholders

4.1 Theoretical Perspective on Governance in Teacher Training

The governance perspective provides a valuable analytical framework for investigating how vocational teacher training functions as a social system and how it interacts with other social systems and institutions. It also facilitates the understanding of mechanisms underlying "action coordination and communication between different actors and on different levels of a multi-layered system" (Merki & Altrichter, 2015, p. 396).

The governance perspective encompasses several key elements. Altrichter (2015) identifies fundamental aspects of the governance concept including the multitude of actors, which implies that not a single actor forms a system but that there is a constellation of actors who all contribute to its formation. Another key aspect is the coordination

of action, which focuses on how the interests are communicated, agreed upon and translated into actions in such a way that common goals are achieved, as well as the logic, which defines these processes. The governance concept, moreover, addresses rights of disposal and regulation instruments that create a framework for the actions taken by stakeholders. Furthermore, it acknowledges the multilevel character of a social system by explaining that actors interact differently on different levels and each level has its own constellation of actors and their own logic of actions. Additionally, the concept takes into account intentional actions and results that are also shaped by other stakeholders, highlighting that confrontation of the actors' intentions in attempts to steer the system often leads to unpredictable dynamics and transitional results.

Brüsemeister (2020) states that the governance perspective is a perfect instrument for the study of teacher education and training because teacher training is intertwined with the complex of the state, the economy and the society. Firstly, as a responsibility of the state, teacher training inherently encompasses the "state" aspect. Secondly, teachers are agents in the labour market for teachers, which means that market mechanisms are applicable to teacher training and education. In the context of VTE, an additional nexus arises due to the twofold professionalisation of vocational teachers as pedagogues and experts in their respective professional fields. Thirdly, Brüsemeister (2020) points out that, although VTE consists of social structures and processes, the approach addresses individual needs as well as modernisation challenges (such as inclusion, digitalisation, civil education etc.)

Within the governance framework, a number of analytic instruments have been developed, with two instruments being particularly applicable in the studies of teacher training. One of these is the "governance equalizer" (Schimank, 2007), which comprises five dimensions: (1) state regulation, (2) external guidance by the state or other stakeholders, (3) academic self-governance, (4) managerial self-governance and (5) competition for scarce resources. This instrument assesses the degree within each dimension. It was originally applied to measure the interdependence of actors in higher education and politics in the context of New Public Management (Niedlich et al., 2017). However, it has also found its application in the analysis of teacher education in Switzerland (Bucher et al., 2011).

The other tool for explaining the governance of vocational teacher training is the modes of governance approach developed by Gideonse (1993). This theory classifies governance modes based on the pivotal role played by various stakeholders (such as the state, universities and schools, or professional unions) involved in (vocational) teacher training. The theory of modes of governing teacher training suggests that, depending on that criterion, certain mechanisms of interaction, decision-making and management are established, which collectively form a mode of governing. Although three modes can be identified (political, institutional and professional), they are rarely manifest in a pure form. Gideonse (1993) highlights that usually these modes are determined by contextual factors and time spans, and may change or complement each other.

The first mode of governance is the political mode. Within this mode of governance, public officials and state legislatures fully exercise their authority with minimal delegation. While this mode acknowledges the significance of schools and teachers on the political agenda, it has the disadvantage of preventing “professionals [from] defining and maintaining preparation and performance standards” (Gideonse, 1993, p. 402). Furthermore, it fosters a public perception wherein changes are dictated by regulatory processes and implemented only top-down as stipulated by the government. Consequently, the teaching profession receives an image of a “servant of the state,” who implements the state policy within their professional activity (Young & Boyd, 2010).

Within the institutional mode of governing, governance is exercised predominantly by providers of pre-service teacher education (HEIs, schools, colleges and school districts responsible for internships). Gideonse states that “the strength of governing through the institutional mode is that it is the closest to where the teacher education action is” (1993, p. 403). However, the challenge within this mode arises from the diversity of institutions in terms of type, capacity and status. Consequently, the governance mechanisms can lead to local solutions.

In the professional mode of governing, the state assigns professional units and agencies the function of governance and policy setting. These bodies define standards and have authority over preparation processes. As they comprise professionals from the teaching profession empowered with policy-making capabilities, such bodies elevate the occupational status of the teaching profession. However, this mode is not devoid of shortcomings. Internal institutional processes and structures within these bodies could potentially give rise to problems and conflicts. Additionally, there is a risk of public perception pointing to the protectionism of vested interests (Gideonse, 1993; Young, 2004; Young & Boyd, 2010).

The complexity of the actor constellation in vocational teacher training is further expanded by the inclusion of the employment sector, which necessitates consideration when modelling governance processes and mechanisms. The architecture of VTE bears similarities to that of secondary school teacher training. However, secondary schools prepare their students for subsequent educational paths, whereas vocational schools normally impart diverse levels of professional qualifications tailored for immediate integration into the labour market. Consequently, vocational teacher training, unlike its counterpart for secondary schools, necessitates a more stringent alignment with economic trends and the corresponding professional domains. However, in the case of Germany, the heterogeneity and diversity of vocational schools stretch beyond the labour market function of VET.

4.2 Coordination and Partnerships in the Vocational Teacher Education System

Multitude of Actors

Teacher education in Germany, including VTE, has historically been and continues to be overseen by the Ministry of Education in each individual federal state. This decentralised approach results from the federal structure of the country, which is a crucial

“eternal” provision within the German Constitution of 1949. All matters pertaining to general education, vocational education, higher education, and teacher education policy are independently governed by each federal state though there is a certain degree of coordination and harmonisation secured by the Standing Conference of Education Ministers (van Ackeren, Klemm & Kühn, 2015). However, a uniform central regulation across federal states is lacking, leading to variations in policy, actor constellation and status of teacher education (Lim, 2013). At the university level, this heterogeneity is evident not only between different federal states but also within the same federal state, where study concepts of initial teacher training may significantly differ between various types of universities (Frommberger & Lange, 2018). This diversity in teacher training in general and VTE in particular was underscored when the KMK’s “Resolutions on the Training of Vocational School Teachers” dated October 19, 1949 acknowledged the challenge of achieving comprehensive standardisation in the field of training of vocational school teachers due to the distinctive characteristics of each federal state (Gao, 2014). As a result, the number of actors varies among different federal states. They can be categorised into the following two groups: state actors such as ministries, HEIs, vocational institutions/schools, seminars for in-service teacher training, and federal and interstate actors such as research institutions, the German Accreditation Council and the KMK.

Coordination of Action and Regulation Structures

The two-phase training, which has been mentioned above, involves various responsible entities and contributes to complicating the coordination of actions between stakeholders. As previously mentioned, the first phase of VTE is realised at universities with internship elements at vocational schools, which can mean the involvement of the seminars for in-service teacher training at a very early stage of VTE. The second phase takes place only at vocational schools under the supervision of the seminars. Universities and other HEIs, depending on the federal state, may fall under the jurisdiction of the respective Ministry of Science, while other institutions (schools, seminars, accreditation councils) belong to the purview of the respective Ministry of Education. Thus, at the level of the federal state, there are different administration bodies more or less directly involved in dealing with VTE. At the federal level, the Federal Ministry of Education and Science (BMBF) formulates strategic directions for the development of education and science, fosters international cooperation and often supports education and research with substantial funding, e. g. in the field of digitalisation in schools, through extensive programs and projects. Thus, it also indirectly influences the development of VTE.

In terms of ensuring coherence within the two-phase training process, it is evident that there is a need for enhanced coordination of actions. However, the specific nature of such collaboration and the necessary regulatory framework remain unclear. Despite the clarity in institutional responsibilities, the coordination mechanisms are currently inadequately defined, although they are essential. No resources for the enhancement of coordination mechanisms between different actors and their collaborative work are

made explicitly available (Doff, 2022). The existing legal ordinances and frameworks lack definite provisions for binding cooperation measures (Schubarth, 2010). In the context of projects, new opportunities emerge for conceptualising cross-phase cooperation.

The task of accreditation of the study programmes is delegated to the Accreditation Council, a collective body of public law set up in 2005, which is responsible for all federal states. The German accreditation system provides for three different types of procedures:

1. programme accreditation
2. system accreditation and
3. alternative procedures.

Both programme and system accreditation procedures are characterised by a two-stage process. The assessment and preparation of an accreditation report with decision and assessment recommendations according to the standards specified in the Model Law Ordinance is organised by an agency commissioned by the university. The responsibility for the accreditation decision, on the other hand, lies with the Accreditation Council (Stiftung Akkreditierungsrat, n. d.). Upon application by the HEI, the Accreditation Council decides on the accreditation of a study programme or an internal quality management system of the HEI. The decision is made based on the accreditation report, whereby a justified deviation from the expert recommendation is possible. The representatives of the HEIs in the Accreditation Council have the majority of votes in voting on compliance with technical and content-related criteria (Stiftung Akkreditierungsrat, n. d.).

While the responsibility for accreditation decisions has now been transferred to the Accreditation Council, the implementation of the assessment procedures in program and system accreditation remains in the hands of the accreditation agencies approved for this purpose. The accreditation of an agency is subject to the European Quality Assurance Register for Higher Education (EQAR) registration by the Accreditation Council (Stiftung Akkreditierungsrat, n. d.).

The conformity with common structural guidelines and subject-specific minimum standards holds significant importance for teacher training programmes and their recognition. Examples of such guidelines and standards include the Common Structural Guidelines for the Accreditation of Bachelor and Master Degree Programs (2010), the Standards for Teacher Education: Educational Sciences (2014), the Cornerstones for the Mutual Recognition of Bachelor and Master Degrees in Courses of Study Providing the Educational Requirements for a Teaching Profession (KMK 2005), the Framework Agreement on the Training and Examination for a Teaching Profession at Secondary Level II (Vocational Subjects) or for Vocational Schools (Teaching Profession Type 5) (2018), and the Interstate content requirements for the subject-specific knowledge and subject-specific didactics in vocational teacher training (2017) (Frommberger & Lange, 2018). The regulatory framework has been developed by the KMK and intends to unify diverse approaches in vocational teacher education in Germany.

Intentions of Actors in the Multilevel System

The intentions and logic of actors within the German multilevel system often generate areas of conflict. In the initial phase, university study programmes encounter a dichotomy between two core concepts – firstly, the idea of polyvalence, which underscores enhanced training in the relevant professional domain, and, secondly, the focus on professionalisation of teachers as educators, demanding more profound pedagogical preparation (Tramm, 2001). This tension originates from the historical evolution of vocational and business education as an academic discipline starting around 1900 (Zabeck, 1999; Pleiß, 1986), leading to increased academic specialisation of potential future teachers in the university system. Simultaneously, seminars for in-service teacher training and vocational schools have always been considered in their function to impart practical competences during the subsequent second phase in a school setting. This division of responsibilities has resulted in a scenario where first-phase representatives stress the distinction between the two phases, while second-phase advocates, particularly trainee teachers, plead for greater coordination and collaboration, aiming at training more closely aligned with the professional reality in the classroom (Schubarth, 2010).

The federal states these days regularly report a serious shortage of teachers in vocational institutions and it can be assumed that this shortage will even become more dramatic in the future (Frommberger & Lange, 2018). However, the attempts to unify VTE between the federal states and, thus, to increase the permeability of education degrees and improve teaching staff mobility within Germany so far have not brought visible results, notwithstanding the changes enforced on the German degree system with the Bologna process (Deissinger & Seifried, 2010). Due to the different preferences of the federal states regarding the study structure, the states were allowed to decide for themselves whether to keep the previous study structure with the state examination as the entrance qualification for the second phase of VTE or to shift to the two-tiered study structure consisting of the bachelor's degree and the subsequent master's degree. Therefore, the new study structures in teacher education were implemented differently in the individual federal states and even between universities (with universities of applied sciences now also engaging in VTE in the technical field or in the health sector). In essence, the effort to harmonise perpetuates complexities due to the distinct choices made by different federal states and educational institutions within an extremely decentralised educational landscape in Germany.

Mode of Governing

The prevalence of the institutional mode of governing in German VTE is primarily attributable to its autonomy and flexibility in decision-making regarding organisation, structure, philosophy, and content. This mode of governing finds its roots in historical factors that have shaped the German education system. The historical evolution of the German education system deeply established the influence of educational institutions in shaping teacher education policies, also because VET did not remain restricted to the companies (Deissinger, 1994). The strong tradition of academic autonomy and the rep-

utation of universities as knowledge centres contribute to their significant role in influencing curriculum design, pedagogical practices, and professional standards within VTE in particular. The decentralised nature of Germany's education system, with its federal structure, enhances the significance of other institutions involved in the governance of pedagogical processes. This decentralised approach empowers HEIs and vocational schools to assume responsibilities for teacher training in a specific way, looking at stakeholders in a given region and their will to cooperate. This enables localised decision-making and creates opportunities for quality emerging from the experiences of the different partners. On the other hand, it is clear that it also creates fragmentation of policies and discrepancies in the quality of provided training across the states that can affect students' experiences and their future professional opportunities as teachers.

5 Conclusions

In Germany, VTE underlies a shared responsibility and supervision between the universities and the state. Teachers at all types of schools go through a two-phase process of training, consisting of university studies and the preparatory service (*Referendariat*), which precede career entry for "scientific teachers". The notion of a twofold agenda in the course of training, i. e. content/discipline-based studies and profound didactical and pedagogical training has led to shared responsibilities and complex institutional structures of cooperation between universities, schools and seminars. All phases of VTE underlie federal state regulations since future teachers can become civil servants of the respective federal state. In some states, two ministries, those for science and research and those for education and schools, represent the steering umbrella of VTE. A special focus lies on practice in both phases of training, including school internships and the proof or internships of even vocational training in companies.

Tensions between the university part and the school-based part of VTE originate from the academic specialisation of potential future teachers in the university system, whereas seminars and vocational schools are seen as the ideal learning sites for the development of practical teaching competences needed in the classroom during the second phase. Compared to former times, the reform of VTE in Germany is now much more determined by the idea of "knowledge of practice". With the Bologna reform, the focus on pedagogy has become stronger. In the case of the University of Konstanz, the master course is clearly more committed to didactics and pedagogy now, and school internships have to be carried out in a much more systematic way, including the basic commitment of seminars and schools before entry into the preparatory service.

However, there is no uniform German model of VTE in all branches or states due to the federal political system of the country. Other challenges continue to exist, especially with the growing heterogeneity of students between and within the various school types of the German VET system, of which the dual system part (i. e. the vocational part-time school) still comprises about half of the VET student population. Even

more pressing seems to be that Germany now faces a serious shortage of teachers in all types of schools (general and vocational) for which promising solutions are not yet visible.

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Bibliographical Notes

Thomas Deissinger is Professor of Business and Economics Education (Wirtschaftspädagogik) at the University of Konstanz (Baden-Württemberg/Germany). He has specialised in the history of VET, VET policy and comparative VET, including two EU projects on VET teacher education. Several of his publications are devoted to the nature and development of the VET systems in the UK, Canada, and Australia. One of his core subject fields is the dual apprenticeship system and issues relating to apprenticeships in general. Thomas Deissinger is a member of the editorial advisory boards of the *Journal of Vocational Education and Training*, the *International Journal of Training Research and Education and Training*. He is also a member of the INAP network (Innovative Apprenticeships) and AVETRA (Australasian Vocational Education and Training Association). He also works in the editorial team of IHBB (the German Handbook on Vocational Education). In May 2016 he received an honorary doctorate from Kyiv National Economic University, and in March 2023 also from the Ukrainian Engineering Pedagogical Academy in Charkiv.

University of Konstanz, Department of Economics
 Universitätsstrasse, 10, Konstanz, 78467
 Thomas.deissinger@uni-konstanz.de

Oksana Melnyk holds a Ukrainian academic degree of candidate of sciences (equivalent to the academic degree of Doctor of Philosophy) from the Institute of Vocational Education of National Academy of Pedagogical Sciences of Ukraine. She is a postdoc researcher on the position of an academic staff member at the University of Konstanz. Her research interests are centred around changes and reforms in vocational education systems, particularly in Eastern Europe, as well as international cooperation in vocational education and training and vocational teacher training.

University of Konstanz, Department of Economics
 Universitätsstrasse, 10, Konstanz, 78467
 Oksana.melnyk@uni-konstanz.de

Standards in Vocational Education and Teacher Training in Austria

RICHARD FORTMÜLLER*

Abstract

This chapter provides a brief outline of the competence model and the educational standards for vocational education and training in Austria. Subsequently, it discusses the question of which learning activities are necessary to achieve the different types of learning outcomes defined in the taxonomy of the competence model.

Since Austrian universities autonomously decide on their curricula and expected learning outcomes, teacher training is based on research on the professional competence of teachers. This concept and the design of a corresponding curriculum for teacher education are outlined on the basis of the master's programme in business education at Vienna University of Economics and Business.

Keywords: educational standards, competence models, knowledge, learning, teacher education

1 Introduction

Educational standards prescribe the expected learning outcomes at the different levels of school and higher education. In Austria, only the educational standards in the field of general school education in the subjects German, English, and mathematics are prescribed by regulation of the Ministry of Education. Although the educational standards for vocational education and training were also developed on behalf of the ministry, they do not have the character of a regulation. Rather, they have a quality assurance and orientation function in that they show what skills and abilities the graduates should have after completing the respective vocational middle or higher school. In particular, they serve to help teachers focus their teaching more on competencies (Bundesministerium für Bildung, Wissenschaft und Forschung [BMBWF], 2023).

In describing the concept of educational standards, the Austrian Ministry of Education explicitly refers to Weinert's (2001) definition of competencies (BMBWF, 2023). According to this definition, competencies are "the cognitive abilities and skills available to individuals or learnable by them to solve certain problems, as well as the associated motivational, volitional and social willingness and abilities to successfully and responsibly use problem solving in variable situations" (Weinert, 2001, p. 27). Although reference is made to this definition in the context of educational standards for general

* Corresponding author

education, it can be assumed that educational standards for vocational education and training are based on the same concept of competencies.

Glaesser (2019) notes that “some policy documents read as though all standards refer to competence ..., but of course this does not have to be the case: standards may be set for domains other than competences such as pure knowledge” (Glaesser 2019, 75).

This also applies to the description of the concept of educational standards and the defined standards for general and vocational education in Austria. For example, it is emphasised that educational standards for vocational education and training cover the core competencies that are to be acquired through the respective course of study (BMBWF, 2023). However, the definition of educational standards for vocational education and training is based on a competence model which, in addition to competencies, also takes into account learning outcomes that form the basis of competence acquisition or are partial aspects of competencies but do not enable learners to cope competently with professional tasks and problems.

For example, achieving the learning objective “I can explain the content of statutory social insurance and the advantages of supplementing it with the respective lines of private insurance” is an important prerequisite for acquiring competence in the field of financial and risk management and is therefore also taken into account in the competence model for this area (BMBWF, 2023). However, being able to explain the concept of social insurance and the advantages of supplementary private insurance does not yet enable competent financial and risk management.

In contrast to the regulations for schools, there are no educational standards prescribed by the Ministry of Education for universities in Austria. This is because the universities autonomously decide on the curricula and the expected learning outcomes within the framework defined by university legislation (Rechtsinformationssystem des Bundes [RIS], 2002).

The curricula outline the qualification profiles of the graduates and determine the courses and examinations to be completed. The expected learning outcomes of each course are described in the syllabus by the lecturer of the course. For example, according to the qualification profile outlined in the curriculum, the master’s programme in business education at Vienna University of Economics and Business (WU) provides qualifications not only for the teaching profession at schools but also for professional activities at companies and in continuing education (WU, 2023). On the other hand, the following expected learning outcome, which is important both for teaching in schools and for the design of continuing education seminars, is listed in the syllabus of an introductory course on business education: “The students should acquire the ability to assess the potential learning effectiveness of didactic design options from a learning theory point of view” (WU, 2022).

In the following, the competence model and the educational standards for vocational education and training in Austria are briefly outlined. Then, on the basis of cognitive psychological theories, the question of which learning activities are necessary to achieve the different types of learning outcomes defined in the taxonomy of the competence model is discussed.

The planning of lessons in order to achieve the learning outcomes prescribed by educational standards requires subject matter content knowledge, pedagogical content knowledge, and pedagogical-psychological knowledge (Fuhrmann & Fortmüller, 2021).

The relevance of expertise in these knowledge domains and the design of an appropriate curriculum are discussed with reference to the theoretical assumptions about teacher professional knowledge and on the basis of the WU's master's programme in business education.

2 Standards in Vocational Education

The educational standards for the VET school system in Austria are divided into three categories: cross-school educational standards, school-specific educational standards, and educational standards for social and personal competencies (BMBWF, 2023).

2.1 Cross-School Educational Standards

The cross-school educational standards define competencies to be acquired in several or all school types. This category includes educational standards that define core competencies to ensure the ability to study and to participate in society. These core competencies can relate to single subjects, such as German, English, and mathematics, or to a group of subjects, such as natural sciences (BMBWF, 2023).

In the subject of mathematics at higher vocational schools, for example, one of the core competencies to be acquired is being able to form models in differential calculus and transfer them to other areas in a way appropriate to the situation (BMBWF, 2023).

The intended learning outcomes are illustrated with tasks that the students should be able to complete. For example, one task that students should be able to complete after acquiring the above-mentioned competency is: The acceleration of a motorbike is given by the path-time function $s(t) = 3.5 t^2$ for $0 \leq t \leq 3.5$ (s in metres, t in seconds). How can the mean speed in m/s and km/h (mean rate of change) between the 2.4s and 3.2s after the start be calculated? (BMBWF, 2023).

2.2 School-Specific Educational Standards

The school-specific educational standards define the core competencies for the professional fields for which each school type (technical, commercial, human vocational, or agricultural school) prepares students. The standards relate to both theoretical and practical vocational subjects (BMBWF, 2023).

An example of a core competency in the subject of accounting at higher commercial schools is being able to analyse an annual financial statement with regard to compliance with legal provisions and to calculate and interpret key business figures (BMBWF, 2023).

The examples of tasks that should be mastered with the competencies to be acquired also include more complex case descriptions with many subtasks. For example, students use the published balance sheet of a real company to calculate and assess various key figures with reference to comparative values (BMBWF, 2023).

2.3 Educational Standards for Social and Personal Competencies

The educational standards for social and personal competencies define both core competencies for professional requirements, such as working in a team, and competencies with high general social relevance, such as empathy (BMBWF, 2023).

The model tasks illustrating the situations to be mastered with the competencies to be acquired include, for example, interpreting and discussing events and communications described in stories.

3 Competence Models

“Objectives that describe intended learning outcomes as the result of instruction are usually framed in terms of (a) some subject matter content and (b) a description of what is to be done with or to that content” (Krathwohl, 2002, 213).

The competence models for the educational standards of general and vocational schools in Austria are also designed in this way. As an example, Figure 1 shows the competence model developed for higher commercial full-time schools in the field of entrepreneurship and management (BMBWF, 2023).

The subject matter contents are listed on the vertical axis (“Inhaltsdimension”) of Figure 1 and include the following topics: (1) Personal/Social Skills, (2) Working Techniques, (3) Business Environment, (4) Entrepreneurship, (5) Management, (6) Production, (7) Human Resources Management, (8) Financing and Investment, (9) Accounting.

The behavioural and/or cognitive dispositions and abilities to be acquired in the respective subject area are classified on the horizontal axis (“Handlungdimension”) of Figure 1 according to the taxonomy of educational objectives of the competence model. This taxonomy postulates and defines five different categories:

- a) Reproduce,
- b) Understand,
- c) Apply,
- d) Analyse and Interpret,
- e) Develop.

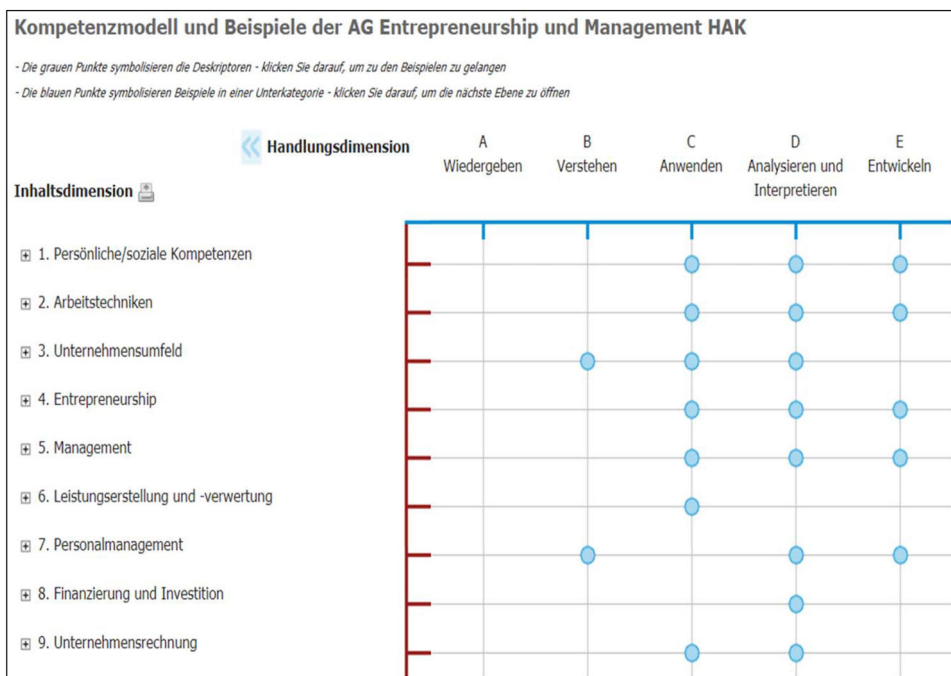


Figure 1: Competence model of entrepreneurship and management (Source: BMBWF, 2023)

The nodes shown in Figure 1 refer to the educational standards defined for the respective topic and the respective category of the taxonomy of educational objectives. For example, the intended learning outcomes on topic 8 “Financing and Investment” in category D “Analyse and Interpret” (node 8-D) include, among others, the skills and abilities to “draw up and interpret financial plans” and to “make and argue financing decisions” (BMBWF, 2023).

The taxonomy of educational objectives in Figure 1 is similar to the taxonomy developed by Bloom et al. (1956) and the revised version of this taxonomy by Anderson et al. (2001). Bloom et al. (1956) define six categories of learning objectives: Knowledge, Comprehension, Application, Analysis, Synthesis, and Evaluation. The revised taxonomy of Anderson et al. (2001) consists of the categories Remember, Understand, Apply, Analyse, Evaluate, and Create.

4 Learning and Learning Outcomes

As mentioned in the introduction, the Austrian Ministry of Education explicitly refers to Weinert’s definition of competencies as cognitive abilities and skills available to individuals or learnable by them for solving certain problems, as well as the associated motivational, volitional, and social willingness and ability to successfully and responsibly use problem solving in variable situations (Weinert, 2001, p. 27).

This definition refers to both cognitive and non-cognitive aspects of performance and behavioural dispositions. However, the non-cognitive concepts – such as motivational, volitional, and social willingness – are even more difficult to operationalise than the cognitive concepts, and therefore competence tests usually collect only the cognitive learning outcomes.

Klieme (2004) defines cognitive competencies as functionally determined performance dispositions related to certain classes of situations and requirements, which can be described psychologically as knowledge, skills, strategies, routines, or also area-specific abilities).

The definition criterion “related to certain classes” refers to the fact that competence is more than the ability to perform a practised activity with always the same tasks. Competence in a subject area includes the ability to solve a variety of tasks – and thus classes of tasks – insofar as they can be solved from a professional point of view with the teaching content.

Since usually not all variants of tasks can be practised in the learning situation, the development of competence requires not only the acquisition of knowledge and skills but also the ability to apply the learning content in new situations (i. e., transfer of learning). But which learning processes promote or lead to which learning outcomes, and to what extent can successful transfer of learning be expected?

4.1 Types of Knowledge and Memories

Learning can be intentional and conscious, or it can happen incidentally without even being noticed. The learning outcomes can be conscious knowledge that can be explicitly reproduced, or they can be “non-conscious forms of long-term memory that are expressed as a change in behavior without any conscious recollection” (Smith & Kosslyn, 2014, p. 207).

The literature on learning and memory therefore distinguishes between two forms of learning and two types of learning outcome: explicit and implicit learning and explicit and implicit knowledge (Anderson, 1995, 2020; Fortmüller, 1997, 2016; Neuweg, 2004; Smith & Kosslyn, 2014).

Since the explicit knowledge can be consciously reproduced, it is also referred to as declarative knowledge. On the other hand, implicit knowledge is non-declarative knowledge because it cannot be explicitly reproduced. Accordingly, a distinction is also made between two types of long-term memory: declarative and non-declarative memory (Anderson, 2020; Smith & Kosslyn, 2014).

These two types of memory are in turn divided into subtypes. “Declarative memory encompasses episodic memory, the memory of events in our own personal past, and semantic memory, our general knowledge about things in the world and their meaning” (Smith & Kosslyn, 2014, p. 206). The subtypes of non-declarative memory are procedural knowledge (procedural skills), the outcomes of associative learning (classical and operant conditioning), and non-associative learning (habituation, sensitization), as well as priming (Anderson, 2019; Smith & Kosslyn, 2014).

For vocational education and training, procedural knowledge of how to solve concrete tasks is the most important subtype of non-declarative memory. In addition to implicit knowledge, however, explicit knowledge of scientific findings and best professional practices is also required for the ability to consciously think about new solutions if the procedural skills are not sufficient to solve the tasks (Fortmüller, 1997, 2009).

In many cases, only superficial features of the tasks and problems to be solved are directly observable, and the underlying structural relationships must be reconstructed on the basis of prior knowledge in order for a solution to be found. In addition to declarative and procedural knowledge, this also requires the generalisation and organisation of explicit and implicit knowledge into units, which are referred to in the literature as cognitive schemas (Anderson, 1995, 2013; Fortmüller, 1997, 2018, 2020; Gerrig, 2014; Woolfolk, 2014; Yan & Lavigne, 2014).

“Schemas are conceptual frameworks, or clusters of knowledge, regarding objects, people, and situations ... that encode complex generalizations about your experience of the environment” (Gerrig, 2014, p. 222). They “represent categorical knowledge according to a slot structure, in which slots are attributes that members of a category possess, and each slot is filled with one or more values, or specific instances, of that attribute” (Anderson, 2020, p. 155).

The generalised knowledge about the typical properties of the object or situation represented by the schema is activated when the observed characteristics of an object or situation are subsumed into the slots. This allows irrelevant surface features to be abstracted and the solution-relevant depth structure to be taken into account in processing tasks and problems (Fortmüller, 2018).

A cognitive schema can comprise subschemas, which in turn can comprise sub-subschemas (Gagnè et al., 1993; Fortmüller, 1997). Therefore, a schema can represent a complex issue at different levels of observation and analysis. This in turn makes it possible to flexibly change the observation and analysis level during task processing and to carry out the actions at the appropriate level.

Declarative knowledge corresponds to the category of learning outcomes, which is also referred to as knowledge in everyday language. Procedural knowledge corresponds to the skills that can be performed without explicit thought. Competence additionally requires cognitive schemas into which varying concrete tasks of a class or category of tasks can be subsumed, allowing them to be processed according to the requirements of their deep structure through the application of declarative and procedural knowledge (Fortmüller, 2018, 2019).

4.2 Acquisition and Application of Knowledge

Listening to lectures or reading texts only enables the acquisition of declarative knowledge about the described facts. The acquisition of procedural knowledge requires repeated performance of the procedures to be learned. Therefore, many similar exercises have to be worked on in the learning situation (Anderson, 1983; Fortmüller, 1997).

The development of cognitive schemas requires cognitive engagement with a large number of varying examples, tasks, and problems of the same category. Accord-

ingly, considerably more learning time is required for the development of a schema than for the acquisition of declarative knowledge about the same subject area or for the acquisition of procedural knowledge for selected tasks in the same subject area (Fortmüller, 2009, 2016, 2020).

Declarative knowledge can be applied interpretatively for the solution of tasks and problems. Therefore, declarative knowledge can be applied to all tasks that, from a subject-specific point of view, can be solved with the learned content and methods. However, the interpretative application of knowledge is cognitively demanding and error-prone and can also fail (Fortmüller, 1997; Fortmüller & Konczer, 2013).

The interpretative application of knowledge requires that the tasks be interpreted correctly in order to enable appropriate use of the learned solution methods for task processing. This usually also requires knowledge about the specific circumstances of the application situation, which is only available to people who have already gained experience in the respective application context (Fortmüller, 1997).

For these reasons, the interpretative application of knowledge often only succeeds in tasks that are structured analogously to the demonstration and exercise examples used in the learning situation and that also share superficial similarities with them (Fortmüller et al., 2013). But even here, the first attempts at solutions take place gradually and slowly due to the high cognitive effort of interpretative knowledge application, and a significant increase in performance only succeeds when procedural knowledge is acquired through repeated practice of similar tasks (Fortmüller & Konczer, 2013; Fortmüller et al., 2013).

Procedural knowledge is adapted to the structure and usually also the specifics and context of the exercise tasks being worked on. Therefore, procedural knowledge is only applicable to tasks that have the same structure and require the same procedure as the practice tasks. Provided that the acquired procedural knowledge is also attuned to the context and individual surface features of the practised tasks, the application situation must also have these characteristics in order for the relevant procedural knowledge to be activated and applied (Fortmüller, 1997; Fortmüller & Konczer, 2013; Singley & Anderson, 1989).

If competencies are to be acquired in the sense of the definitions by Weinert (2001) and Klieme (2004) cited above, cognitive schemas must be developed in the learning situation under which various concrete tasks of an entire class of tasks can be subsumed. Expertise in a subject area is given when

- (1) all problem situations and tasks that can be interpreted and solved from a subject-specific perspective with the taught content can be classified into suitable problem schemas, and when
- (2) they can be solved through application of the procedural knowledge linked to the schemas, and when
- (3) the solutions can be consciously reflected upon through application of the declarative knowledge linked to the schemas (Fortmüller, 1997).

Expertise cannot be achieved in vocational education at full-time schools. However, competencies and therefore cognitive schemas should be developed for central subsets of the tasks that can be solved with the taught content from a subject-specific perspective through work on a corresponding multitude of varying tasks. Furthermore, in VET it is important to learn the essential basic skills and therefore to acquire corresponding procedural knowledge. In addition, teaching can also aim at the acquisition of scientifically based declarative knowledge, which, although only interpretatively applicable, is a very important basis for further learning in professional practice and through continuing education (Fortmüller, 2016, 2018, 2020).

The theoretical considerations just outlined are illustrated below with an example. As mentioned above, the competence model for higher commercial schools in the field of entrepreneurship and management defines the ability to “make and argue financial decisions” as an educational standard. Among other knowledge, skills, and abilities, this also requires the ability to calculate the effective interest rates of financing alternatives.

For this purpose, suppose a teacher were to explain the calculation of the effective interest rate on loans by solving the following introductory problem on the board:

“The Nürg family has obtained a cost estimate for the installation of a photovoltaic system on the roof of the house. The estimated total costs, including installation, are €28,000.

In addition to the use of own funds, it is also planned to take out a bank loan to finance the plant. For this purpose, the following loan offer is available from the house bank:

Amount of the loan:	€ 20.000
Duration of the loan:	5 years
Credit instalment (incl. interest):	€ 350 per month

In addition, there are expenses of €200 for borrowing and account management fees of €10 per month during the term of the loan.”

Since the students have so far only learned the percentage calculation and the simple interest calculation, but not yet the compound interest calculation, the teacher only demonstrates the (approximate) calculation of the effective interest rate on the basis of the simple interest calculation with the following representation on the board:

Effective credit:

Amount of the loan taken out:	€	20.000
<u>Charges when taking out the loan:</u>	€	–200
Effective credit = amount paid out:	€	19,800

Effective repayment:

5 x 12 = 60 loan instalments of € 350:	€	21.000
<u>5 x 12 = 60 times fees of € 10:</u>	€	600
Total amount to be repaid:	€	21.600

Effective cost of credit:

Effective (total) repayment:	€	21.600
Effective credit (amount paid out):	€	-19.800
Effective credit costs for 5 years:	€	1.800

Credit costs per year: $€1.800 / 5 = €360$

Average loan amount: $€19.800 / 2 = €9.900$

Effective interest rate: $€360 / €9.900 = 0.03636 = 3.64\%$

The students then work on exercises to calculate the effective interest rate of bank loans.

The exercises differ in terms of the purpose of the loan, the amount of the loan, the term, the amount of the loan instalments, and the expenses. However, the basic structure of all exercises is the same as that of the demonstration example: The amount of the loan, the term, the loan instalments, and the expenses are given, and the effective interest rate is to be calculated.

After each exercise, the solutions are compared and the correct solution is recorded on the board.

The presentation of the calculation of the effective interest rate enables the acquisition of declarative knowledge, which can be applied interpretatively when working on the exercises. Since the exercises are designed analogously to the demonstration example and only the concrete figures (loan amount, term, loan instalments, and expenses) are changed, the same calculations can be carried out step by step in the same order. As a result, the interpretative application of knowledge will become more and more successful and procedural knowledge about the individual calculation steps will be developed with an increasing number of exercises.

The feedback after the completion of each exercise supports the completion of the declarative knowledge and the interpretative application of knowledge in the next exercise.

The expected learning outcomes of the described instruction include declarative and procedural knowledge that enables the calculation of the effective interest rate of credits. However, this is only one of the many outcomes that can be assigned to the ability to “make and argue financial decisions”, which is defined as an educational standard. It can even be assumed that not all types of tasks requiring the calculation of the effective interest rate can be solved with this knowledge. For example, it is very likely that not all students will succeed in solving the following task:

“In an advertising brochure, a television set with a list price of €1.800 is offered at the following terms of payment:

Payable in 12 monthly interest-free instalments of €150 each

or a 5 % discount on the list price for immediate payment.

Calculate the effective interest rate for payment by instalments.”

Acquiring competence in the area of effective interest rates would require numerous other variants of tasks to be worked on in addition to the latter. This supports the development of cognitive schemas under which the circumstances of the respective prob-

lems can be subsumed and thus structured in such a way that the procedural knowledge about the necessary calculation steps can be applied and the effective interest rate can be calculated.

5 Professional Competencies of Teachers

The presentation of teaching content, the development and use of exercises, and the feedback on student work require not only subject matter content knowledge but also didactic knowledge related to the content in the respective subject area. This knowledge is referred to in the literature as pedagogical content knowledge, and it is distinguished from general pedagogical-psychological knowledge on the one hand and subject matter content knowledge on the other (Shulman, 2013; Riebenbauer, 2021).

5.1 Pedagogical Content Knowledge

The concept of pedagogical content knowledge was introduced to the discussion on teacher education by Schulman. He defines this knowledge as “pedagogical knowledge, which goes beyond knowledge of subject matter per se to the dimension of subject matter knowledge for teaching. I still speak of content knowledge here, but of the particular form of content knowledge that embodies the aspects of content most germane to its teachability” (Shulman, 2013, p. 6).

Empirical studies show a statistical separability of pedagogical content knowledge (PCK) from subject matter content knowledge (CK), but also significant correlations between the two areas of knowledge (Fritsch et al., 2015; Riebenbauer, 2021).

For example, an Austria-wide survey of the CK and PCK of business education students in accounting found that the correlation between these two areas of knowledge is $r = 0.27$ at the beginning of the master’s programme and increases to $r = 0.53$ by the end of the programme (Riebenbauer, 2021). This increase in the correlation is presumably due to the fact that the courses on the didactics of accounting in the master’s programme in business education also deepen content knowledge.

5.2 VET Teacher Education for Teaching at Full-Time Schools

In Austria, VET teacher education for teaching at middle and higher full-time VET schools is structured differently for technical and commercial subjects.

Prerequisites for teaching a technical subject are the completion of a master’s degree at a technical university or university of applied sciences and three years of professional practice. This is to ensure the acquisition of the necessary expertise on the teaching content (subject matter content knowledge).

After starting the teaching profession, teachers must complete a bachelor’s degree programme at a university of teacher education. The focus here is on acquiring pedagogical content knowledge and pedagogical-psychological knowledge.

The teaching of commercial and economic subjects at middle and higher full-time vocational schools requires the completion of a master's degree in business education and then at least two years of professional practice.

The prerequisite for admission to the master's programme in business education is the completion of a bachelor's degree programme with a focus on business administration and economics. Therefore, much of the expertise on the teaching content (subject matter content knowledge) is already acquired in the bachelor's programme.

The master's programme in business education focuses on the acquisition of pedagogical content knowledge and the deepening of subject matter content knowledge in subject-specific didactics courses, as well as the acquisition of pedagogical-psychological knowledge in business education and educational science courses. Furthermore, the school internship is integrated into the master's programme.

The content of the subject-specific didactics courses are business administration, accounting, business informatics, and economics. The didactic focus is on the integration of the respective content into teaching methods and the design of subject-specific teaching-learning arrangements.

The courses on business education and educational science treat scientific theories and empirical research findings. The research methods are taught in courses to prepare students for the master's thesis, and the master's thesis enables students to acquire the competence to independently apply the methods in a research project.

Figure 2 provides an overview of the curriculum of the master's programme in business education at the Vienna University of Economics and Business. The type of knowledge to be acquired primarily in the respective courses is noted in brackets: subject matter content knowledge (CK), pedagogical content knowledge (PCK), and/or pedagogical-psychological knowledge (PPK).

Introduction phase (CK, PCK)	8 ECTS
Subject-specific didactic courses (PCK + CK)	44 ECTS
Business Education / Educational Science (PPK)	25 ECTS
Electives (CT, PCK, PPK)	24 ECTS
Teaching Internship (PCK)	24 ECTS
Research Methods (PPK)	5 ECTS
Theses (PPK, PCK)	20 ECTS
	150 ECTS

Figure 2: Curriculum of the master's programme in business education at Vienna University of Economics and Business (Source: WU, 2023)

Since the Austrian universities decide autonomously on the curricula, the study programmes of the four Austrian universities that offer business education differ. However, the range of courses offered is essentially the same at all locations.

6 Conclusion

The presentation of teaching content (facts, methods, etc.) enables the acquisition of declarative knowledge, which, however, can only be applied interpretatively and therefore slowly and often incorrectly when solving concrete tasks.

The efficient solution of concrete tasks requires the acquisition of procedural knowledge through repeated processing of similar exercise tasks. Procedural knowledge, however, is adapted to the structure of the exercise tasks and can therefore only be applied to tasks that are analogous to them.

Acquiring the competence to solve all tasks that could be mastered with the taught content from a technical point of view requires the development of cognitive schemas by working on many varying tasks. However, since the teaching time is limited, this can only be done for selected learning content.

For these reasons, when planning lessons, teachers should always consider which learning content cognitive schemas should be developed, for which types of tasks procedural knowledge should be acquired for, and which teaching content declarative knowledge is sufficient to enable further training (Fuhrmann & Fortmüller, 2023).

Teacher education aims at the acquisition of subject matter content knowledge, pedagogical content knowledge and pedagogical-psychological knowledge. When planning teacher training courses, it should also be analysed for which topics declarative knowledge is sufficient, for which tasks procedural knowledge should be acquired, and to what extent the development of cognitive schemas is possible and desirable.

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Bibliographical Notes

Dr **Richard Fortmüller** is an associate professor at the Institute of Business Education at the Vienna University of Economics and Business, Austria. His research interests focus on learning, didactics, transfer of learning, and problem solving.

Vienna University of Economics and Business, Institute of Business Education
Welthandelsplatz 1, 1020 Vienna, Austria
Richard.Fortmueller@wu.ac.at

Adult Education and Lifelong Learning: Strategic Competences and Teacher Professionalisation

PAOLO DI RIENZO & GIOVANNI SERRA*

Abstract

This contribution intends to place the issue of teachers' professionalisation within the framework of the *learning society* paradigm and the *lifelong learning* strategy. In fact, the profound and accelerated transformations that run through society today require each person to acquire and develop, throughout their lives, certain strategic competences that are functional to being a lifelong learner, including the ability of learning to learn. Vocational education and training must also be placed in this perspective, as must the education of the teachers themselves who work in this system. This requires a reorientation of the training curricula towards the development of the reflective capacity, which makes it possible to attribute meaning and value to all of life's experiences. A measure that has proved effective in this regard is the adoption of methods based on the biographical-narrative approach and the experiential approach, which includes the enhancement of reflective workshop and internship experiences.

Keywords: teacher professionalisation, lifelong learning, strategic competences, reflective learning

1 Adult Education and Lifelong Learning

Adult education today occurs in terms of research and educational action, in a phase of change outlining a possible new scientific physiognomy, also in relation to the professions attributable to it.

In this contribution, the intention is to focus on strategies for building an educational system, particularly referring to adult education, based on lifelong learning. This is a field option that does not see lifelong learning (LLL) as an added element, in a linear logic of juxtaposition, but that paves the way for an overall rethinking of the system. It is therefore a complex logic that radically redesigns and redefines reference philosophies and models.

The macro-scenario is defined as the *learning age* or *learning society* (Commission of European Communities, 1995), in which the static and stadial conception of human development shifts towards the concept of transition/change.

* Corresponding author

This scenario may be interpreted according to different visions, but one can perhaps agree on the need to take the perspective of mobilising the development of human learning potential (Alberici, 2008) as a great resource for both individuals and society. It is a development meant as freedom (Sen, 2001), that is, in terms of the expansion of the substantial freedoms enjoyed by human beings, which goes beyond the traditional conceptions of economic development, including those centred on the valorisation of human capital, and places the capacity of people to live lives that they have reason to value and to expand the real choices available to them at the centre of growth strategies.

Along with the concept of lifelong learning, the principle of lifelong education is substantiated in a perspective that shifts the focus from the prevailing institutional dimension of schooling to the individual and his or her training desires/needs. Relevance is given to the human capacity to create and use knowledge effectively, intelligently, creatively, and proactively.

Consequently, the importance of constructing a plurality of learning paths is emphasised as a condition for a broad dissemination of the capacity to learn and to develop reflective thinking. It is therefore a matter of learning that goes beyond its purely functional dimension in the direction of developing resources (knowledge, skills, competences), in order to give meaning to one's own and others' actions and to the context in which one lives.

In this sense, it can be said that the *lifelong* learning paradigm does not end with the indication of a limiting idea or a temporal model of training. Starting from Knowles's (1989) reflection that the purpose of training systems is to help individuals become competent persons by placing the capacity for continuous, self-directed, lifelong learning at the highest level of competence, the *lifelong* learning paradigm entails precise consequences in the field of training theory and strategies (Jarvis, 2004), since it implies, first of all, the adoption of the assumption relative to the need for everyone to possess – i.e., learn and develop – the strategic competences for *lifelong learning*. In today's society, strategic competences to be lifelong *learners* constitute a necessary resource for everyone, a challenge for many adults, and a resource for human development policies and economic-social growth (Alberici et al., 2007).

To place oneself in the field of education means to refer to foundational concepts such as reflexivity, centrality of the subject, attribution of meaning, and the role of socio-cultural contexts (Bruner, 1986). Research methodologies on adults are increasingly converging towards qualitative methods applied to human development in a complex society, on the basis of which the experiential approach (Jarvis, 2004) and the narrative approach (Demetrio, 1996), where biographies constitute resources for development, have taken on significance. Starting from Kolb's theory (1984), learning, understood as a process of change through which to assign meanings to experiences, prefigures a constructive modality with a strong and responsible participation of the subjects, within contexts that are characterised to a great extent by the social nature of the practices implemented.

These models appear interesting and endowed with important formative potential for the adult in training due to their transformative character. And since there is no

learning and therefore no training without a change of self, of the other, and of the context in which one lives, these qualitative practices can constitute valuable personal resources, a tool for the technology of the self, of care, of self-education, but they can also be good tools for professionals in the training sphere, through attention, listening, and the congruent explicit effects on professional practice.

Such approaches arise precisely where there is the most need to consider the subject at the centre of the learning process; at the same time, they can represent, particularly for adults, not only an experience of acquiring new learning strategies but also a form of personal redesigning or the discovery of tacit motivations.

We can therefore speak of a qualitative approach in training, also specifically aimed at the construction of different ways of learning through practices such as reflexivity, narrative capacity, or relatedness; practices that are based on criteria such as organisational autonomy, biographical improvisation, learning interdependence, and creative leadership and that can constitute processes *for* and results *of* the exercise of *lifelong* learning potential.

In short, such an approach moves away from a purely economic-functional logic and is based on a vision of complexity that broadens the horizon in the direction of lifelong education and learning as a resource for human/social growth and as a good in itself, towards developing the learning potential of humankind and building levels of civilisation and democracy that are oriented towards the realisation of inclusive political and cultural forms.

Education thus becomes a permanent process, increasingly involving the same individuals even outside the so-called formal education spaces (Di Rienzo, 2014). In fact, the concept of lifelong learning refers to the possibility of a training/learning process that involves individuals throughout the course of their existence, embracing the various spheres of life, from the professional to the family, from the private to the social sphere.

In this sense, the important political, economic, and social changes linked to the transition to a knowledge-based society call for a radically new approach to education and direct European policies towards the definition and adoption of a comprehensive strategy to ensure full access to the social, economic, and political life of European citizens in the years to come.

The European scenario is increasingly defined by the LLL perspective. The importance that the European Union attaches to lifelong learning as a function of increasing competitiveness and employment prospects is strongly emphasised (Commission of the European Communities, 2000).

Indeed, the new economic and social scenario values all learning in the different forms and spaces where it takes place, hence increasing attention in the world of education and work to non-formal and informal contexts of learning.

2 Strategic Competences

Putting learning and its value to individuals and communities at the centre implies an unprecedented focus on the issue of competences to address the problems of work and development in the 21st century.

There is no doubt that the concept of competence has for a long time assumed a prevalent technical-professional dimension; it then gradually expanded to indicate a procedural dimension of human action, culminating in the definitions of knowledge in action.

This has resulted in a new focus on the processes through which competences are born, produced, and formed. Competences are thus understood, in their proactive meaning, as the set of strategies and the orchestration for the use of cognitive, emotional, relational, social, technical, and professional resources (knowledge, skills, attitudes) necessary for individuals to live, work, and participate in different contexts and in different historical-social and cultural situations.

In fact, competence frees itself from functionalist definitions and preserves its formative and complex characteristics by linking itself to the formation of the mind, to processes of transformation of professions, and to studies on education and learning processes, safeguarding its dynamic and integrated aspect (Schön, 1987).

This position is reflected in the thought of Le Boterf (2000), whose study on competence can be taken as exemplary. While working on competence in the context of professionalism and work, he comes to link it to the complex and holistic dimension of the individual and to their capacity to mobilise resources, bringing into play the plurality of biological, psychological, social, and existential dimensions.

The concept of competence, in this order of ideas, referring to studies that interpret it in its reflexive-generative, procedural, metacognitive, proactive, and strategic valence, questions the meaning that reduces it to a purely technical and functional dimension aimed at the acquisition of specific professional skills.

The macro-scenario of the learning society highlights the strategic dimension of competences oriented towards lifelong learning. If individuals are to be increasingly capable of lifelong learning, it is necessary for them to possess the competences required for this to happen: hence the centrality of the conceptual construct of strategic competence, core competence, for training, work, and more generally for life. This construct thus comes to be reinterpreted in a very different way even with respect to the recent past. In this framework of reasoning, strategic competence is presented on a level that goes beyond the instrumental and functional dimension, because its strategic dimension orients towards the acquisition of procedural dimensions of human action on which all other competences, including the strictly professional ones, can be developed.

3 Soft Competences

The activity of the teacher or trainer requires the mastery of high technical-professional competences. This term refers to all disciplinary knowledge related to the specific field of teaching and all knowledge and skills relating to education and didactics.

However, as with any professional activity, additional competences are increasingly necessary to exercise teaching, enabling the teacher to act in the specific relational contexts in which they exercise their profession and to evolve in order to adapt their actions to changes. These competences are to some extent also essential for exercising the professional-technical competences, also called *hard* competences, although they are of a different nature. For this reason, they are often referred to as *soft skills*.

In this regard, studies are manifold, and definitions are not unambiguous. Reflecting the interest attributed to the topic, numerous frameworks have been produced in recent years and have adopted different names. Among the main ones, the following can be mentioned: life skills, social-emotional or non-cognitive competences, transversal competences, 21st-century competences, competences for 2030. In some cases, these frameworks have been defined with reference to learners. However, in the perspective of lifelong learning, they can be considered applicable to all persons, in every season of life, whatever their social and professional status. The following is a brief presentation of these *soft* competence frameworks.

Life skills (WHO, 1997) are defined as functional competences for adaptive and positive behaviour which enable individuals to deal effectively with the demands and challenges of everyday life. They include personal skills (e. g., self-awareness or emotion management), interpersonal skills (e. g., empathy or the ability to manage interpersonal relationships) and cognitive, metacognitive, and reflective skills (including decision making, critical thinking or problem solving).

Socio-emotional or *non-cognitive competences* (OECD, 2015) refer to three areas: competences related to achieving goals (including perseverance and self-control), competences enabling work with others (e. g., sociability or respect), and competences for managing emotions (self-esteem, optimism, confidence). OECD (2015, p. 35) defines socio-emotional competencies as “individual skills that can be (a) manifested in consistent patterns of thoughts, feelings and behaviour, (b) developed through formal and informal learning experiences, and (c) important determinants of socio-economic outcomes throughout an individual's life”). The positive impact of social-emotional competences in people's lives has been confirmed by a World Bank-funded study (Sánchez Puerta et al., 2016, p. 7), according to which “*noncognitive skills have a strong positive influence on schooling decisions, employment, work experience, occupational choice and wages, while simultaneously minimising risky behaviours*” (p. 7).

UNESCO (2015), in a report on educational policies and practices published by its Asia-Pacific network of educational research institutes, chose to use the term *transversal competences*, in which it included four domains: critical and innovative thinking; inter-personal skills; intra-personal skills; and global citizenship. The last domain, in par-

ticular, covers characteristics such as awareness, tolerance, and respect for diversity, but also the ability to resolve conflicts and respect for the environment.

The *21st-century competences* (Binkley et al., 2012) are the result of research carried out by the University of Melbourne on behalf of three IT industry giants – Cisco, Intel, and Microsoft – with the aim of orienting training systems in the direction of the new demands that the 21st century brings. The framework consists of 10 competences, grouped into four categories, related to the following areas: ways of thinking (cognitive and metacognitive competences), ways of working (social-relational competences), tools for work (digital competences), living in the world (ethical-value competences).

The *competences for 2030* (OECD, 2019) are a more recent contribution of the OECD, aimed at designing a conceptual framework for learning that helps people thrive and help shape the future. The primary objective is to foster in all learners the exercise of *agency* and the ability to navigate in order to realize their potential. Among the conditions considered essential is the development of three “transformative competences” necessary to contribute as protagonists to a changing world: creating new value; taking responsibility; and reconciling conflicts, tensions, and dilemmas.

4 The PSL Key Competence

The European Union has also played a significant role in the reflection on those competences that are transversal to the different disciplinary and operational fields and that are functional to living consciously and responsibly in an increasingly interconnected and constantly changing world.

In 2006, the Parliament and the Council of the European Union approved the Recommendation on Key Competences for Lifelong Learning, competences considered “necessary for personal fulfilment, active citizenship, social cohesion and employability in a knowledge society” (European Council, 2006). The recommendation adopts the expression *key competences*, borrowing it from the results of the DeSeCo (*Definition and Selection of Competencies*) project carried out by the OECD at the turn of the year 2000 (Rychen & Salganik, 2007), according to which key competences are such if they “contribute to highly valuable individual and societal outcomes in terms of ‘fulfilled lives’ across the lifespan and the smooth functioning of society; [...] play a functional role in meeting important and complex demands and challenges in a wide range of contexts; [...] are important for all individuals” (pp. 105–106). The eight key competences defined in 2006 are as follows:

- communication in the mother tongue;
- communication in foreign languages;
- mathematical competence and basic competences in science and technology;
- digital competence;
- learning to learn;
- social and civic competences;

- spirit of initiative and entrepreneurship;
- cultural awareness and expression.

In 2018, in the light of a broad consultation regarding the 2006 recommendation, the EU Council issued a new recommendation, updating the framework of key competences for lifelong learning to “respond to changes in society and the economy” (European Council, 2018). Among the most innovative elements is the definition of a new key competence, called the personal, social, and learning to learn (PSL) competence.

The new competence is defined as the ability to reflect upon oneself, effectively manage time and information, work with others in a constructive way, remain resilient and manage one’s own learning and career. It includes the ability to cope with uncertainty and complexity, learn to learn, support one’s physical and emotional well-being, to maintain physical and mental health, and to be able to lead a health-conscious, future-oriented life, empathize and manage conflict in an inclusive and supportive context (European Council, 2018).

The PSL key competence thus includes metacognitive and socio-emotional components and can be regarded as a strategic competence for self-management, relations with others, and personal development in complex, uncertain, and changing contexts, such as those in which teachers operate.

Three elements underpin this competence (Caena, 2019): self-regulation, empathy, and growth mindset.

The first element refers to the ability to manage oneself in a complex context, to adapt to the context, and to take care of one’s own well-being. Knowing how to recognise and govern one’s emotions, thoughts, and behaviour allows one to adopt flexible strategies, not letting oneself be overwhelmed by changes and accepting them as opportunities.

The second element, empathy, refers to the ability to recognise and tune into the thoughts and emotions of others, being open to understanding points of view other than one’s own. This supports communication and cooperation skills and allows one to calibrate one’s behaviour in contexts characterised by multiple and not always predictable interactions.

Growth mindset, which is intertwined with motivation to act, is fuelled by the drive to fulfil three basic human needs (Ryan & Deci, 2000): the need for autonomy, the need for mastery, and the need for meaningful relationships. It supports a sense of self-efficacy (Bandura, 2008) and provides people with the energy they need to face the challenges of learning and personal development. Growth mindset also fuels critical thinking (metacognitive competence), which is expressed in divergent thinking and creativity, as well as analytical and convergent thinking (Caena, 2019).

5 Competence-Based Training and Biographical Methods

Competences have become, in the current European debate, the key to present and future development policies, and for this reason governments and institutions are investing both in the assessment and validation of non-formal and informal learning and in strategies for the possible development of new competences, as fundamental interventions to address current critical issues and to move towards a future development perspective.

The need to recognise and validate non-formal and informal learning was regarded as an integral part of the 2000 European Lisbon Strategy and strongly reaffirmed with the strategy set out in the Europe 2020 document.

In the national and international debate, there is a growing focus on competences acquired not only in formal channels of education but also in enterprises or in the workplace in general, in voluntary work, or in life experiences (Di Rienzo, 2020). In this sense, it can be argued that the learning and enhancement of competences are central to a *lifelong learning-oriented* education system.

The citizens of the learning society need strong, autonomous, dynamic, and inclusive training systems based on basic research in training and learning in order to cope with the changes ahead. A central element, therefore, that can contribute to the promotion of LLL-oriented programme action lies in the possibility of making these training systems a more active and inclusive set of organisations also through the recognition and certification of the competences possessed by individuals (Council of the European Union, 2012).

In fact, in our societies there is a current loss of human talents that could be available and exploited instead. A policy of broadening access and success does not mean diminishing quality but rather putting in place all possible initiatives to accommodate the extended demand for training and supporting the motivation of a student population that is very diverse in terms of interests, experience, and age. Therefore, it is not only a matter of responding to the uncertain and rapid changes in the labour market for professional development but also of organising an educational offer linked to the personal and cultural growth needs of individuals: it is a matter of developing the perspective according to which adult education represents a benefit and an advantage for individuals and the employed, and societies, understood as a whole, a complex and integrated whole.

Within the outlined perspective, education is looked at as a permanent process in the life of individuals, based on the theoretical-methodological relevance of the category of lifelong learning and aimed at the development and support of competences – strategic competences in particular – as a fundamental resource for individuals.

In the light of the above, education has the task of preparing individuals who are able to construct knowledge from experience and who are therefore enabled to exercise the art of reflection, an art that is to be developed in the context of experiential learning, through the biographical exploration of experience to interpret events.

The shift of the paradigmatic focus of training on the individual as a learning subject and on the formative value of experience has given unprecedented relevance to the tacit dimensions of the curriculum as an organising criterion of training processes or, to use terminology rooted in qualitative research (e.g., life stories on training pathways), to the curriculum emerging in and from the so-called parallel training pathway. The latter is to be understood as a curriculum (training biography) resulting from what (activities, processes, experiences) has not been explicitly planned, realised, and evaluated in formal educational contexts, with non-pre-definable features, unlike experiences directly aimed at learning, which would always be realised through planned and systematic curricula.

Reflecting on experience implies a series of different actions; it means reconstructing the experience analytically, identifying the actions performed in the field, extrapolating the emotions felt, and evaluating the outcomes of the actions performed.

However, in order to achieve the application of reflection onto experience, it is necessary to create real biographical laboratories of reflective thinking, which have the characteristic of “a Socratic think tank, where experience is thought and the thoughts that encode its meaning are thought” (Mortari, 2003, p. 49). Through participation in these workshops, the subjects gain personally in that they become practical researchers, because they learn to critically question their own actions and way of thinking.

The biographical approach draws on the maieutic value of narration, under the guidance of an expert figure such as the educator/trainer, to allow tacit competences to be expressed and verbalised, giving them social recognition and a shared form.

The biographical methodologies used in training make extensive use of narrative. The term *narration* refers to both the product and the production process, i.e., the creation of a life account (oral or written) of a subject. In particular, biographical methodologies have been employed in adult education in order to:

- promote a better knowledge of the elements that characterise adult learning on the part of the adult educator/trainer. This means acquiring knowledge about the structuring (and thus non-modifiable) elements of adult life and the elements that can be reorganised (and are thus modifiable) in order for learning to have an impact on adult education pathways;
- enable adults involved in training to acquire greater self-knowledge, to attribute new meanings to their life experiences, and consequently to become protagonists of their own training process.

In the educational field, biographical material becomes an important database for investigating the context to which the individuals belong and their representations of reality. It is through the reality of the narrating subject, i.e., the subject in training, that the educator/trainer attempts to understand how the subject has constructed them; through what resources, whether accidental or purposely sought; through what social constructions; and pursuing what aims.

Starting from the revisiting of one's own life, the individual is enabled through narration to recognise a temporal circularity between past, present, and future. In other

words, the individual, through reflection on past and present, becomes the actor of their own future life. It is this circularity that leads the person to produce an explanation of their own life, which, through the attribution of meanings to individual events within a continuum constituted by the life course itself, becomes a conscious search for meaning and the start of a relocation of self in the world.

6 Teacher Professionalisation

Central to this theme is the reflective dimension for the development of a complex professionalism such as that of the teacher: a necessary and functional condition for personal and organisational development.

These are professions of a complex nature that are expressed in a plurality of competences and skills, an intertwining of plural competences in which the ability and willingness on the part of the professional to mobilise their resources makes the difference in performance and in the quality of their training action. Starting from this scenario, the ability to discover, attribute, and modify meanings with respect to oneself and to others within defined contexts (Bruner, 1990; Jarvis, 1987) becomes important.

Putting learning and its value for individuals and communities at the centre implies an unprecedented focus on the subject of knowledge and competences in order to overcome the double risk of an economicist and functional bent of inadequate scope for the problems of work and its development in the 21st century.

First of all, it is necessary to recall that the assumption of the logic of competence overturns the traditional perspective of training and work centred on qualification and professional profiles in order to foreground the role of the individual with his knowing how to learn, knowing how to do, knowing how to act, and wanting to act (Le Boterf, 2008); in a word, the individual with their competences and their subjectivity, a concept of competence understood as knowledge in action or even as the ability to mobilise the resources necessary for work and life.

The fundamental competence, it is said, consists in knowing how to learn (Deaking et al., 2014). More specifically, fundamental is the ability to personally construct one's own knowledge. Indeed, knowledge is effective only when it is the result of a personal construction.

The true expert today is not the specialist who only knows how to apply a body of knowledge to solve specific, well-defined problems; it is the one who knows how to interpret situations, deal with situations of uncertainty, transform indeterminate situations into problems to be solved, take different perspectives into account, deal with complexity, and know how to relate to others. This individual must be capable of not only procedural but proactive thinking.

Furthermore, there is the motivational aspect of competence. To face a situation, to decide to take action, to take on the task with responsibility and determination, one must have a solid motivational structure. The more complex and indeterminate the situation, the more one needs to work on motivation. Reflecting on personal reasons,

on the attribution of meaning to what one does, is a way to renew or strengthen professionalism.

It is useful to recall how, despite the numerous contributions available about the professional identity of the teacher/trainer as an expert in adult learning processes, this profession still takes on multiform and often indistinct contours. Despite the increasing number of labels now available, there are not always easily identifiable boundaries to define with certainty the role specifically assumed by the teacher/trainer within their field of activity.

Moreover, the shift of focus from the teaching process to the learning process does not only result in greater attention being paid to the learner during teaching but above all makes it possible to add new parts, new actors, new ways of acting, new and decisive sources of usable resources within the training context (Alberici, 2010; Knowles, 1996). Recognition of the centrality of learning makes it possible to introduce into the training system important parts that were excluded from it and which, instead, are precisely those that, added to the traditional ones, make it possible to cope with crucial demands and challenges.

Therefore, the differentiation of the functions covered within the same professional role, as trainer, teacher, training designer, training manager, educational technologist, tutor, coach, counsellor, etc., calls into question an interpretative hypothesis that sees the professionalism of the teacher/trainer as necessarily multidimensional – a complex professionalism that requires at the same time a targeted, expert operational specialisation, according to the different facilitation methods implemented, in the different phases of the training process, and in the different spheres in which it intervenes.

There is no doubt that the traditional training of teachers and trainers has presented itself as being essentially centred on teaching activities and thus based essentially on what is taught, the contents, be they disciplines, skills, or techniques. If, on the other hand, the focus is shifted, as many trainers have come to experience in their professional life, to the objective of facilitating learning, i. e., on how, in what situations, and with what strategies learning can be promoted, the training of teachers/trainers will be placed in a much more intricate and innovative perspective. By attributing a different and not exclusive relevance to the content/matter to be taught, it will have to focus on the transversal aspects of professional competences, in particular those of a strategic type, on the methods that correspond to the different types of facilitation of learning and also to the specific characteristics of the learning processes on which the teacher/trainer will act, in the awareness that they will always present themselves as a unique process-event both for the adult in training and for the trainer.

Focusing on the function of facilitating learning does not call into question the fact that the professionalism of the teacher/trainer unfolds on several disciplinary and operational sides: from the pedagogical, psychological side to that of personal, social, organisational, economic, and labour market human relations.

From this sphere of reasoning, it therefore follows that the training curriculum is of a continuous type and must maintain a focus on knowledge and competences. This

is also because it is not a curricular proposal that is exhausted in the definition of the characteristics of the professionalism of the teacher/trainer but presents a serious cultural option relative to the need, while starting from the valorisation of training, to guarantee a strong theoretical-scientific framework in the curricula and to maintain a constant balance, in the preparation of expert figures, between theory and educational practice, which is blind if it is exhausted in practicalism.

In the light of these concepts, a curricular model is proposed that gives rise to an integrated curriculum and pivots on reflexive methodologies.

In consideration of the new role definitions assumed by the adult educator following the changes that have taken place in this field of activity, and following the scientific track indicated by theoretical approaches that focus on the value of experience and reflection (Jarvis, 1987; Schon, 1993), the curricular model for the preparation of expert figures in the field of adult education/training will have to be constructed starting from the analysis of the competences concretely possessed and put into practice by those who already work in this field, thus overturning the logic of syllabi and disciplinary content as the backbone of curricula.

The curricular dimensions in their content specification, instead of being defined in an abstract manner with reference to the codified role that the teacher/trainer should assume, must be deduced from actual professional practice and must find a proper balance (in the sense of academic curricular weight) in the definition of the curricular content. And this, as it is evident, comes into direct collision with one of the aspects of university curricular organisation centred on disciplinary logic.

Curricula, therefore, should be based on qualifying educational objectives oriented towards the acquisition of:

- theoretical, epistemological, and methodological knowledge of educational, economic, social, legal, and organisational issues, competing for the identification of the necessary background for a new training culture, a condition for effective training action, in their various dimensions, including that of gender;
- strategic competences in the field of education and training;
- communication and information management skills and tools.

This reflexive perspective of education entails a radical transformation of the curriculum based on disciplinary logic alone, because it requires the adoption and implementation of workshop-type teaching methods and training methods beyond the classroom, such as the reflexive internship.

Didactic workshops as well as practical training/internships constitute opportunities and tools that recover a fundamental principle for the construction of competences, such as that of the active participation of the subject. Moreover, the reflexive valorisation of the apprenticeship and internship relates to the strategic value they hold with respect to the possibility of evaluating and self-assessing know-how and knowing how to act, and to the ability to develop strategic competences crucial for the mobilisation of resources.

This involves the creation of innovative didactic spaces and places, since the possible worlds of people located in a space and time move and take shape in the educational action, which concerns the dimensions linked to experience – also in the dimension of biography and the potential of unlived life – to the attribution of meaning, to cognitive styles, to mental representations, to emotional states, to motivational drive, to communicative dynamics, to practical action; in short, to a systemic condition.

7 Conclusions

Recognising the significance of the concepts of *learning society* and *lifelong learning* implies the need for a profound rethinking of the education system at all levels and of the related curricula. In fact, the intense and accelerated transformation processes that run through today's society require key competences to be acquired from the earliest years and to be developed throughout life. It is necessary to go beyond forms of education centred on the mere transmission of knowledge and to aim at an integral education that favours – along with the acquisition of knowledge and skills – the maturation of fundamental competences for each individual, in a personal, civic, social, and professional perspective. To this end, it is essential to assume a concept of competence that is not reduced to the purely technical and functional dimension aimed at the acquisition of specific professional skills. The objective is rather the development of *core* competences, competences considered strategic because they are necessary for the learning of all the others; competences transversal to the various disciplines and professional fields, which enable individuals to adequately manage them, their relations with others, and their personal development, and among which the ability of learning to learn assumes fundamental importance.

These considerations cannot but have a significant influence also on the construction of training pathways concerning the figures of teachers and trainers. Indeed, it is a question of favouring the training of professionals who place the lifelong learning perspective at the basis of their own learning processes, as well as at the foundation of their activity as educators. The traditional training of teachers/trainers has usually been centred on teaching activities and therefore based essentially on what is taught, the contents, be they disciplines, skills, techniques. The new centrality attributed to the learner requires, on the other hand, teacher/trainers to be stimulated to shift from practices of transmitting knowledge to practices of facilitating learning. This entails an emphasis on the experiential dimension of learning, which pushes the design of training curricula in the direction of reflective training, which can be achieved through an adequate recourse to biographical-narrative methods and activities of reflection on workshop and apprenticeship experiences.

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Paolo Di Rienzo is a full Professor of General and Social Pedagogy at the Department of Education, Roma Tre University. He teaches Adult Education and Lifelong Learning. At the same University, he is Scientific Director of the Laboratory of Qualitative Methodologies in Adult Education and Director of the Level I Master HR SPECIALIST – Professionals for Human Resources. He carries out research activities with national and international publications on topics related to lifelong learning, biographical approach, ecological-systemic epistemology, trainers' education, recognition and certification of competences. He is the rector's delegate for RUIAP (Italian University Network for Lifelong Learning).

University of Roma Tre, Department of Education
Via del Castro Pretorio, 20, 00185, Rome, Italy
paolo.dirienzo@uniroma3.it

Giovanni Serra is a PhD student in Educational Theory and Research at the University of Roma Tre. He conducts research in the field of Adult Education. In particular, he is interested in learning acquired in non-formal and informal contexts by people working in the third sector, voluntary work and civil service, as well as the homeless. For over thirty years, he has been providing training for operators and managers in the non-profit sector, using participatory methods to facilitate learning.

University of Roma Tre, Department of Education
Via del Castro Pretorio, 20, 00185, Rome, Italy
giovanni.serra@uniroma3.it

PART II. Changes and Cooperation at the Project Partner Higher Education Institutions (HEIs) in Ukraine

Institutional Changes and Partnership-Based Governance at Kyiv National Economic University named after Vadym Hetman

SVITLANA TSYMBALIUK*, MARYNA ARTIUSHYNA, OKSANA SARKISOVA, TETIANA SHKODA & LARYSA KORVAT

Abstract

The purpose of this chapter is to describe the experience of implementing the best achievements of European countries to overcome educational problems in the vocational teacher training within the educational programme “Economic and Business Education” [speciality “Vocational Education (Economics)”] at Kyiv National Economic University named after Vadym Hetman, in the process of implementing the Erasmus+ project “New Mechanisms of Partnership-Based Governance and Standardization of Vocational Teacher Education in Ukraine (PAGOSTE)” № 609536-EPP-1-2019-1-DE-EPPKA2-CBHE-SP. The chapter summarizes the main steps to improving the educational program “Economic and Business Education” and the outcome of a survey investigating opinions and attitudes of key actors – students and academic staff – on how to improve the programme. It highlights the Concept for Development of Vocational Teacher Training System Based on Standardization and Partnership, shows the purpose, objectives, principles, and activities of the Advisory Committee as an innovative form of governing body for interaction with stakeholders, and presents the main provisions of the Co-Working Centre, a platform for ensuring high-quality vocational teacher training.

Keywords: vocational teacher, vocational teacher training, Advisory Committee, Co-Working Centre.

1 General Characteristics of Vocational Teacher Training at KNEU

Currently, the problem of vocational teacher education is extremely acute in Ukraine. A modern teacher must be ready not only for the development of professional competencies in students but also for training based on the principles of inclusion, justice, humanism, student-centredness, academic integrity, and partnership.

* Corresponding author

Modern requirements for teacher education and training in Ukraine are defined in the Law of Ukraine “On Education” (Parliament of Ukraine, 2017), the Law of Ukraine “On Higher Education” (Parliament of Ukraine, 2014), the Decree of the President of Ukraine “On the Goals of Sustainable Development of Ukraine for the Period Until 2030” (Parliament of Ukraine, 2019), Decree of the President “On the National Strategy for the Development of Education in Ukraine for the Period Until 2021” (Parliament of Ukraine, 2013), the Concept for the Implementation of State Policy in the Field of Vocational (Vocational and Technical) Education “Modern Vocational (Vocational and Technical) Education” for the Period Until 2027 (Government of Ukraine, 2019), the Concept for Pedagogical Education Development (Ministry of Education and Science of Ukraine, 2018), etc.

The Concept for Pedagogical Education Development states that one of the main problems is the imbalance between the need for highly qualified teachers and the existing pedagogical education, as well as the readiness of teachers to accept and implement educational reforms (Ministry of Education and Science of Ukraine, 2018).

The most significant problems concern vocational teacher education. Most vocational teachers belong to older age groups. In addition, their number is constantly decreasing. The enrolment rates of applicants for speciality 015 “Vocational Education (by specialization)” remain low due to the low motivation of young people to work as teachers. There is also an unwillingness among graduates of pedagogical specialties to work in their specialties.

The state needs to play an important role in creating conditions for improving the education and training of vocational teachers. The government should create conditions for encouraging young people to obtain pedagogical education and training by providing scholarships, grants, and financial support for young teachers.

At the same time, there are some problems associated with the implementation of vocational teacher education programs at higher education institutions. Such programs often have a weak practical orientation, do not take into account the best European practices and labour market requirements, and do not use the potential of the partnership.

The experience of leading European countries is extremely useful in overcoming these shortcomings, the study and implementation of which is an important task in improving vocational training in Ukraine.

An example of improving vocational teacher education through the study and implementation of European experience is the training in the speciality “Vocational Education (Economics)” at Kyiv National Economic University named after Vadym Hetman (hereinafter KNEU).

The training in the speciality “Vocational Education (Economics)” at the first (bachelor’s) level of higher education began in 2015 at KNEU’s Faculty of Personnel Management, Sociology, and Psychology. The Department of Pedagogy and Psychology is responsible for training students in this speciality.

Despite the numerous advantages of training in the speciality “Vocational Education (Economics)” and the importance of vocational teacher education, there is a constant decrease in the number of entrants to this speciality.

From 2016 to 2018, the KNEU team participated in the international Erasmus+ project “Improving teacher education for applied learning in the field of VET (ITE-VET)” № 574124-EPP-1-2016-1-DE-EPPKA2-CBHE-JP (European Commission, 2016). Participation in the project and cooperation with partner universities from EU countries allowed approaches to be adapted to vocational teacher training.

As a means of strengthening the practical orientation of vocational teacher training at KNEU, a new educational programme, “Economic and Business Education,” was introduced in 2018 within the speciality “Vocational Education (Economics).”

The purpose of this program is to form and develop the general and professional competencies in education and economics necessary for the implementation of training activities at educational institutions and centres of educational services and business education, as well as for coaching, the sale of educational services, development of the business education market, and effective management in educational and economic activities. The specifics of the program are as follows:

- binary education and training, provided by a proportional representation of economic and pedagogical disciplines in the program;
- a practical orientation, including training courses, practicums, educational and pedagogical internships;
- graduates of the educational program have the opportunity to pursue a career in the field of educational and economic activity.

During the implementation of the ITE-VET project, changes were made to the curriculum for the vocational teacher training:

- practical training was increased from 12 to 23 ECTS credits;
- nine new training courses aimed at the formation of professional and personal competencies identified by the results of the employers’ survey were developed;
- the number of compulsory and elective psychological and pedagogical disciplines was increased;
- a cross-cutting comprehensive practice program was developed, allowing the implementation of the acquired professional competencies in real economic and educational activities.

In 2019, amendments were made to the educational program “Economic and Business Education” in connection with the introduction of the standard of higher education in the speciality “Vocational Education (by specializations)” for the first (bachelor’s) level of higher education (Ministry of Education and Science of Ukraine, 2019). The competencies and program learning outcomes were revised, and a new form of final assessment – a certification exam – was introduced.

During the implementation of the educational program, partnerships for vocational teacher training were formed with stakeholders:

- organization of practices on the basis of concluded contracts;
- survey of employers to assess the content of the educational program;
- conducting of round tables, training courses, and master classes for teachers of higher, pre-higher vocational, and vocational education institutions.

In the process of interaction with stakeholders, some limitations were identified regarding the lack of interest among employers in cooperating on a regular basis and low awareness of teacher education at universities.

Participation of the KNEU team in the EU Erasmus+ project “New Mechanisms of Partnership-Based Governance and Standardization of Vocational Teacher Education in Ukraine (PAGOSTE)” № 609536-EPP-1-2019-1-DE-EPPKA2-CBHE-SP (European Commission, 2020) and cooperation with partner universities from EU countries have set new tasks for vocational teacher training.

Participation in the project indicated the need to improve vocational teacher training on the basis of standardization and partnership in accordance with the needs of the labour market and in consideration of the best European practices.

The current areas for improving vocational teacher education were identified as follows:

- strengthening vocational guidance among students of secondary schools and vocational education institutions;
- conducting scientific research on professional pedagogy and didactics;
- strengthening cooperation with vocational education institutions, training and scientific and methodological centres of vocational education, etc.

As a result of the cooperation with stakeholders in 2022, changes were made to both the educational program “Economic and Business Education” and the curriculum for vocational teachers.

The new edition of the educational program considered current trends in education. The modern educational process is characterized by complexity, a variety of forms and methods, and the use of innovative educational and information technologies. The Covid-19 pandemic and military actions in the territory of Ukraine in connection with the Russian aggression prompted the use of online and blended learning. In this regard, the updated educational program emphasizes the formation and development of digital competencies necessary for effective teaching in modern conditions.

For effective teaching of economic disciplines, teachers must possess economic knowledge as well as knowledge and skills in didactics of vocational education, methods of vocational training and business training, educational management, economic didactics and psychology, pedagogical communication, etc.

It is important to provide teachers with soft skills that can be successfully adapted to the area of economic activity. Such training has a positive impact on professional growth, develops important competencies, and increases employment opportunities.

Vocational teacher training was strengthened through the introduction of new disciplines:

- “Development of soft skills in training”;
- “Pedagogical communication and intercultural communications in education”;
- “Psychohygiene and safety of professional activity of teachers”;
- “Inclusion in education and gender studies”;
- “Pedagogical ethics and conflictology”.

The catalogue of elective disciplines has been expanded and updated to providing an individual trajectory of vocational teacher training. The following new disciplines are offered to students:

- “Self-organization in training”;
- “Culture of business communication”;
- “Communication and cooperation in training”;
- “Family pedagogy”;
- “Teacher stress management”;
- “Modern online resources for teachers”;
- “Management of professional careers”;
- “Game pedagogy”;
- “Teaching mastership”;
- “Tutoring and mentoring in education”;
- “Innovative practices of evaluating training achievements”.

Adjustments will also be made to the process of teaching and learning: teaching is conducted in the form of lectures, practical and laboratory classes, workshops, and training courses.

2 Analysis of Vocational Teacher Training at KNEU (by the Results of the Survey)

Monitoring and analysis of vocational teacher training at KNEU has been a traditional practice since the launch of such training at the university, as these measures allow timely identification of urgent training tasks and bottlenecks.

The following methods are used as means of studying the quality of vocational teacher training, its compliance with the requirements of the labour market, and student satisfaction: questionnaires, surveys, focused interviews, and foresight sessions.

The following respondents were involved in the study of vocational teacher education systems:

- students of the educational program “Economic and Business Education” in the speciality “Vocational Education (Economics)”;
- academic staff who teach students under the specified program;
- pedagogical staff of other educational institutions who acted as external experts on vocational teacher education.

Students are key actors in the educational process, so their opinions about the educational process are a priority for making decisions on improving the educational programme.

Twenty-nine students participated in the survey, which was conducted at the beginning of the PAGOSTE project (2020).

The analysis of the results allows us to conclude that the most significant factors that influence the choice of the program by students are:

- the prestige of the profession in society (44.8 %);
- the prospect of earning a stable income (31 %);
- interest in the profession (34.5 %);
- employment opportunities and demand in the labour market (31 %);
- the social significance of the profession (27.6 %).

The criteria for selecting a university as a place to obtain a future profession include:

- high reputation and prestige of the institution (62.1 %);
- the opportunity to enter one's desired profession (31 %);
- high quality of education (31 %);
- the level of difficulty of studying at the university (31 %).

The overall satisfaction with university studies is quite high: 24.1 % of the respondents answered that they are completely satisfied, and 62.1 % answered that they are rather satisfied.

The analysis of the results of the assessment of the level of satisfaction with various aspects of education (Table 1) allowed us to identify relevant areas for improving the educational process. They included, in particular, involving experienced practitioners in teaching and providing the necessary information on the educational program in a more accessible form, as well as some wishes regarding the organization of training and teaching methods. It is worth noting that these responses were influenced greatly by quarantine measures and the launch of online training in connection with the Covid-19 pandemic.

Table 1: Results of the assessment of level of student satisfaction with various educational aspects, in percentage of respondents (Source: Tsymbaliuk et al., 2020)

Training aspects	completely satisfied	rather satisfied	rather unsatisfied	completely unsatisfied	difficult to answer
training content	20.7	51.7	17.2	10.3	0
training methods	24.1	34.5	31	6.9	3.4
availability of training materials	31	37.9	13.8	13.8	3.4
list of selective disciplines	17.2	37.9	20.7	13.8	10.3
readiness of teachers to answer questions, support during training	34.5	34.5	20.7	3.4	6.9
practical training	27.6	34.5	20.7	13.8	3.4

(Continuing table 1)

Training aspects	completely satisfied	rather satisfied	rather unsatisfied	completely unsatisfied	difficult to answer
involvement of practitioners in training process	20.7	27.6	27.6	6.9	17.2
availability of necessary information regarding the educational program and training organization	31	20.7	31	10.3	6.9
availability and usability of training facilities and equipment	27.6	27.6	34.5	6.9	3.4
availability and usability of campus, student canteen, sports facilities	37.9	24.1	13.8	13.8	10.3
participation in international projects during training	31	31	20.7	3.4	13.8
organization of student leisure time in extracurricular time	37.9	27.6	10.3	13.8	10.3

The evaluation of certain aspects of the educational process revealed that 68.9% of the respondents believe that the program material is taught in a clear and accessible way and that teachers motivate students to study the material and encourage them; 79.3% of the students highly appreciate the feedback they get from their teachers; 62.1% note that the educational material of different disciplines is well differentiated, indicating that the content of the academic disciplines meets high quality standards, avoids duplication of material, and preserves interdisciplinary links.

Practical training is a mandatory component of the educational program for obtaining a qualification level and is aimed at the acquisition of professional skills and abilities by the student. In order to improve this area of education, we studied the level of student satisfaction with various aspects of the organization of internships (Table 2).

Table 2: Results of the assessment of level of student satisfaction with various aspects of the organization of internships, in percentage of respondents (Source: Tsymbaliuk et al., 2020)

Types of practice/aspects of the organization of practice/internship	completely satisfied	rather satisfied	rather unsatisfied	completely unsatisfied	difficult to answer
<i>Educational internship</i>					
time frame	9.1	36.4	9.1	18.2	27.3
duration	9.1	36.4	18.2	9.1	27.3
content of internship	9.1	36.4	9.1	9.1	36.4
internship bases	0	27.3	9.1	27.3	36.4
advising from a higher education institution	9.1	36.4	18.2	18.2	18.2
advising from a internship base	9.1	45.5	0	18.2	27.3

(Continuing table 2)

Types of practice/aspects of the organization of practice/internship	completely satisfied	rather satisfied	rather unsatisfied	completely unsatisfied	difficult to answer
<i>Internship at a company</i>					
time frame	9.1	27.3	18.2	18.2	27.3
duration	9.1	27.3	18.2	18.2	27.3
content of internship	9.1	27.3	9.1	27.3	27.3
internship bases	18.2	27.3	9.1	18.2	27.3
advising from a higher education institution	18.2	27.3	18.2	9.1	27.3
advising from the internship base	9.1	27.3	9.1	18.2	36.4

The analysis of the results showed that students are more satisfied with the organization of educational internships than with internships at a company. Respondents greatly appreciated the guidance of educational internship from the internship base.

Students rated their own readiness to conduct classes in vocational education institutions as quite high. In particular, 55.1 % chose the answers “very good” and “rather good.” The students also greatly appreciated the experience gained in conducting classes during the educational internship: 21.4 % chose the answer “very good,” and 57.1 % “rather good”; the rest of the respondents found it difficult to decide on the answer.

At the same time, the students noted that they lacked the professional skills (27.3 %) and pedagogical knowledge (22.7 %) to properly conduct classes during the internship. This fact was considered during educational activities to form the necessary competencies.

The study of student awareness of vocational education institutions as potential places of future employment after graduation revealed an insufficient level. Only 17.2 % indicated that they fully possess such information, 37.9 % have limited information, and 44.8 % do not have such information. With regard to sources of information about vocational education institutions, students mentioned official websites of educational institutions (24.1 %), information from teachers or other students (24.1 %), and job fairs (20.7 %).

At the same time, students greatly appreciated the cooperation of the university with vocational education institutions: 75.9 % chose the options “very good” and “rather good.”

Regarding the expediency of involving vocational teachers in practical classes, 41.4 % of respondents consider such cooperation useful, 10.3 % gave a negative answer, and 48.3 % found it difficult to decide.

The study of students’ professional experience and their intentions for future employment revealed the following: among the respondents, 41.4 % combine paid work with study constantly and 37.9 % do so from time to time. Among these students, 3.4 % have a job that fully and 41.4 % that partially corresponds to their speciality/educational program.

In response to the question of whether they want to become vocational teachers, 13.8 % of the students chose “definitely yes” and 17.2 % “rather yes.” Among those who do not intend to work as a teacher in a vocational education institution, 27.6 % intend to engage in entrepreneurial activities in the field of educational services, 17.2 % to work at a postgraduate education institution or adult education centre (training centre, corporate training department, etc.), 10.3 % at a pre-higher vocational education institution, and 6.9 % at a higher education institution; 34.5 % indicated that their workplace will not be related to educational activities.

Thus, the analysis of the survey results allows us to conclude that students are generally satisfied with their studies at the university and with the level of teaching disciplines. Respondents greatly appreciated their experience conducting classes during the internship and the supervision of the internship, which emphasizes the need to strengthen cooperation between higher and vocational education institutions. At the same time, the students had limited awareness of vocational education institutions at which they could be employed after graduation. This primarily indicates low motivation for teaching, which was confirmed by their intentions for future employment.

The results of the survey made it possible to identify areas for improving the training of future vocational teachers by involving practitioners in the educational process, improving teaching methods, and improving the formation of professional skills and pedagogical knowledge by strengthening cooperation with institutions and organizations where students undergo training and internships.

Analysis of the opinions of academic staff working in the program “Economic and Business Education” is an important means of ensuring high-quality training for future vocational teachers.

The study involved academic staff with scientific and pedagogical experience of more than ten years. The respondents included eight associate professors (66.7 %), two senior lecturers (16.7 %), one professor, and one head of department (8.3 % each); 41.7 % teach disciplines of pedagogical training, the same percentage disciplines of special (professional) training, and 16.7 % disciplines of general training.

As one of the directions of the study, the question was raised about the cooperation of the university with its partners, including higher education institutions, vocational and pre-higher vocational education institutions, enterprises and private entrepreneurs, scientific institutions, educational and methodological centres of vocational education, and postgraduate pedagogical education institutions.

A significant minority of respondents (41.7 %) confirmed their participation in events held at vocational education institutions. The majority of respondents (91.6 %) positively assessed the cooperation of the university with vocational education institutions.

Academic staff also greatly appreciated the expediency of developing cooperation between the university and vocational education institutions in all areas, including the following in particular:

- discussing the content of the educational programme and the programmes of courses of study;
- organizing and conducting the pedagogical internship for students;

- jointly implementing educational (training) projects;
- holding joint events and career guidance work.

The cooperation activities in which respondents participated included the following: conferences (80 %), round tables (60 %), master classes and methodological seminars (40 %), and training courses (20 %). At the same time, teachers noted that they were satisfied with the results of participation in such events.

The results of the evaluation of different areas of cooperation revealed that the most problematic area is the employment of future teachers.

Regarding the expediency of involving vocational teachers in conducting classes, the answers were ambiguous: 41.7 % of respondents gave a positive answer, 33.3 % a negative one, and the remainder found it difficult to decide on the answer. At the same time, the respondents unanimously supported the idea of involving teachers of higher education institutions in conducting classes at vocational education institutions.

Academic staff also unanimously noted that they feel the need for continuous professional development. The majority of respondents (75 %) consider it expedient to participate in activities held at vocational education institutions to develop their professional competencies, and 66.7 % indicated that they have the opportunity to constantly communicate on professional issues with colleagues (managers, teachers) from vocational education institutions (within joint conferences, job fairs, etc.). Teachers positively evaluated the idea of creating a specialized online platform for professional communication.

Thus, the results of our survey of academic staff involved in vocational teacher training confirmed the need to develop cooperation between the university and vocational education institutions. The study allowed us to identify bottlenecks in cooperation with partners, the main one being the employment of graduates. A promising area of cooperation is the organization of joint events with vocational education institutions: conferences, round tables, master classes, methodological seminars, etc.

To obtain information about effective mechanisms for governance of the vocational teacher training at KNEU, the gaps, and the areas of improvement, the Department of Pedagogy and Psychology conducted a *focused group interview with the academic staff of the educational program “Economic and Business Education”*. The interview covered three blocks of questions:

- (1) main tasks of vocational teacher training at KNEU;
- (2) components of governance of vocational teacher training: objective, motivational, organizational, control, evaluation, and content;
- (3) mechanisms of partnership-based governance of vocational teacher training at KNEU.

The results of the discussion showed that the lack of state-funded study places is the bottleneck that affects the motivation of applicants to enrol in the speciality “Vocational Education (Economics)”, despite the attractiveness of the programme “Economic and Business Education” and the prestige of the business trainer professional activities. In-

sufficient state support for vocational teacher education significantly reduces the motivation to enter this field.

The focus group participants identified the importance of its humanistic principles and partnerships between teachers and students as the first main task of vocational teacher training. Particular emphasis was placed on the tutoring approach to teaching.

The second task is the practical component and close connection with businesses.

The third task is to ensure the dual, binary nature of education and training, where the main emphasis is on economic, psychological, and pedagogical education of aspiring undergraduate students in vocational education in the field of economics.

The fourth task is to provide opportunities for graduates to work both at educational institutions and at training centres of organizations, as well as at businesses.

Answering the second block of questions, the focus group participants noted that the target component of vocational teacher training should include the development of social competencies (soft skills), the need to shape professional culture, and professional identity.

The motivational component should include the formation of career and social motives in students. The role of tutors in the first year of study is important, as is the familiarization of students with successful teaching experiences during their various types of practice.

The content component, according to the focus group participants, should provide for the analysis and comparison of programs of study to clarify the content and the formation of significant general and special competencies, thus strengthening the practical orientation of training. At the same time, it is necessary to consider the needs and interests of students when developing a catalogue of elective courses.

The organizational component of training requires the use of innovative modern training technologies and the introduction of a blended learning model during the period of quarantine restrictions and martial law in Ukraine.

The control and evaluation component should include the introduction of a certification exam under the requirements of the educational standard for the speciality "Vocational Education (by specialization)", conducted with the involvement of potential employers and with attention to the peculiarities of monitoring learning outcomes in the context of the introduction of a blended learning model.

Thus, the results of the focus group interviews made it possible to identify the main directions for improving vocational teacher training: the development of practice-oriented learning, social and digital competencies, the creation of a professional culture and professional identity of students, and the introduction of innovative modern teaching technologies. As for the main directions of partnership development in teacher training, the most promising is the establishment of cooperation with businesses, familiarization of students with successful teaching experiences during practices, involvement of potential employers in the certification exam, and participation of students in training and career guidance activities.

3 Concept for Development of Vocational Teacher Training System Based on Standardization and Partnership

Our analysis of vocational teacher training at KNEU revealed the following gaps:

- insufficient motivation of applicants and students for teaching activities;
- limited involvement of practitioners in teaching;
- insufficient use of modern teaching methods by academic staff;
- poor awareness among students about vocational education institutions where they can be employed after graduation;
- a limited number of joint scientific and practical activities with vocational education institutions.

To eliminate the gaps identified during the analysis and create conditions for improving the quality of vocational teacher training through the development of partnerships with stakeholders, KNEU worked out and adopted the Concept for Development of Vocational Teacher Training System Based on Standardization and Partnership (hereinafter Concept) (KNEU, 2021a).

The implementation of the Concept is aimed at accomplishing the following tasks:

- establishing effective mechanisms of partnership with stakeholders;
- improving the quality of vocational teacher training through compliance with educational standards and involvement of stakeholders in determining the content and organization of training;
- increasing students' motivation for teaching and training activities through the formation of their professional identity;
- developing students' professional and personal competencies, including digital ones;
- shaping the professional culture and ethics of future teachers and business trainers.

The mechanism of governance of vocational teacher training based on partnership and standardization includes the following components:

1. legal and regulatory – ensuring the development and implementation of laws, orders, standards, regulations, provisions, guidelines, etc., concluding cooperation agreements for regulation, and providing vocational teacher education based on partnership and standardization;
2. objective – realizing modern purposes and tasks of vocational teacher education, developing requirements for graduates according to educational and professional standards on a competence basis;
3. content-related – developing modern educational content (curricula, programmes, educational and methodological support), implementing a practice-oriented approach;

4. motivational – strengthening the motivation of stakeholders to cooperate to ensure the quality of vocational teacher training;
5. organizational – using modern forms, methods, and tools for organising effective interaction with stakeholders at different levels of educational activities, forming a creative educational environment;
6. controlling – conducting cross-cutting monitoring of the implementation of governance goals and objectives, involving stakeholders in monitoring the quality of the education and training and attestation of students.

The tasks of implementing the mechanism of vocational teacher training governance based on partnership and standardisation are presented in Table 3.

Table 3: The tasks of implementing the mechanism of vocational teacher education governance based on partnership and standardisation (Source: KNEU, 2021a)

Component	Tasks
Legal and regulatory	<ul style="list-style-type: none"> • developing and approving normative documents; • concluding agreements on cooperation with stakeholders on vocational teacher training
Objective	<ul style="list-style-type: none"> • ensuring the binarity and practical orientation of vocational teacher training; • monitoring employers' requests for graduates' competencies; • developing social competencies; • shaping the professional culture and professional identity of future vocational teachers
Content-related	<ul style="list-style-type: none"> • analysing and improving the educational programme to implement the competency approach, strengthening the practical orientation of training, taking into account the requests of stakeholders; • organizing educational and teaching internships, in particular with the use of information technologies; ensuring the cross-cutting nature of the internship
Motivational	<ul style="list-style-type: none"> • improving career guidance work; • introducing students to the successful experience of teaching activity during practices; • involving vocational teachers and business trainers in conducting classes; • involving students in professional guidance events, master classes, and training courses
Organizational	<ul style="list-style-type: none"> • establishing the Advisory Committee of the educational programme "Economic and Business Education" of the speciality "Vocational Education (Economics)"; • creating the Co-Working Centre for Economic and Business Education
Controlling	<ul style="list-style-type: none"> • involving stakeholders in monitoring the quality of the training; • involving potential employers to work in the examination commission for the final certification of students

The mechanism for governance of vocational teacher training is based on effective interaction with external and internal stakeholders (Table 4).

Table 4: Internal and external stakeholders of the vocational teacher training (Source: KNEU, 2021a)

Internal stakeholders	External stakeholders
<ul style="list-style-type: none"> • students; • bodies of student self-governance; • head (guarantor) and members of the project group of the educational program “Economic and Business Education” of the speciality “Vocational Education (Economics)”; • academic staff, who provide teaching activities at the educational program “Economic and Business Education”; • heads and administration of KNEU: the Faculty of Personnel Management, Sociology, and Psychology, and the Department of Pedagogy and Psychology; • Erasmus+ PAGOSTE project team 	<ul style="list-style-type: none"> • institutions of pre-higher vocational education and vocational education; • labour market representatives (government agencies, business organizations); • training centres, corporate universities, personnel development departments of government agencies and business organizations; • professional public associations in the field of vocational education and training; • institutions of postgraduate pedagogical education; • scientific institutions and educational and methodological centres of vocational education

The planned activities for implementing the Concept include:

- establishing the Advisory Committee of the educational program “Economic and Business Education” of the speciality “Vocational Education (Economics)”;
- establishing the Co-Working Centre for Economic and Business Education;
- concluding the cooperation agreements with stakeholders;
- involving stakeholders in monitoring the quality of the training, including them in the examination commission for the final certification, and conducting a survey to assess the quality of the vocational teacher training;
- holding student days, competitions in pedagogy, and student scientific and practical conferences on vocational education with the involvement of stakeholders;
- involving students in conducting forums, open days, training work, career guidance activities, master classes, and scientific and practical seminars.

The main risks associated with the implementation of the Concept include a further decrease in the motivation of applicants to enrol in the educational program “Economic and Business Education” of the speciality “Vocational Education (Economics)” and, as a result, a reduction in the enrolment of applicants for higher education under this programme and its closure. The risks also include military actions and the deterioration of the epidemiological situation caused by Covid-19.

The implementation of the Concept should ensure the establishment of effective cooperation with stakeholders in vocational teacher training, improve the quality of vocational teacher training, strengthen the motivation of students for vocational training, increase the satisfaction of students and academic staff with the educational process, update educational programs and fill them with professional context, introduce modern educational technologies, and increase the number of employed graduates in the speciality.

4 Establishment and Operation of the Professional Advisory Committee

One effective form of cooperation and partnership between higher education institutions and external stakeholders is the establishment and operation of professional advisory bodies. The establishment of such bodies is provided for in Article 38 of the Law of Ukraine “On Higher Education”, according to which the head of the higher education institution has the right to establish voluntary advisory (advisory and consultative) bodies to develop a strategy and directions for educational and/or scientific activities of higher education institutions, including an employers’ council, an investors’ council, a business council, a student council, a scientific council, etc. (Parliament of Ukraine, 2014).

Professional advisory bodies can be established at the level of higher education institutions, individual structural units (faculties, institutes, departments), or educational programs.

In their activities, professional advisory bodies should be guided by the Constitution of Ukraine (Parliament of Ukraine, 1996), the Law of Ukraine “On Education” (Parliament of Ukraine, 2017), the Law of Ukraine “On Higher Education” (Parliament of Ukraine, 2014), other normative legal acts of Ukraine, and charters and internal local documents of higher education institutions.

To ensure high-quality vocational teacher training based on effective cooperation and partnerships with stakeholders at KNEU, the Professional Advisory Committee of the educational program “Economic and Business Education” of the speciality “Vocational Education (Economics)” (hereinafter Committee) was established. This Committee is the sub-committee of the Professional Advisory Committee of Kyiv National Economic University named after Vadym Hetman (KNEU, 2020).

The activities of the Committee are regulated by the Regulations on the Professional Advisory Committee of speciality “Vocational Education (Economics)” (KNEU, 2021b).

The Committee includes representatives from:

- Directorate of Vocational Education of the Ministry of Education and Science of Ukraine;
- Institute of Vocational Education of NAES;
- Institute of Professional Qualifications;
- institutions of vocational and pre-higher vocational education;
- academic and administrative staff of KNEU and the University of Education Management.

The Committee is an advisory and consultative body. The Committee’s activities are carried out voluntarily, transparently informing all interested parties.

The purpose of the Committee is to ensure the high quality of the training of students of the educational program “Economic and Business Education” [speciality “Vocational Education (Economics)”] through partnerships with interested business en-

tities, state and executive authorities, local governments, and experts in vocational education.

The main tasks of the Committee are as follows:

- forecasting the needs of the labour market for vocational teachers;
- developing proposals for improving professional requirements for future vocational teachers;
- formulating recommendations on the competencies that graduates should possess;
- jointly developing and examining educational programs, making proposals for content, teaching forms, and methods;
- developing recommendations for the improvement of curricula and programs of courses of study;
- jointly organizing educational and pedagogical internships;
- involving students in the business, teaching, and research activities of Committee members;
- developing partnership infrastructure, creating joint laboratories, centres, etc.;
- participating in the educational process (conducting classes, preparing practical assignments, research projects, supervising practices, and bachelor's and master's theses, providing assistance in organizing internships, participating in expert commissions for the defence of bachelor's and master's theses, professional mentoring, etc.);
- participating in examination commissions for attestation of students and in quality assessment (examination) of graduates;
- ensuring the employment of graduates (preliminary assignment of future graduates to the first job);
- monitoring the quality of the vocational teacher training;
- establishing cooperation with business entities, professional associations, public authorities, and local self-government bodies;
- holding joint events, exchanging information and professional experience;
- implementing joint projects aimed at improving the quality of vocational teacher training;
- organizing conferences, scientific seminars, and round tables.

The chairperson of the Committee, the deputy chairperson, and the secretary of the Committee were elected at the first meeting of the Committee (15 June 2022).

Meetings of the Committee shall be held at least once per academic year. Decisions of the Committee shall be made by a simple majority of votes of the members present at the meeting. In case of a tie vote, the vote of the Committee chairperson shall be decisive.

The Committee meeting is based on these principles:

- partnership;
- trust and openness to cooperation;
- honesty (provision of reliable information);

- transparency;
- legality;
- equality and impartiality;
- compliance with the order and regulations and ethical rules;
- mutual respect and responsibility;
- coordination of the interests of all stakeholders.

The decisions, proposals, and conclusions of the Committee are of a recommendatory and advisory nature and are provided to the Academic Council of the Faculty and project groups of educational programs.

The Committee has the right to delegate its representatives to the Academic Council of the faculty, the Professional Advisory Committee of Kyiv National Economic University named after Vadym Hetman, and other working and advisory bodies.

5 Establishment and Operation of the Co-Working Centre for Economic and Business Education

The establishment of effective cooperation and development of partnerships between higher education institutions and internal and external stakeholders requires the creation of an appropriate infrastructure: co-working, training centres, centres for innovative development, research laboratories, studios, video conferencing, educational hubs, etc.

The Co-Working Centre for Economic and Business Education (hereinafter Centre) was established at KNEU as a means of ensuring the high quality of vocational teacher training based on the development of students' professional and personal competencies, including digital ones, with the involvement of stakeholders. The Centre also serves as a platform for cooperation and active interaction with stakeholders. The Centre is a structural unit of the Faculty of Personnel Management, Sociology, and Psychology of KNEU. The Centre cooperates with the Professional Advisory Committee of the educational programs "Economic and Business Education" of the speciality "Vocational Education (Economics)", the Department of Employer Relations and Student Employment Promotion "Perspective," the Department of International Academic Mobility, other structural units of KNEU, student self-government bodies, and stakeholders.

The main goal of the Centre is to create a scientific and educational space to ensure high-quality training of students in the educational programme "Economic and Business Education" of the speciality "Vocational Education (Economics)" through the development of professional and personal competencies, including digital ones, with the involvement of stakeholders.

The functions of the Centre are shown in Figure 1.

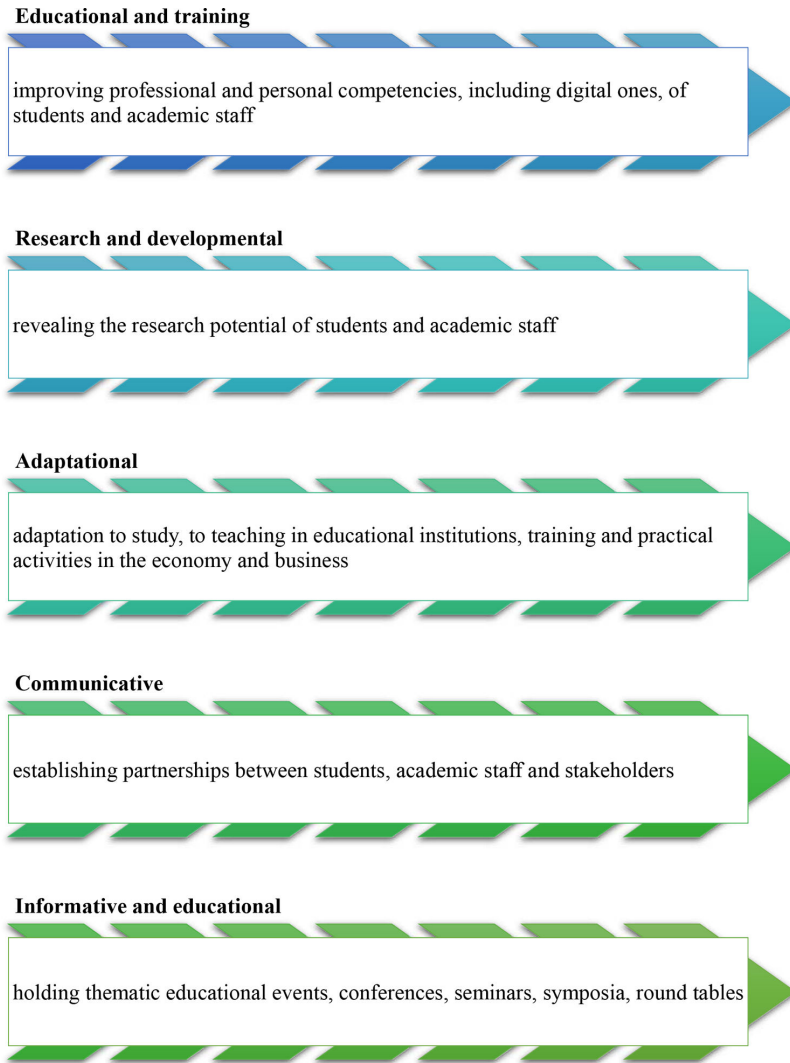


Figure 1: Functions of the Co-Working Centre for Economic and Business Education (Source: KNEU, 2021b)

The main tasks of the Centre are the following:

- creating conditions for students to acquire practical skills through involvement in solving practical problems of education and business, in particular with the participation of stakeholders, increasing digital competencies;
- promoting the introduction of innovative educational and digital technologies, techniques, and teaching methods to the educational process;
- organizing educational and pedagogical internships for students;

- organising and holding meetings of the Professional Advisory Committee of the educational program “Economic and Business Education” of the speciality “Vocational Education (Economics)”;
- organizing and holding training courses, seminars, workshops, webinars, round tables, conferences, symposia, thematic educational events, forums, and summer schools for students, academic staff, and stakeholders;
- organizing and conducting adaptation training courses for first-year students of bachelor’s and master’s programs;
- providing employees of pre-higher vocational and vocational education institutions and other educational institutions with methodological, advisory, and informational assistance on the introduction of innovative educational and digital technologies, teaching methods, and techniques to the educational process;
- encouraging academic staff to implement research work on scientific projects, programs, plans, and economic contracts;
- preparing students for research work and for writing their bachelor’s and master’s theses, promoting student research work, developing research competencies;
- organizing and holding meetings, negotiations, and other events with representatives of educational institutions, businesses, public authorities, foreign partners, and other stakeholders.

The Centre is located at and operates on the material and technical basis of KNEU. The Centre’s activities are funded out of a special fund at KNEU, including funding received from legal entities and individuals for the provision of services; sponsorship from organizations, enterprises, citizens, and grant programmes; and other sources not prohibited by law.

The Centre is headed by the director. The director carries out general management of works, events, and projects. He/she is responsible for the organization and activities of the Centre, determines the methodological, material, technical, and personnel support of the Centre, and exercises control over the organization and provision of services. The staff of the university is involved in the activities of the Centre.

6 Conclusions

Today in Ukraine there is an urgent need to ensure the quality of vocational teacher education. At the same time, there are some problems associated with the implementation of vocational teacher training programs at higher education institutions. An example of improving vocational teacher training through the study and introduction of European experience is the training in the educational programme “Economic and Business Education” of the speciality “Vocational Education (Economics)” at Kyiv National Economic University named after Vadym Hetman. The characteristic features of

training in this program are its binary and practical orientation, as well as the establishment of partnerships with stakeholders.

Monitoring and analysis of vocational teacher training at KNEU revealed some problems, in particular insufficient motivation of applicants and students to become teachers, limited involvement of practitioners in the studying process, insufficient use of modern teaching methods by academic staff, poor awareness among students about vocational education institutions where they can be employed after graduation, and a limited number of joint scientific and practical activities with vocational education institutions.

To improve the quality of training, KNEU has worked out and adopted the Concept for Development of Vocational Teacher Training System Based on Standardization and Partnership. The Concept contains a justification of the mechanism for governance of vocational teacher training based on partnership and standardization, principles of interaction with stakeholders, and a description of the action plan for cooperation with stakeholders.

Establishing effective cooperation and developing partnerships between higher education institutions and internal and external stakeholders requires the creation of appropriate infrastructure. To ensure the high quality of vocational teacher training through effective cooperation and partnership with stakeholders, KNEU has launched the Professional Advisory Committee of the educational program “Economic and Business Education” of the speciality “Vocational Education (Economics)”, as well as the Co-Working Centre of Economic and Business Education.

The implemented activities aimed at establishing effective cooperation with stakeholders in vocational teacher training, improving its quality, increasing the motivation of students to become teachers, improving the satisfaction of students and academic staff with the educational process, updating educational programs, introducing modern educational technologies, and increasing the number of employed graduates in the speciality.

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Bibliographical Notes

Dr **Svitlana Tsymbaliuk** is a professor at the Department of Socioeconomics and Personnel Management, Dean of the Faculty of Personnel Management, Sociology and Psychology at Kyiv National Economics University named after Vadym Hetman, Ukraine. Her research interests focus on human resources management, employee relations, vocational teacher education.

Kyiv National Economic University named after Vadym Hetman
Faculty of Personnel Management, Sociology and Psychology
54/1 Beresteysky Prospect 03057 Kyiv Ukraine
tsymbaliuk.svitlana@kneu.edu.ua

Dr **Maryna Artiushyna** is a professor, Head of the Department of Pedagogy and Psychology at Kyiv National Economics University named after Vadym Hetman, Ukraine. Her research interests focus on educational management, pedagogy, vocational education.

Kyiv National Economic University named after Vadym Hetman
Faculty of Personnel Management, Sociology and Psychology
Department of Pedagogy and Psychology
54/1 Beresteysky Prospec 03057 Kyiv Ukraine
artushina@kneu.edu.ua

Dr **Larysa Korvat** is an associate professor at the Department of Pedagogy and Psychology at Kyiv National Economics University named after Vadym Hetman, Ukraine. Her research interests focus on psychology of management, psychological motivation of future teachers, vocational education.

Kyiv National Economic University named after Vadym Hetman
Faculty of Personnel Management, Sociology and Psychology
Department of Pedagogy and Psychology
54/1 Beresteysky Prospect 03057 Kyiv Ukraine l_korvat@ukr.net

Dr **Oksana Sarkisova** is an associate professor at the Department of Pedagogy and Psychology at Kyiv National Economics University named after Vadym Hetman, Ukraine. Her research interests focus on educational management, pedagogy, vocational education.

Kyiv National Economic University named after Vadym Hetman
Faculty of Personnel Management, Sociology and Psychology
Department of Pedagogy and Psychology
54/1 Beresteysky Prospect 03057 Kyiv Ukraine
sarkisova0@ukr.net

Dr **Tetiana Shkoda** is a professor of the Department of Business Economics and Entrepreneurship at Kyiv National Economics University named after Vadym Hetman, Ukraine. Her research interests focus on human capital management, entrepreneurship, vocational education.

Kyiv National Economic University named after Vadym Hetman
Economics and Management Faculty
Department of Business Economics and Entrepreneurship
54/1 Beresteysky Prospect 03057 Kyiv Ukraine
tnshkoda@ukr.net

Implementation of Cooperation and Partnership in the Training of Teachers of Vocational and Technical Education at South Ukrainian National Pedagogical University named after K. D. Ushynsky

VALENTIN USOV, TETIANA PETUKHOVA, VOLODYMYR CHERNYKH* & VIKTORIIA KOZAK

Abstract

In this chapter, the authors describe the examination results of the appraised quality of the training aimed at potential higher education applicants within the realm of speciality 015 “Vocational Education (Design)”. The authors propose some ways to improve training methodologies based on partnership between educational establishments, various stakeholders, and partnership governance of vocational education teachers through the Erasmus+ project PAGOSTE.

The proposal entails using the Resource Centre of Vocational Education as an educational and production platform within the study programme “Vocational Education (Design)”. This platform is targeted to implement management mechanisms which could enable the modernization of vocational and technical education teacher training. This shall encompass the use of specialized equipment and the refinement of educational and vocational programme content, alongside the establishment of an all-encompassing framework for educational and methodological support.

The presented framework for vocational teacher training functions as a model for interaction with stakeholders and comprises both educational and professional components manifested through contemporary profession-oriented disciplines, work-placed practice within production environments, and subsequent postgraduate education through advanced training initiatives (internships). Such a comprehensive approach substantially contributes to the improvement of the quality of vocational teacher training, to increased attractiveness of the industrial sphere, and, in the long run, to reinforcement of competitiveness within the labour market.

Keyword: partnership, cooperation, stakeholders, vocational teacher training, work-placed practice.

* Corresponding author

1 Improving the System of Teacher Training in Vocational Education: Challenges and Strategies

Under modern conditions, the existing system of teacher training and retraining within vocational education has certain shortcomings: imperfect social partnership, insufficient educational component in the training of vocational masters, and a lack of mechanisms for conducting work-placed (technological and project-technological) practice at employers' enterprises. The Strategy for the Development of Vocational and Technical Education for the period until 2023, which was adopted at the meeting of the Ministry of Education and Science (MES) of Ukraine on 21 December 2020 (Strategy, 2020), states that the renewal of the vocational and technical education system over the next three years will take place under four key conditions: building an effective management system, strengthening cooperation between educational institutions and business, and improving as well as popularizing the content and quality of vocational education. The implementation of the outlined problems is possible through the improvement of social partnership and the modernization of the model of training future specialists in vocational education and retraining teachers of vocational and technical education so that their level of professional training meets the modern requirements of the labour market. In this context, the practical component of professional training requires the use of modern equipment and technologies in the process of forming the professional competencies of future specialists.

Vocational education should have certain features that distinguish it from secondary education. First, students of vocational education in the process of learning must master various technical and technological skills in addition to mastering theoretical knowledge. Practical (applied) activity should become the main method of learning that students encounter in vocational education. Through the application of a reasoned algorithm that enables practical activities to be combined with theoretical erudition, theoretical concepts can facilitate technological comprehension, while empirical application serves to authenticate the instantiation of the aforementioned technology. This synthesis augments students' technical mastery and establishes a robust basis for their forthcoming integration into society. The ascendancy of applied activities as the primary pedagogical approach encountered within vocational education is essential to this academic framework. The instructional objectives of vocational education, encompassing both curriculum mandates and the adept handling of a specialized apparatus and its administration, are inherently intertwined with the ongoing reinforcement of practical application and the harmonization of theoretical and empirical facets (Lin Deng, 2021).

Technological advances related to computer knowledge, skills, and abilities are essential for the today's society. Computer technologies are becoming an important and effective tool in the transmission of information. These advanced technologies also play an important role in helping teachers convey their explanations to students. Many changes have occurred in this area, and these changes are particularly important for

vocational education in supporting the development of occupational specialties (Buntat, 2010).

The previous experience of training students in speciality 015 “Vocational Education (Design)” at the first (bachelor’s) level showed certain shortcomings in the training system. When students were trained in speciality 015 “Vocational Education (Design)”, cooperation was carried out mainly with the state educational institution “Odesa Vocational Lyceum of the Service Sphere of the State Institution “South Ukrainian National Pedagogical University named after K. D. Ushynsky””, the state institution “Odesa Centre of Vocational and Technical Education of the State Employment Service”, the limited liability company “Industrial clothing design”, the publishing house “Astroprint”, the state vocational and technical educational institution “Odesa Professional Lyceum of Technologies and Design”, and the private enterprise “Odesa Private Computer College”.

The governance system is practised as follows: The Ministry of Education and Science of Ukraine develops standards, while the working group of the university forms educational and professional programmes and develops curricula of disciplines for speciality 015 “Vocational Education (Design)”. Then accreditation of educational programmes takes place based on the results. The students of Ushynsky University carry out interaction with the above-mentioned institutions through work-placed internships. This direction of cooperation is not sufficient to train a teacher to work at a vocational education institution, considering the fact that the training of such teachers in Ukraine is based on a single phase. After studying at a university and obtaining a bachelor’s degree in speciality 015 “Vocational Education (Design)”, a young specialist must possess the necessary level of theoretical knowledge and practical skills in the speciality and have the necessary level of pedagogical skills to work as a teacher at a vocational education institution and to teach vocational education and training (VET) students the relevant profession.

The lack of training and professional self-identification as a teacher of a vocational and technical education institution is manifested in the survey of third- and fourth-year higher school students majoring in speciality 015 “Vocational Education (Design)” at Ushynsky University (Usov, 2020): Most significantly, the students lacked professional (47 %) and pedagogical (20 %) knowledge and skills for classes.

The level of preparedness for classes at vocational institutions was assessed as “very good” by 5 %, as “good” by 45 %, and as insufficient by 30 % of the students, while 20 % found it difficult to answer. Such indicators should be taken into account during the training of students (future vocational teachers for the formation of the necessary competencies). It turned out that students have a quite limited awareness of vocational and technical education institutions where they can be employed after graduation: Only 13 % of the surveyed students said that they were fully informed, 40 % had limited information, and 47 % were not informed. After graduation, 53 % of the respondents answered that their work would not be related to teaching, 17 % expressed a desire to provide educational services on a commercial basis, 9 % planned to work at Higher Education Institutions (HEI), and 21 % had not yet decided (Usov, 2020).

It is also worth paying attention to the results of the national survey conducted in 2020 by the Institute of Vocational Education (Erasmus+ project PAGOSTE, 2020) regarding cooperation between various stakeholders, which revealed that young teachers lack the practical pedagogical skills to work at vocational institutions. According to the results of the survey, most teachers at higher education institutions and pedagogical workers at vocational and technical education institutions have experience in cooperation and exchange, but it is often limited to the organization of work-placed (pedagogical) practices and internships. The factors that hinder such cooperation between VET schools HEIs and stakeholders are as follows:

- lack of opportunity to directly participate in the production process at a factory, taking into account distance learning;
- inconsistency of the training level of VET students with the modern requirements of employers;
- the need to implement various types of specialized practices, for example, design, construction, etc.) (Henseruk, 2022; Pasichnyk, 2021).

In order to improve the current situation with the quality of vocational teacher training and its compliance with the needs of vocational education institutions and the labour market within the framework of the ERASMUS+ project PAGOSTE, Ushynsky University developed the Concept of Partnership Governance of Vocational Teacher Training (hereinafter the “Concept”) (The Concept of Partnership Governance of Vocational Teacher Training at the State Institution “Southern Ukrainian National University named after K. D. Ushynsky”, 2021). The main features of the Concept are:

- facilitating the propagation of favourable outcomes arising from the application of partnership-driven mechanisms and standardization practices at Ushynsky University to other HEIs engaged in vocational teacher training;
- forging proficient collaborative ties involving Ushynsky University, vocational education institutions (vocational schools, colleges, centres, etc.), and additional stakeholders to engender productive engagement;
- providing the widespread dispersion of favourable consequences arising from the assimilation of collaborative partnership mechanisms and uniform methodologies within Ushynsky University, thereby extending their influence to encompass a diverse spectrum of higher education institutions specializing in vocational teacher training and devoted to the education of proficient experts within the realm of vocational education. On the one hand, establishing cooperation on the organizational level of vocational teacher training, for example through partnership agreements with vocational and technical education institutions for their involvement in the educational process, will increase the level of the pedagogical component of specialist training. In particular, this includes teaching practical disciplines in pedagogy, teaching methods, working as part of an attestation commission, helping to conduct work-placed (pedagogical) practices, conducting research within the scope of qualification (coursework) projects at a professional education institution, participating in the development of educational and train-

ing programmes regarding the definition of the scope and content of practice and the ratio of professional and pedagogical disciplines, and conducting joint research projects and joint career guidance work.

On the other hand, the conclusion of partnership agreements with employers in the field of design will contribute to the improvement of the professional qualification of the scientific and pedagogical staff of Ushynsky University, as well as the professional component of the training of students, by involving artists and masters representing the field of design in the educational process. This includes teaching practical (applied) disciplines (master classes, workshops, presentations), participating in various stages of production (pedagogical, design, technological) practice and evaluation, conducting research within the framework of qualification (coursework) projects with partners, etc. (Morze et al., 2019).

The organization of work at the educational and institutional levels was envisaged as a means of more effectively ensuring the expected results of cooperation with employers and stakeholders. The educational level provides for the necessary conditions:

- inclusion of educators from vocational and technical education institutions in instruction for the psychological-pedagogical curriculum segment, entailing the design of a syllabus wherein a reduced array of subjects is delivered by active practitioners; this restructuring aims to enhance the calibre of hands-on pedagogical competencies and the depth of professional-pedagogical affinity;
- an increase in the number of practice blocks due to the implementation of various types of specialized practices, which involves the conclusion of contracts on practising within the framework of partnership relations;
- involvement in the development of educational and professional programmes and internship training programmes, development of reporting documentation on internships, drawing up of internship schedules;
- creation of an attestation commission consisting of representatives of vocational and technical education institutions, employers, and HEI teachers in order to determine the criteria and indicators for assessing the quality of knowledge and skills of higher school students, which will ensure a more objective assessment.

At the institutional level, the organization of the cooperation process is provided under these conditions:

- creation of the "Resource Centre for Professional Education in Design Technologies" for the implementation of an educational and production-oriented platform of partnership interaction;
- search for partners, development and conclusion of partnership agreements to increase practice places for students, recruiting of personnel for teaching certain practical disciplines;
- cooperation with vocational and technical education institutions that have supervisory boards and can propose the participation of Ushynsky University teachers

in such boards in order to better understand the needs of vocational and technical education institutions.

Thus, the training of vocational education teachers will be covered at all levels and supported by both the educational system and the formed practical (production-oriented) environment with social feedback.

2 Enhancing Pedagogical Approaches in Vocational Education

The study programme in speciality 015 “Vocational Education (Design)” consists of an educational component and a professional component and is based on the educational programme alongside the developed educational and methodological complex. The educational component includes professional training according to the educational and professional programme in the format of theoretical and subject-centred training (lectures, practical classes, seminars, etc.) The professional component involves practical (production-oriented) training according to practice programmes in the form of project-technological activities, including master classes and workshops.

The educational programme “015 Vocational Education (Design)” provides training for future teachers of vocational education in computer (graphic) design and clothing design. Students determine the direction of training by means of elective disciplines (The Cabinet of Ministers of Ukraine, 2021).

Future teachers of vocational and technical education should master appropriate software for designing clothes (Buntat, 2020). The most effective form of mastering applied skills with the application of theoretical knowledge is project activity, which has several stages. The preparatory stage involves the study and accumulation of information related to the topic of the project. Furthermore, the information is processed and analysed and sorted into several groups if necessary. This stage plays a key role in the initial stage of the project, because it is the careful processing and analysis of the received information that determines successful and high-quality work. At this stage, students use the theoretical knowledge and practical skills they have acquired in educational (familiarization) practice and work with information sources. At the next stage, students should be engaged in designing, constructing, modelling, preparing the necessary templates or layouts for, and developing a design object. The design stage also includes the creation of sketches and a digital model of the product. The nature and general concept of the work depends on the author’s goal. Recently, computer technologies have significantly influenced the design process. It is at this stage that students use the acquired practical skills in workshops and master classes and during production-oriented (technological) practice.

For fruitful work in design construction, future teachers of vocational and technical education should master the appropriate computer software in addition to the necessary equipment available at the centre. Mastering the skills of working with such

support takes place in the process of cooperation with employers in accordance with the specifics of project activity tasks. In particular, the automatic design system (CAD) and the junior software product are mastered by students on the basis of the limited liability company “Industrial Clothing Design” during production-oriented (project-technological) practice. The result – the finished product—depends on how accurately and correctly the technological process is organized. Quality is determined by the technical component, namely the presence of a good basis: modern printers, scanning machines, and additional equipment. The design development of a modern product requires significant capabilities in computer technologies, and mastering them can be ensured through partner cooperation with the manufacturer; in particular, students master the skills of working with powerful 3D object modelling equipment at the publishing house “Astroprint” and the state institution “Odesa Centre of Vocational and Technical Education State Employment Service”. The project is finalized at the final stage, in which computer technologies play a special role. For example, a studio shooting of a finished collection or individual sewing products is carried out. Students study software packages of graphics editors such as Photoshop, Corel Draw, InDesign, and Illustrator at the computer laboratory of the private enterprise “Odesa Corporate Computer College”. Subsequently, they study fashion photograph composition, encompassing the use of computerized image manipulation techniques. The aspiring fashion design educators use graphic software to complete creative and design-oriented tasks. A command of web design affords the potential to ensure superior consumer attributes and aesthetic merits in the design outcomes of crafting and conceiving elements within the online information milieu.

For example, first-year students majoring in speciality 015 “Vocational Education (Design)” attended the guest lecture “On the Peculiarities of Textile Materials in the Design of Soft Toys” by the leading teacher-technologist Viktoriia Sokolova, who presented the specifics of selecting and the technology of using textile materials in designing soft toys, as well as some marketing features (Briukhanova, 2021).

The leading designer and owner of the studio “Orlova Agency”, Maria Orlova, held a presentation on packaging design and planning technology and a master class on the features of material use, the design of packaging for children’s toys, and the organization of an advertising company.

The main task of improving the quality of vocational teacher training at the state institution “South Ukrainian National University named after K. D. Ushynsky” is carried out by the “Resource Centre for Vocational Education in Design Technologies” (hereinafter “the Centre”) (Figure 1). Its defined tasks are the following:

- to train students for employment at the stage of education through the development of professional and general professional competencies;
- to ensure effective interaction and coordination between the Centre, faculty, and departments in determining ways of transforming and elaborating all types of activities aimed at developing competencies in the profession;

- to implement the requirements of the state education standards, educational and professional programmes, and curricula for the training of specialists in the field of competency development and employment;
- to ensure interaction with employers on the basis of the principles of partnership in matters concerning students undergoing work-placed practice; to implement a qualitative approach to the organization of the process of vocational training targeted at future specialists, establishing the ways to ensure the competitiveness of future specialists; to assess the quality of vocational training of future specialists and their employment;
- to create an electronic basis for professional development of teachers of vocational and technical education institutions (Polozhennia, 2021).

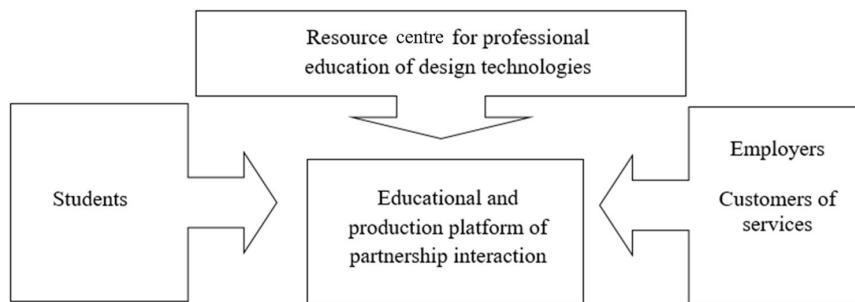


Figure 1: Structure of the Centre (Source: Polozhennia, 2021)

Improvements in the quality of vocational (work-placed) and pedagogical training of future vocational teachers are carried out via joint career guidance both at the institution and on online platforms while students are completing work-placed practice (Kiiashchenko, 2022).

During production-oriented (technological) practice, students have the opportunity to familiarize themselves with the properties of materials, their structural functions, processing technologies, and the use of equipment at various stages of product manufacturing. In qualification (course) projects for professional and practical training, students use the material received creatively to solve tasks involving real projects from manufacturers.

After learning about the features of certain technologies and material processing, students receive a general task of creating a product and prepare their own design proposals for the development of creation elements and production calculations. Students also present implementation calculations and marketing proposals. This approach to fostering collaboration is significant in that it facilitates the acquisition of the vocational (production-oriented) dimension within the context of production-oriented (design-technological) practice, as part of the training mode for prospective vocational education instructors. This is realized through the execution of collaborative creative ventures involving students and the manufacturing sector, notably exemplified by the

limited liability company “Industrial Clothing Design” and its production of fashion collections.

This type of cooperation is recommended for situations in which different groups or entities work together. Specifically, it involves collaboration between the groups to create designs for bow clothing, which includes details like prints and accessories. Each separate group is responsible for developing various aspects of the clothing, such as the patterns, designs, and additional decorative elements. This type of cooperation involves a division of labour in which each group contributes to the overall creation of bow clothing by focusing on specific components and details. Each group consists of two to three students, a university teacher, and a production master. The “applicability” of certain solutions is agreed upon, the level of mastery of acquired knowledge and skills in practice is revealed, and compositional elements and minor details are adjusted at each stage of production.

The joint project between students and the publishing house “Astroprint” on the implementation of project tasks related to the development of the design of printed products and the corporate style of the thematic publication contributes to the formation of professional competencies and the training of specialists in a real-time mode. Students gain experience in solving not only purely design tasks of projects but also tasks of a logistical and ergonomic nature in the organization of the technological process and entrepreneurship as a whole. The stakeholders proposed introducing the basics of entrepreneurship in the field of design and determined relevant competencies to be developed in the educational and professional programme.

It should be emphasized that from among a series of similar projects, the one that will achieve the greatest success, particularly from the viewpoint of the manufacturer or company, is that which is carried out in partnership with a student. This collaboration involves a specific project period during which the student is employed by the manufacturer. The positive results obtained from these aligned projects highlight that the manufacturer finds the student-involved project to be the most successful and effective. Such cooperation is “mutually profitable”: Students learn practical work skills under production conditions, and the manufacturer receives creative ideas, an interesting vision of performing tasks, and even non-standard approaches in the combination or use of materials, as well as a potential future employee. This is especially evident at the stage of marketing research and in the development of advertising proposals for both product presentation and methods of distributing advertising information.

During production-oriented (pedagogical) practice, students gain experience in the peculiarities of the educational process of teaching profession-oriented disciplines (Butilina, 2022; Methodical recommendations, 2020). Thus, during such practice on the platform of the state educational institution “Odesa Vocational Lyceum of the Service Sphere of Ushynsky University”, students master the pedagogical technologies of organizing the educational process of a mixed format (Law of Ukraine, 2022). The educational platform presents classwork covering theoretical material and technological cards and processes under the guidance of the teacher in an online format. The students apply methods for creating pedagogical conditions during practical work in work-

shops in interaction with the master of work-placed training. The topic of the classes is approved, but the students can choose the product, materials, and method of production at the lessons, depending on the goals and the structure developed for the class. Credit classes are evaluated by a commission including a teacher of the VET institution, a master of work-placed training, and a teacher of Ushynsky University.

The process of assessing the pedagogical practice of the Ushynsky University students, which takes place at the Odesa Professional Lyceum of Technology and Design, includes several key stages that contribute to a balanced and comprehensive analysis. At the first stage, teachers from both Ushynsky University and the partner educational institution evaluate the interns. This provides an analysis of the quality of the internship by experts who have a deep understanding of educational standards and requirements. The second stage is the evaluation by fellow students, the so-called "peer-to-peer assessment". This form of assessment allows students to review the practice of colleagues from the same level and understand what aspects were successful for their peers. This approach to practicum assessment helps to establish an objective assessment and provides a wider range of means to test students' competencies. This way of assessment helps to improve the quality of education of future teachers and introduce advanced pedagogical approaches. A methodologist manages the intern's planning of their work from the educational institution, and a senior master of work-placed training carries out the practical (production-oriented) component. Assessment of credit classes is carried out by a commission including a director, a methodologist, a master of work-placed training, and a teacher of Ushynsky University.

Students use pre-developed material when performing qualification (coursework) on theory and teaching methods. During the research, students then substantiate the expediency of using theoretical material (didactic principles, methods, pedagogical technologies, etc.) in the practical application for conducting classes on the demonstration of knowledge and the development of practical skills. Also they need to identify the shortcomings and advantages of modern learning and production technologies in accordance with the available equipment.

During production-oriented (pedagogical, technological design-technological) internships at the state institution "Odesa Centre of Vocational and Technical Education of the State Employment Service", students master the skills of working under conditions of vocational training. The students determine the structure and content of the classes, taking into account most of the practical part and the real needs of the students. The content of the material and the algorithm for mastering certain skills in computer technologies or clothing modelling of each group will differ depending on the readiness of the students. At this institution, students conduct research on the labour market and the competitiveness of professions and demands.

This method is the most effective means of supporting the partnership between an educational institution and production representatives for the training of specialists who possess knowledge of the latest technologies and equipment, which is essential for making adjustments both to the content of the vocational (production-oriented) component and to the definition of new approaches and methods of teaching (educational

component). Implementation of this cooperation method already takes place at the stage of development of educational-professional programmes within the framework of partnership support and public discussions and meetings with representatives of educational institutions and production platforms of practices as potential employers for considering the programme content and clarifying professional competencies. This organization of cooperation and partnership has a more effective influence on the definition of the content, terms, and volume of practices, because the peculiarities of teaching profession-oriented disciplines are agreed upon in the discussions and the need to include elective disciplines in the vocation list in various directions is considered in accordance with modern achievements in the field of design. As a result of the discussions, the stakeholders made the following proposals within the period from 2020 to 2023:

- the ability to organize the design-projecting process in accordance with modern technical and technological requirements was added to professional competencies;
- the number of tutorial hours for the practical study of modern software in the speciality was increased;
- computer technology courses in design, project management in education, and entrepreneurship in the field of design were introduced as mandatory components;
- the content of practical tasks aimed at developing autonomous decision-making competencies in defining a design-project object was adjusted (Ivashov, 2021).

For example, one of the creative tasks of the qualification (course) project for students was to choose at their own discretion a certain enterprise or institution, to conclude a cooperation agreement with them (or to conclude a cooperation agreement with the existing collaborators), and to independently determine the design of the project implementation algorithm. Also, production-oriented (project-technological) practice was introduced in 2020 at the suggestion of the stakeholders. This strengthened the professional component of students' professional competence in the organization and management of education/production projects.

The involvement of employers in the certification of graduates contributed to a more appropriate development and adjustment of the quality assessment of the vocational students' proficiency levels.

The presented structure of vocational education teacher training serves as a model for cooperation with stakeholders and helps to improve the quality of training for future vocational education teachers in the field of practical (work-placed) training under production-oriented conditions. This is evidenced by the results of repeated surveys of graduates regarding the assessment of their proficiency level for teaching at vocational and technical education institutions: 15 % of the students rated their level as "very good", 63 % as "good", 14 % as insufficient due to difficult online teaching/learning conditions, and 8 % found the question difficult to answer. At the same time, the students' awareness of institutions of vocational and technical education at which they can

get a job after graduation increased to 34%, while 21% of the respondents indicated that their professional activity would be related to teaching activities at educational institutions and 13% stated that they planned to provide educational services on a commercial basis and become specialists in the design industry. Simultaneously, there was an increase in the number of entrants to speciality 015 "Vocational Education (Design)" at Ushynsky University from educational institutions where students underwent work-placed practice and from those where career guidance work included master classes conducted under the guidance of teachers and/or work-placed training masters.

Equally important in improving the quality of vocational teacher training is the holding of round tables to discuss the need for qualified teachers of vocational education institutions. The necessary condition for ensuring the required professional level of the educational component of masters is advanced training in a binary format in the form of conducting classes in professional and practical training, master classes (Concept, 2021).

The further training of vocational teachers takes place according to the training programme in the form of teaching theoretical material through presentations, conducting practical classes, seminars, master classes, and workshops with the involvement of industry specialists, and participating in the certification of higher school students (Osadcha, 2021). The training of scientific and pedagogical workers takes place according to the training programme in the form of teaching, conducting research, and discussing the results (seminars, training courses, workshops). The advanced training of other HEI staff (from other HEIs) takes place according to the programme, and the training (internship) is performed on the platform of the Centre of Ushynsky University to improve vocational training according to the branch component. The materials and the training structure of vocational teachers alongside their professional development are developed in cooperation with vocational education institutions.

The training of various categories of trainees and students, in particular that of industry specialists, is provided on the basis of specially developed programmes. These programmes are educational and methodological complexes of professional development designed to help students obtain a sufficient proficiency level on the platform of the Centre. The training of industry specialists takes place according to a curriculum containing a pedagogical component in the form of teaching and conducting practical classes.

Educational programmes have different components for different categories of students. In addition to the Ushynsky University teachers, staff from other HEIs and industry representatives are involved in the teaching process at advanced training courses based on cooperation agreements. For example, the South Ukrainian Centre for the Professional Development of Managers and Socioeconomic Specialists and the Department of Technological and Professional Education of Ushynsky University held an online seminar in cooperation with the Kremenets Regional Humanitarian and Pedagogical Academy named after Taras Shevchenko and Kryvyi Rih State Pedagogical University on the problems of STEM education as part of the training courses for pedagogical staff of educational institutions.

All advanced training programmes have a developed educational and methodological complex according to the category of trainees, taking into account the proposals of representatives of educational and production institutions. Thus, the training of teachers of vocational (and technical) education takes place in compliance with educational and vocational programmes at the bachelor's level and through internships (for upgrading qualifications) of teachers and masters of work-placed (production-oriented) training, which significantly increases the quality of vocational education in general.

3 Achievements and Impacts

The activities of the Resource Centre for Vocational and Technical Education in Design Technologies, created on the basis of the Department of Technological and Vocational Education of Ushynsky University, are implemented through the educational and production-oriented platform of partnership of HEI students, employers, and/or customers of services and teachers/masters of work-placed (production-oriented) training of vocational (and technical) education, with Ushynsky University acting as the coordinator.

An exchange of experiences between various stakeholders was held in accordance with the final agreements on cooperation and agreements on the practice of HEI students. It involved discussion of the state of training future vocational teachers, as well as the necessity to update the content of the educational process to bring it in line with the existing educational and vocational programmes. It led to the development of new educational programmes of vocational education as well as the updating of programmes of educational disciplines and work-placed (production-oriented) practices in accordance with the requirements for the training of vocational education specialists, taking into account the recommendations and proposals of stakeholders and representatives of the employment sector. This increased the quality of cooperation based on partnership through more meaningful theoretical training and the implementation of educational tasks during practical classes, which motivated students to strive to process the acquired knowledge in the conditions of industrial practice and master professional skills and professional knowledge.

The organization of master classes, workshops, guest lectures, and other events by stakeholders contributed to greater student activity in performing creative projects and mastering professional skills in their speciality (Analytical Note, 2014). In addition, joint projects and research under production-oriented conditions contributed to the dissemination of the results in social networks and on the students' own pages, which increased awareness of the speciality and the level of potential future students' interest in the speciality. Thus, compared to admission in 2020, the number of enrolments to full-time education in 2021 increased to ten people, and in 2022 to 15 people.

The organization of training courses for improving the qualifications (internships) of teachers and masters of work-placed (production-oriented) training in a binary format and the invitation of representatives of specialized areas (for example, on

issues of STEM education in professional education in the field of design) contributed to the recommendations for the admission of VET students of those educational institutions to Ushynsky University for speciality 015 “Vocational Education (Design)”.

It should be noted that increasing the attractiveness of graduates in the labour market is facilitated by involvement of stakeholders. Their role lies in participation in: the development of educational programmes regarding the definition of competencies required by modern specialists; content of academic disciplines; introduction at the level of mandatory components of training courses for the study of entrepreneurship in the field of project management in education; organization of production (design and technological) practice indicating the relevant competencies; participation in the work of certification commissions.

In addition, the cooperation between the Ushynsky University and vocational education institutions resulted in a detailed definition of the content of curricula. This provided valuable practical knowledge on the organization of production activities and the identification of key conditions for more in-depth training of vocational teachers. The knowledge gained formed the basis for creating new and updating existing teaching and learning resources. As a result, such updates have contributed to improving the effectiveness and quality of education of students at vocational education and training institutions.

4 Evaluation and Findings

During the period of implementation of the tasks in accordance with the purpose of the Concept, some measures were carried out with the intention of increasing the basis of work-placed (production-oriented) practices through the conclusion of cooperation agreements and agreements on obtaining practice places for students, thus improving the quality of the future vocational teacher training through the modernization of educational programmes and the attractiveness of the work speciality with subsequent employment through cooperation with production (industry) specialists.

As of today, the number of practice places has tripled. The direction of the production of practice places is different, which expands the opportunities for students to master various modern techniques and technologies. This, in turn, has increased the level of motivation for mastering professional knowledge and skills and the desire for employment in a speciality.

Thus, in comparison with the monitoring carried out at the beginning in the form of a student survey, the current indicators have changed as described below.

- Initially, the survey revealed that students primarily identified a lack of professional skills (47%) and pedagogical abilities (20%) for teaching. However, at present, students express contentment with the extent of educational materials but offer suggestions for integrating contemporary methods, technologies, and processes to enhance their professional expertise. In addition, they outline the challenges that complicate the learning process. These challenges include limita-

tions of online learning in the context of acquiring practical skills, difficulties in establishing effective communication during teaching practice, and disruptions caused by air raid situations that lead to the reduction or termination of classes.

- The next stage of the survey assessed the level of readiness for classes at vocational and technical education institutions. It showed that 15 % consider their level “very good” (10 % higher), 63 % “good” (an 18 % improvement), and only 14 % insufficient (due to the above-mentioned circumstances), while 8 % of the students found it difficult to answer because their theoretical knowledge had a higher index than their practical skills due to their living abroad or in a territory where the situation with production is tense or absent.
- The indicator of awareness of vocational and technical education institutions at which students can be employed after graduation increased by 51 % and reached 64 %. In addition, 33 % of the students indicated that their professional activity would be related to teaching activities in educational institutions, 31 % are considering providing educational services on a commercial basis, and the other 36 % seek to become specialists in the design industry (Usov, 2020).

From the obtained data, it is possible to determine that there is, on the one hand, a positive indicator of professional certainty and a desire to work in a speciality. On the other hand, the attractiveness of the professional component has increased the likelihood that graduates will prefer to work in industry rather than in the field of education. This indicator is also influenced by the fact that the employers give high marks to students for completing technological or project activities during production-oriented (technological, project-technological) internships, thus contributing to the students’ desire to continue their work in the production environment.

In addition, we would like to note that the admission rate for 2021 and 2022 increased by 50 % and 75 %, respectively. Among the reasons students named for enrolling in speciality 015 “Vocational Education (Design)” were “to become a fashion designer”, “to obtain a professional level of a designer”, and “to learn graphic design”, which indicates insufficient awareness of the essence of vocational education as a pedagogical field.

Hence, the enhancement of the educational framework for vocational teacher training needs ongoing improvement through collaborative engagement with vocational schools, colleges, centres, etc. This pertains not only to the overarching pedagogical aspect but also encompasses the production-oriented and pedagogical facets of the curriculum.

5 Partnership and Collaborative Endeavours

The results obtained indicate that cooperation between educational institutions and production partners is an important factor in the organization of the educational process for students. Partner programmes and projects allow students to gain deeper

knowledge about the specifics of their future profession, to acquaint themselves with real situations in production conditions that they will encounter in their future careers, and to get the opportunity to conduct research in a business environment and implement projects.

Our research has confirmed that partnerships between HEIs/VEIs and enterprises provide an opportunity for students to gain practical experience in a real industrial environment, which is important for improving their qualifications and readiness for work under modern conditions (Analytical Note, 2014). However, for cooperation and partnership to be successful, it is necessary to take into account several factors, such as mutual trust, understanding and respect between partners, openness to new ideas and initiatives, and effective coordination between the parties. Therefore, it can be concluded that the development of partnership and cooperation between an educational institution and enterprises is an important element in vocational teacher training based on an educational and production-oriented platform that regulates and adjusts the content and mechanisms of partnership and cooperation. This has a potential long-term perspective in conducting further joint scientific projects, research, and visits, which will help to strengthen the cooperation and development of teacher education at the university and beyond.

In addition, our experience shows that partnership between different educational institutions can play an important role in improving the quality of the education system itself and approaches to its modernization. Collaboration between different institutions can enable the sharing of best practices, resources, and knowledge. Furthermore, students gain more opportunities to gain new experience and knowledge.

Although we have made some progress in developing partnerships, there are still many challenges and tasks to be solved. For example, it is necessary to increase the level of trust between HEIs and VET schools to improve liaisons between them. In addition, a sustainable partnership requires mutual benefits for all stakeholders. That is why it is important to design conditions for cooperation based on partnership that satisfy all participants in terms of both their resource potential and their preparedness to provide economic support. This underscores the necessity for legislative provisions to establish a framework of legal and regulatory assurance concerning a dual form of education.

In general, we are sure that the development of partnership and cooperation between educational institutions and industry is an important means of improving the quality of education alongside the training of highly qualified specialists. Our experience in partnership development proves that such cooperation provides great potential to improve the quality of vocational education and to ensure the success of students' professional activities.

6 Conclusions and Suggestions for Further Research

This chapter presented the results of the implementation of the Partnership Governance of Vocational Teacher Training Concept. The proposed model of vocational teacher training is based on cooperation and partnership with stakeholders and has positive outcomes in quantitative and qualitative indicators. This indicates that the model can be scaled at the national level. The model contains educational and professional components that determine the level of complex professional student training due to the implementation of production-oriented and pedagogical conditions at all the levels of the training: organizational, educational, and institutional.

The organization of the modern teaching/learning process of vocational education using information and communication technologies, software, scientific and methodological achievements, educational technologies, and production technologies takes place on the educational and production-oriented platforms, which were created at the Resource Centre of Vocational and Technical Education in Design Technologies.

It should be noted that there is a need for further work on the definition of methods and mechanisms for vocational (specialist) and practical (work-placed production-oriented) training through the creation of a comprehensive range of educational programmes aimed at developing relevant competencies and educational content, taking into consideration the requirements for specialists put forward by stakeholders.

In the future, we are confident that the implementation of the Concept of Partnership Governance of Vocational Teacher Training will make it possible to conduct research on clarifying the dynamics of interaction between all participants in the process of training teachers of vocational schools, as well as research in the field of legislative aspects of regulating challenges related to dual education.

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Bibliographical Notes

Dr **Valentin Usov** is a doctor of physical and mathematical sciences and a professor at the Department of Technological and Vocational Education at the state institution "South Ukrainian National Pedagogical University named after K. D. Ushynsky" (Ush-

ynsky University), Odesa, Ukraine. His research interests focus on materials science and materials technology and information technology in education and science.

The state institution “South Ukrainian National Pedagogical University named after K. D. Ushynsky”

26 Staroportofrankivska St., 65020, Odesa, Ukraine

usov.vv@pdu.edu.ua

Dr **Tatiana Petukhova** is an associated professor at the Department of Technological and Vocational Education at the state institution “South Ukrainian National Pedagogical University named after K. D. Ushynsky” (Ushynsky University), Odesa, Ukraine. Her research interests focus on vocational knowledge, prior knowledge assessment, and curriculum development in technology and vocational education.

The state institution “South Ukrainian National Pedagogical University named after K. D. Ushynsky”

26 Staroportofrankivska St., 65020, Odesa, Ukraine

petukhova.ta@pdu.edu.ua

Volodymyr Chernykh, PhD, is a senior lecturer at the Department of Applied Mathematics and Informatics at the state institution “South Ukrainian National Pedagogical University named after K. D. Ushynsky”, Odesa, Ukraine. His scientific interests are focused on the profession-oriented training of teachers in computer technologies, software, the formation of a digital environment, and information technologies in education and science.

The state institution “South Ukrainian National Pedagogical University named after K. D. Ushynsky”

26 Staroportofrankivska St., 65020, Odesa, Ukraine

garafmalen@gmail.com

Viktoriia Kozak is a lecturer at the Department of Technological and Vocational Education at the state institution “South Ukrainian National Pedagogical University named after K. D. Ushynsky”, Odesa, Ukraine. Her research interests are focused on professional knowledge, practical (work-placed, production-oriented) training, organization, and project management in technology and vocational education.

The state institution “South Ukrainian National Pedagogical University named after K. D. Ushynsky”

26 Staroportofrankivska St., 65020, Odesa, Ukraine

kozak.vi@pdu.edu.ua

Using New Approaches Based on Partnership in Training Vocational Teachers of Transport at National Transport University

MYKOLA DMYTRYCHENKO, NATALIYA BONDAR*, OLEKSANDR HRYSHCHUK,
KHALIDAKHON BAKHTIYAROVA & LESIA SHEVCHUK

Abstract

The chapter presents the experience of using new partnership-based approaches in the training of VET teachers in the field of transport at NTU. It provides a comparative analysis of the practice of training vocational teachers before and during the period of the university's participation in the project, taking into account the general situation in the national vocational education, the university's work under the restrictions caused by the Covid-19 pandemic, and Russia's military aggression against Ukraine. The following results are presented and analysed: (1) the concept of developing the training system of vocational education and teacher training at NTU was developed and implemented on a partnership basis; (2) a mechanism was created for the development of the VET teacher training system in the NTU on a partnership basis; (3) qualitative changes were made in the educational process of VET teacher training.

Keywords: vocational education, partnership, stakeholder, management, training

1 Introduction

The purpose of this chapter is to explore the changes that have taken place at National Transport University (NTU) since the start of the Erasmus+ project "New Mechanisms of Partnership-Based Governance and Standardization of Vocational Teaching Education in Ukraine (PAGOSTE)" No. 609536-EPP-1-2019-1-DE-EPPKA2-CBHE-SP. This project is funded with the support of the European Commission. Partners from the European Union are the University of Konstanz, Germany; Vienna University of Economics and Business, Austria; and Roma Tre University, Italy. The partners from Ukraine are the Ministry of Education and Science of Ukraine, Kyiv; Kyiv National Economic University, Kyiv; Institute of Vocational Education and Training at the National Academy of Pedagogical Sciences, Kyiv; Ukrainian Engineering Pedagogics Academy, Kharkiv; National Transport University, Kyiv; South Ukrainian National Pedagogical University, Odesa.

* Corresponding author

The chapter provides a comparative analysis of the practice of training vocational teachers at NTU before and during the period of the university's participation in the project, taking into account the general situation in national vocational education.

In recent years, Ukraine has seen negative trends in vocational education. In order to overcome them and form a competitive vocational education system that meets the needs of the labour market and the individual in professional fulfilment, the Cabinet of Ministers of Ukraine approved the Concept for the Implementation of the State Policy in the Field of Vocational Education and Training “Modern Vocational Education and Training” for the period up to 2027 (Concept for the Implementation of the State Policy in the Field of Vocational Education and Training “Modern Vocational Education and Training” for the period up to 2027, 2019). This concept envisages reforms in the following areas: decentralizing management and funding; improving the quality of vocational education; and strengthening links with the labour market.

The successful implementation of such reform areas as “improving the quality of vocational education” and “strengthening the link with the labour market” requires cooperation between higher education institutions that train vocational teachers and stakeholders.

Therefore, NTU’s participation in the Erasmus+ project “New Mechanisms of Partnership-Based Governance and Standardization of Vocational Teacher Education in Ukraine (PAGOSTE)” No. 609536-EPP-1-2019-1-DE-EPPKA2-CBHE-SP is in line with the directions of the national reform in the field of vocational education.

During the project, NTU faculty and administration learned about the experience of foreign partner universities that already have a developed practice of cooperation with stakeholders. In addition, together with Ukrainian partner universities, NTU has developed its own approaches to such cooperation, which are acceptable to it in view of the requirements of the current national legislation in the field of education.

NTU has been training specialists in the Vocational Education (Transport) programme of the speciality Vocational Education (Transport) for many years. The special feature of this programme is promoting excellent professional competences development in dual education, including a teacher of vocational education in the field of transport (tutor) and a mechanical engineer (*The international project PAGOSTE [NTU]*). The educational programme considers four aspects of new approaches in the training of vocational education teachers based on partnerships at NTU (Figure 1).

1. Environment for shaping stakeholder interests (internal, external);
2. Training of vocational education teachers;
3. Areas of cooperation with stakeholders;
4. Level of cooperation with stakeholders (institutional, local/regional, sectoral, national [international]).

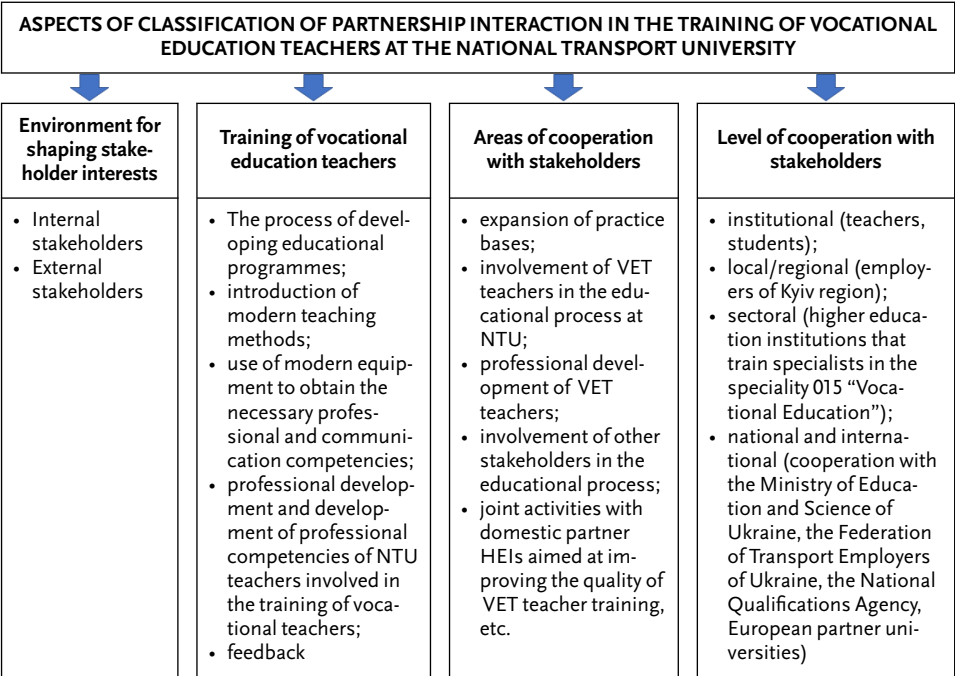


Figure 1: Aspects of classification of partnerships in VET teacher training at NTU

2 Theoretical Outlines, Research Background and Methodology

2.1 Theoretical outlines

Vocational (vocational-technical) education is a component of the education system of Ukraine and involves a set of pedagogical, organizational, and managerial measures aimed at ensuring that citizens acquire knowledge, skills, and abilities in their chosen field of professional activity, develop competence and professionalism, and foster a general and professional culture. It is provided at vocational (vocational and technical) education institutions (Parliament of Ukraine, 2023, p. 32). It is a component of vocational (vocational and technical) education. Vocational (vocational and technical) education training involves the formation and development of the professional competencies necessary for professional activity in a particular profession in a particular field. It ensures competitiveness in the labour market, mobility, and prospects for career growth throughout the life course. It provides citizens with a profession in accordance with their vocations, interests, and abilities, as well as with pre-professional training, retraining, and advanced training.

The system of vocational (vocational and technical) education consists of vocational (vocational and technical) education institutions, regardless of ownership and subordination, which carry out activities in the field of vocational (vocational and tech-

nical) education, higher education, science, methodology, production, commerce, publishing and printing, culture, physical culture and health, computing, as well as other enterprises, institutions, organizations, and their governing bodies that provide or ensure the training of skilled workers.

The training of pedagogical staff of vocational (vocational and technical) education institutions and institutions of vocational (vocational and technical) education is carried out at higher education institutions and their specialized faculties, as well as at industrial and pedagogical technical schools, colleges, engineering schools, and pedagogical higher education institutions.

Specialists in production and services who have a higher education and subsequently receive appropriate psychological and pedagogical training may be appointed to positions in the teaching staff.

The requirements for higher education institutions that train vocational teachers have increased significantly in recent years. As Klaus Schwab, a Swiss economist and founder of the World Economic Forum in Davos, has noted:

“We stand on the brink of a technological revolution that will fundamentally alter the way we live, work, and relate to one another. In its scale, scope, and complexity, the transformation will be unlike anything humankind has experienced before. We do not yet know just how it will unfold, but one thing is clear: the response to it must be integrated and comprehensive, involving all stakeholders of the global polity, from the public and private sectors to academia and civil society ... We need to shape a future that works for all of us by putting people first and empowering them. In its most pessimistic, dehumanized form, the Fourth Industrial Revolution may indeed have the potential to “robotize” humanity and thus to deprive us of our heart and soul. But as a complement to the best parts of human nature – creativity, empathy, stewardship – it can also lift humanity into a new collective and moral consciousness based on a shared sense of destiny. It is incumbent on us all to make sure the latter prevails. Modern society needs not only specialists who are able to perform complex tasks and work in teams, but also specialists who are able to develop their knowledge, skills, abilities, and expand their professional competences throughout their lives. This means that the task of an educational institution is not only to create a supply of labour for employers, but also to develop in graduates the ability to continuously develop and improve themselves, and to adapt to new labour market demands.” (Schwab, 2015)

First of all, this concerns the training of future teachers for vocational education institutions. Graduates must constantly monitor and study technical and technological innovations in the industry, be aware of modern educational and pedagogical technologies, have leadership skills, be able to use information technology in education, and possess foreign language communication competence. On the other hand, providing vocational education institutions with motivated and ambitious teachers requires support from the state. Such support can take the form of an increase in salaries, opportunities for teachers to purchase housing under special programmes, advanced training in the areas of vocational education chosen by teachers, and other social preferences.

More attention should be devoted to cooperation of higher education institutions with vocational education institutions as direct employers and the manufacturing sec-

tor as indirect employers who hire students and graduates of vocational education institutions.

The project studied the experience of training future teachers for vocational education institutions at the University of Konstanz (Germany), Vienna University of Economics and Business (Austria), and Roma Tre University (Italy).

Studies by researchers from the partner institution University of Konstanz present experiences with and certain aspects of partnerships between German vocational education institutions and stakeholders (Deissinger, 2014; Deissinger, 2015; Deissinger, Braun, 2018). These partnerships are based on the dual education of students. This system of training allows for the provision of initial vocational training to school leavers in a certain range of professions. The dual training is provided by a training company and a vocational school that operates on a part-time basis. This means that the training is carried out at the workplace and is predominantly practical. Practical work experience during the training period is seen as an important component of vocational training.

When training future teachers of vocational education, Roma Tre University scientists pay close attention to an individual approach, enabling students to motivate their own development. This involves independently identifying and studying the competencies available to them and comparing them with the needs of the labour market (Di Rienzo, 2014; Di Rienzo, 2020; Margottini & Rossi, 2020).

Researchers at the Vienna University of Economics and Business (Austria) address the problems of measuring competencies and developing soft skills, as well as the relationship between the personal qualities of teachers and the success of their teaching (Fritsch et al., 2015; Fortmüller et al., 2018; Fortmüller, 2019; Fortmüller & Skala, 2021; Greimel-Fuhrmann & Fortmüller, 2021).

The National Transport University based the development of its own concept for the development of the system of vocational education and training on a study of both the experiences of partners and general current trends in vocational education.

The distinctive features of the current state and development of vocational education in the world are presented in the description of the results of the study of cooperation between educational institutions and business (Durazzi et al., 2017). The researchers studied the experience of Austria, Denmark, Finland, Germany, Italy, Latvia, Lithuania, the Netherlands, Serbia, Slovakia, the Czech Republic, and the United Kingdom. Their analysis allowed us to identify the following common features of the modern development of vocational education in European countries:

- 1) Education is oriented towards a labour market operating in a dynamic knowledge-based economy.

- 2) The state is transitioning from performing the function of social security to pursuing the policy of stimulating business in terms of social investment, development, and accumulation of human capital.

- 3) Vocational education systems are considering the challenges and opportunities brought by the Fourth Industrial Revolution; in particular, technological changes that require more knowledge and skills from employees.

- 4) There is the possibility of a skills shortage. Such a shortage will occur if the vocational education system does not provide graduates with the skills required by the

labour market. It is the vocational education system that plays a crucial role in addressing many of the challenges facing European countries today.

5) A key aspect of ensuring the quality of vocational education is cooperation with stakeholders.

The researchers also identified common problems encountered in the development of vocational education systems in all the countries studied:

1) Improving the quality and attractiveness of vocational education is perceived as a challenge.

2) There are difficulties making work in vocational education institutions attractive for teachers and mentors from enterprises.

The latest trends in vocational education and the labour market in Ukraine demonstrate the need for systematic work at all levels: state, regional, universities, vocational education institutions, and businesses. After all, the relevant actors are interdependent and influence each other. For example, vocational education institutions influence the training of workers depending on the demand on the labour market for skilled workers and the development strategy for industries implemented by central or regional authorities.

Such instruments of direct influence include ordering on-site training funded from the state (regional) budget, approving standards of educational programmes for both future vocational teachers and students at vocational education institutions, and improving the socio-economic support of teachers at vocational education institutions. The environment that determines the prestige of a vocational teacher is formed at the level of government: remuneration policy, social protection and social support for teachers, qualification requirements, etc.

The following factors have an indirect impact:

- the general economic situation in the country;
- the level of wages in the industry;
- employment and unemployment rates;
- the prestige of the industries for which vocational education institutions train workers, etc.

In turn, universities that train teachers for vocational education institutions in accordance with approved educational and professional programmes should take into account the needs of such institutions for new competencies of future teachers. Such graduates will train workers for business, virtually all areas of which are developing rapidly today. That is, the educational process of training a future teacher should take into account modern production technologies and trends in their development and orientate students to the need to constantly improve their skills. The training of such teachers requires that universities know the specifics of technology and the needs of the business for which future teachers will train employees.

In this case, the impact of universities on business and the labour market is indirect, occurring through their training of qualified teachers for vocational education institutions.

Vocational education institutions play the most important role in this chain, as they provide training for business and shape the supply of workers for the labour market. High-quality training of such workers requires well-trained, qualified teachers who are familiar with the most modern production technologies and materials and have the pedagogical skills to work with both teenagers and older people.

One of the indicators of the quality of training provided by vocational education institutions is the subsequent employment of their graduates. Links with employers and consideration of their needs in the training of workers in specific professions increase the percentage of employed graduates. How confident graduates feel in the labour market depends on how well they have been trained in their field, whether they have had on-the-job experience in the form of an internship, and how the internship was organized.

The labour market – local, regional, and foreign employers – is the final consumer of the results of the educational services provided. Stimulation by the authorities of the development of certain sectors of the economy leads to an inflow of capital into these sectors and an increase in demand for the relevant employees.

Businesses can encourage vocational education institutions to train workers with the professional competencies they need by creating or providing state-of-the-art equipment.

More advanced forms of cooperation between vocational education institutions and employers are the creation of centres or bases of practice for vocational education and training, where future workers learn new production technologies.

If further development of workers' competencies is required, a review of the relevant standards of educational and vocational programmes approved at the state level is initiated. Changes made to the standards of educational and professional programmes for the training of workers by vocational education institutions necessitate changes to the standards of educational and professional programmes for the training of relevant teachers by universities for vocational education institutions.

Therefore, we can distinguish five groups of stakeholders interested in VET teacher education (Figure 2).

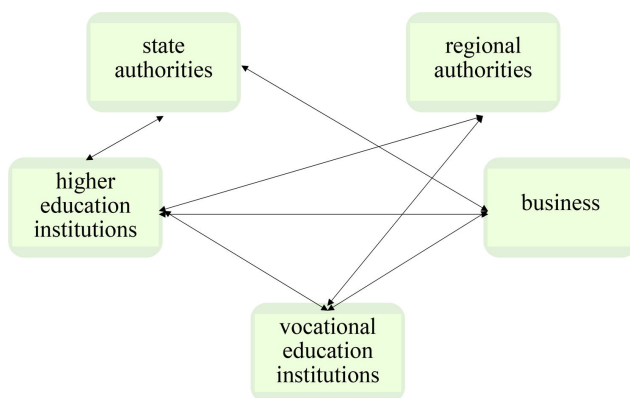


Figure 2: Groups of stakeholders with an interest in vocational teacher education

These stakeholders are:

- state authorities (Ministry of Education and Science of Ukraine, Ministry of Finance of Ukraine, Ministry of Social Policy of Ukraine);
- regional authorities (councils of deputies, executive committees);
- higher education institutions that train vocational teachers;
- employers for graduates of higher education institutions (vocational teachers), i. e., vocational education institutions;
- employers for graduates of vocational education institutions, i. e., enterprises and organizations from the tangible and intangible production sectors of the country's economy.

Higher education institutions can involve stakeholders in the process of training future vocational teachers on the basis of partnership. Partnership involves combining the capabilities of an educational institution with the capabilities of other stakeholders who have resources and competencies that the educational institution does not have. The success of the partnership depends on all participants' adherence to the principles of accountability and cooperation: transparency of decisions, readiness to respond, compliance with the requirements of legislation, standards, development strategies, and other obligations.

Thus, the university that initiates the partnership should ensure openness to all other participants, i. e., provide stakeholders with the right and opportunity to be heard, and at the same time assume the obligation to report to them.

2.2 Research Background and Methodology

The following methods were used in the study: monographic methods (studying foreign and domestic experience of vocational teacher training abroad on the basis of partnership with stakeholders); classification (systematization of aspects of the study of partnerships with stakeholders); logic, description, and generalization (generalization of the studied experience and practice of vocational teacher education); analysis and synthesis (substantiation of the Concept for the Development of the VET Teacher Education and Training System at NTU on the Basis of Partnership); methods of quantitative and qualitative analysis (comparison of quantitative and qualitative indicators of vocational teacher education at NTU); questionnaires/surveys (identifying stakeholder assessments of the quality of training of future vocational teachers, the effectiveness of interaction, prospects for cooperation, etc.); calculation, analytical, statistical, and graphical methods (identification and visual representation of trends in the training of vocational education teachers at NTU).

3 Decisions

National Transport University achieved the following results during its work in the Erasmus+ KA2 higher education capacity building project No. 609536-EPP-1-2019-1-DE-EPPKA2-CBHE-SP (PAGOSTE):

1. The Concept for the Development of the VET Teacher Education and Training System at NTU on the basis of partnership was developed and implemented as the first institutional document aimed at systematically improving the quality of training of future vocational teachers.

NTU's participation in the Erasmus+ KA2 higher education capacity building project No. 609536-EPP-1-2019-1-DE-EPPKA2-CBHE-SP (PAGOSTE) takes place in the context of systemic changes in vocational education at both the national and institutional levels.

The curriculum of the NTU speciality 015 "Vocational Education (Transport)" was dominated until 2019 by theoretical training, and attention was paid to the acquisition of mainly engineering competencies.

The standard of the educational programme for the training of HEI students for the speciality "Vocational Education (by specializations)" for the bachelor's degree was introduced in 2019, and the standard of the educational programme for the training of HEI students for education in the speciality "Vocational Education (by specializations)" for the master's level was introduced in 2020. The professional standard "Vocational Teacher" was approved and put into effect in 2020 as well.

There has been a radical change in the requirements for the training of future teachers of vocational education and training. The emphasis has shifted to the pedagogical component of training, which has necessitated a fundamental revision of the educational programmes and curricula of the speciality 015 "Vocational Education (Transport)".

NTU analysed its existing vocational teacher training practices in the course of the Erasmus+ KA2 higher education capacity building project No. 609536-EPP-1-2019-1-DE-EPPKA2-CBHE-SP (PAGOSTE). The results of the analysis confirmed the need not only to change educational programmes but also to introduce a mechanism that will improve the quality of training of future vocational teachers by establishing partnerships with vocational education institutions, business representatives, and government agencies.

This has led to the urgency of developing a relevant concept for the development of a partnership-based system for the training of VET teachers at NTU (NTU, 2021a). The following provisions were taken into account during its development:

1) laws of Ukraine: "On Education"; "On Higher Education"; "On Public-Private Partnership"; "On Vocational (Vocational and Technical) Education"; "On Professional Development of Employees";

2) regulatory legal acts of Ukraine: Order of the Ministry of Education and Science of Ukraine "On Approval of the Regulation on the Dual Form of Vocational (Vocational and Technical) Education" No. 1551 of 12 December 2019; Order of the Ministry of Education and Science of Ukraine "On Approval of the Concept of Development of Teacher Education" No. 776 of 16 July 2018; Order of the Ministry of Education and Science of Ukraine "On Approval of the Standard of Higher Education in the Speciality 015 "Vocational Education (by Specializations)" for the First (Bachelor's) Level of Higher Education" No. 1460 of 21 November 2019; Order of the Ministry of Education and Science of Ukraine "On Approval of the Standard of Higher Education in the speciality 015 "Voca-

tional Education (by Specialization) for the Second (Master's) Level of Higher Education" No. 1435 of 18 November 2019; Order of the Cabinet of Ministers of Ukraine "On Approval of the Concept of Implementation of the State Policy in the Field of Vocational Education 'Modern Vocational Education' for the period up to 2027" No. 419-p of 12 June 2019;

3) internal regulations governing the activities of NTU: "National Transport University Development Strategy for 2019–2025"; "National Transport University Internationalization Strategy"; "Regulations on the Implementation of EU International Cooperation Programmes and Grant Management at National Transport University"; "Regulations on the Organization of the Educational Process at National Transport University"; "Regulations on the System of Internal Quality Assurance of Higher Education (new edition)"; "Regulations on Stakeholders of Educational Programmes of National Transport University"; "Regulations on Postgraduate Education at NTU"; "Regulations on Professional Development"; "Temporary Regulations on the Procedure for Recognition of Learning Outcomes Acquired by Students of National Transport University in Non-Formal/Informal Education"; "Regulations on the Practice of NTU Students"; as well as the identified needs of stakeholders, i. e., vocational education institutions, teachers, and students of NTU who are studying in the speciality 015 "Vocational Education (Transport)".

The purpose of the concept was to create the preconditions for improving the quality and relevance of vocational teacher education and training at NTU through partnership development.

Thus, the developed concept became the first institutional document aimed at systematically improving the quality of training of future vocational teachers at NTU.

2. New approaches to interaction with internal and external stakeholders of future vocational teacher education at NTU have been formed as a result of the implementation of the concept.

The Committee for Supporting Quality Assurance and Development of VET Teacher Education and Training at NTU was established as a means of ensuring effective interaction with internal and external stakeholders during the implementation of the concept (NTU, 2021b).

It consists of both internal stakeholders (students, teachers, heads of graduate departments, representatives of the university administration, including the Dean of the Faculty of Economics and Law, Head of the Higher Education Quality Assurance Department) and external stakeholders (heads and teachers of vocational education institutions, chairpersons of the examination committee of the speciality "Vocational Education (Transport)" [bachelor's and master's degree programmes], representatives of partner universities that train future vocational teachers).

The meetings of the committee are devoted to the issue of how to improve bachelor's and master's degree programmes in the speciality 015 "Vocational Education (Transport)", as well as issues concerning the practical training of future vocational teachers.

Work with internal stakeholders (students and teachers of NTU) involves conducting a systematic survey and providing feedback on the content and quality of educational programmes, teaching methods, and the organization of the educational process, including all types of practices.

At the same time, lecturers improve their professional competencies through the opportunities for advanced training at NTU. Students develop discussion skills during the work of the Credo scientific and pedagogical club and are involved in scientific work (preparing speeches and presentations at international and domestic scientific and practical conferences).

Academic mobility opportunities are also provided to teachers and students.

Students and teachers can submit their proposals for improving the training of future vocational education teachers both in the course of a survey and directly at meetings of graduate departments that are responsible for graduate (master's) students and educational programmes, train HEI students in the speciality 015 "Vocational Education (Transport)". Also, these proposals can be submitted for consideration directly to the Committee for Supporting Quality Assurance and Development of Vocational Education and Training. This opportunity is provided by the participation of voting representatives of students and teachers in this committee.

External stakeholders, such as representatives of vocational education institutions and business employers, are also actively involved in the discussion of educational programmes, educational components, and internship content. This is done through their participation in reviewing educational programmes, surveys on the content of educational programmes and educational components, the content of internships, and the required professional competencies of future graduates. Representatives of external stakeholders also participate as voting members in the Committee for Supporting Quality Assurance and Development of Vocational Education and Training at NTU.

Graduate departments annually review and update the topics of master's qualification theses and practice bases.

The curricula and programmes of academic disciplines were revised in accordance with the changes in the educational programmes of the speciality 015 "Vocational Education (Transport)" caused by the introduction of relevant higher education standards, taking into account the proposals of internal and external stakeholders.

Thus, the implementation of the Concept for the Development of the VET Teacher Education and Training System at NTU on the basis of partnership has made it possible to introduce new approaches to interaction with internal and external stakeholders.

3. A mechanism for the development of the system of training teachers of vocational education and training at NTU on the basis of partnership was created.

The mechanism for the development of the system of training teachers of vocational education and training at NTU on the basis of partnership provides for organizational, personnel, material, and technical support.

Organizational support involves the development of a set of organizational measures: creation of an organizational unit responsible for the implementation of the

Concept for the Development of the VET Teacher Education and Training System at NTU on the basis of partnership, development of a set of incentives and levers to improve the quality of training of future VET teachers, and expansion of the group of partners.

An organizational unit of this kind at NTU is the Committee for Supporting Quality Assurance and Development of Vocational Education and Training, with the involvement of stakeholder representatives. The committee is designed to:

- contribute to the improvement of educational programmes and curricula for bachelor's and master's programmes in the speciality 015 "Vocational Education (Transport)" with the involvement of representatives of vocational education institutions in accordance with the identified needs;

- coordinate the activities of the departments to improve the content of theoretical, practical, and research training of future teachers of vocational education and training (for master's educational programmes, MSc students);

- establish partnerships with vocational education institutions, industrial structures on the organization of practice, and internships for future teachers of vocational education and training.

NTU has introduced a set of appropriate levers and incentives to improve the quality of training for future teachers. The levers include educational programmes, curricula, programmes of working disciplines, requirements for the level of qualification of teaching staff, and the creation of an appropriate material base. The incentives include a system of bonuses for the results of work and recognition of the academic staff.

NTU provides appropriate human resources support for the implementation of the Concept for the Development of the System of Vocational Education and Training at NTU on the basis of partnership. NTU teachers and representatives of stakeholders can improve their skills, get a second higher education at NTU, participate in local, national, and international conferences held by NTU, and publish articles in scientific journals of the university. In addition, NTU faculty and students have the opportunity for academic mobility.

4. Qualitative changes were made in the educational process of training vocational teachers.

The features of the study programme "Vocational Education (Transport)" implemented at NTU are cooperative education, i. e., simultaneous pedagogical and professional engineering training in the field of transport; student-centred learning, and a focus on the standards of the study programme of speciality 015 "Vocational Education (by specialisations)" for First (Bachelor's) degree and Second (Master's) degree.

The curricula were reviewed and revised, and the discipline work programmes were updated. The number of pedagogical disciplines in the curriculum structure was increased by 20 %. The amount of practical training for future teachers of vocational education and training was also significantly increased (by 66.7 %).

Teachers of vocational education institutions, students, and employers are involved in the process of developing curricula and content. This is done through the participation of representatives of vocational education institutions, employers, and

students in the Committee for Supporting Quality Assurance and Development of Vocational Education and Training, as well as during meetings of the graduate departments of NTU's Vocational Education (Transport) speciality.

Cooperation with stakeholders in the educational process has taken on new forms. With the use of distance learning technologies, students have the opportunity to learn the methods of teaching technical disciplines during stationary classes at vocational education institutions. The educational process is carried out in updated and modernized laboratories and a newly created language laboratory, which has significantly improved the quality of teaching.

5. The areas of cooperation between NTU and stakeholders have been deepened.

The mechanism of training vocational teachers at NTU on the basis of partnership involves ensuring the effectiveness of existing forms of partnership with stakeholders and developing new forms of partnership. Contractional partnerships have been introduced as a new form of partnership alongside institutional partnerships.

Contractual partnerships are based on agreements between NTU and external stakeholders (agreements on practice, internships, advanced training, cooperation, etc.) They are designed to facilitate the implementation of specific one-off arrangements or specific systematic interactions during the period specified in the agreement.

Today, vocational education institutions are viewed not only as possible places for internships and further employment but also as partners involved in discussions on improving educational programmes, the content of theoretical and practical training, and the structure of curricula.

NTU faculty and students are actively involved in cooperation to improve curricula and the educational process through direct participation in meetings of the Committee for Supporting Quality Assurance and Development of Vocational Education and Training. NTU provides advanced training courses including pedagogical skills for teachers of vocational education institutions. Students of vocational education institutions are provided with career guidance activities as a means of informing them about the possibility of continuing their education at NTU in the speciality 015 "Vocational Education (Transport)". Cooperation with domestic partner higher education institutions that train specialists in the speciality 015 "Vocational Education" has been established and is being implemented. Employer representatives also participate in the educational process of training future vocational education teachers.

6. The prerequisites for stable cooperation of NTU with stakeholders at all levels have been established.

In its cooperation with stakeholders, National Transport University relies on the National Transport University Development Strategy for 2019–2025; Internationalization Strategy of National Transport University; Regulations on Stakeholders of Educational Programmes of National Transport University; Regulations on Professional Development of Specialists; and Regulations on the Practice of NTU Students.

The formation of partnerships between National Transport University and stakeholders is based on the following principles:

- equality of the parties;
- coordination of the interests of the participants;
- respect for and consideration of the interests of the parties;
- interest of the parties in participation in partnership relations;
- voluntary acceptance of obligations by the parties and their feasibility;
- mutual responsibility for a failure to fulfil collective agreements and contracts;
- control over the implementation of collective agreements and contracts;
- mandatory fulfilment of contracts and agreements concluded between the partners.

Cooperation with stakeholders ensures that NTU responds quickly to changes in the needs of vocational education institutions regarding the professional competencies of future teachers of vocational education and training. Cooperation with stakeholders takes place at the following levels:

- the institutional level (internal stakeholders);
- the level of vocational education institutions (external stakeholders);
- the level of higher education institutions (external stakeholders);
- the national level (Ministry of Education and Science of Ukraine, external stakeholders);
- the international level (partner universities, external stakeholders).

The cooperation with external stakeholders is based on agreements and memoranda of cooperation or partnership agreements.

4 Analysis

1. During participation in the project, NTU developed the first institutional document aimed at systematically improving the quality of training of future VET teachers at NTU. This document was the Concept for the Development of the System of VET Teacher Education and Training at NTU (NTU, 2021a).

The concept envisages the formation of a holistic organizational mechanism that ensures the improvement of vocational teacher training on the basis of partnership with stakeholders.

Organizational support for the implementation of the concept is provided by the Committee for Supporting Quality Assurance and Development of VET Teacher Education and Training. Its main task is to ensure quality training of future vocational teachers through interaction with internal and external stakeholders. A relevant institutional document has been developed, the Regulations on the Committee for Supporting Quality Assurance and Development of VET Teacher Training (NTU, 2021b).

Human, material, and technical support for the implementation of the concept is provided. There are definitions regarding the directions and forms of work with stake-

holders, forms of communication with stakeholders, the expected impact of stakeholder groups on the quality of training of future VET teachers at NTU as a result of the implementation of the partnership concept, and the main expected results from the implementation of the Concept for the Development of the System of VET Teacher Training at NTU.

Table 1: During the participation in the PAGOSTE project, NTU has already achieved certain results in improving the quality of training of future VET teachers*

Indicator	Planned level	Achieved level	Comments
1	2	3	4
Increase in the amount of practical training in the curriculum	Practical training actually amounted to 15 credits, planned to increase by 2 credits	Actually increased by 10 credits (practical training is 25 credits)	The number of credits of practical training was increased by 66.7 % compared to the planned 13.3 %.
Increase in students' satisfaction with internships, training, and pedagogical practices	from sufficient (70 points) to high level (80 points)	Increase in students' academic performance by 3–10 %)	Increased academic performance within the planned limits
Modernization of the laboratory of pedagogical skills of the Department of Philosophy and Pedagogy	Modern equipment	Modern equipment	The planned indicators are fulfilled.
Update and implementation of educational programmes and curricula based on the competency approach	updated 2 times in 4 years; will be reviewed and updated annually	Reviewed and updated annually, involving stakeholders	The planned indicators are fulfilled.
Activities to promote professional career development	was once a year, will be twice a year	For students, they are held on the basis of the scientific and pedagogical circle "Credo"; the possibility of academic mobility; for teachers, professional development, the possibility of academic mobility	The planned indicators are fulfilled.
Expansion of opportunities for internships and employment of graduates	4 contracts were planned.	6 contracts have been signed.	Increased number of signed contracts compared to the target
Creation of a linguistic classroom for learning foreign languages (not available)	Creation, modern equipment	Creation, modern equipment	The planned indicators are fulfilled.
Modernization of the laboratory of the Department of Constitutional and Administrative Law (development of public speaking skills of future teachers of vocational education)	–	Modern equipment	Executed outside the plan

(Continuing table 1)

Indicator	Planned level	Achieved level	Comments
1	2	3	4
Replenishment of the material base of the Laboratory of the Department of Technical Operation of Cars and Car Service	Modern equipment	Modern equipment	The planned indicators are fulfilled

2. The introduction of new approaches to interaction with internal and external stakeholders at NTU made it possible to change their understanding and attitude towards partnership cooperation in the training of future vocational teachers.

Figure 3 shows the changes in the assessment by VET students of the aspects of cooperation with VET institutions and the educational process before and during the PAGOSTE project.

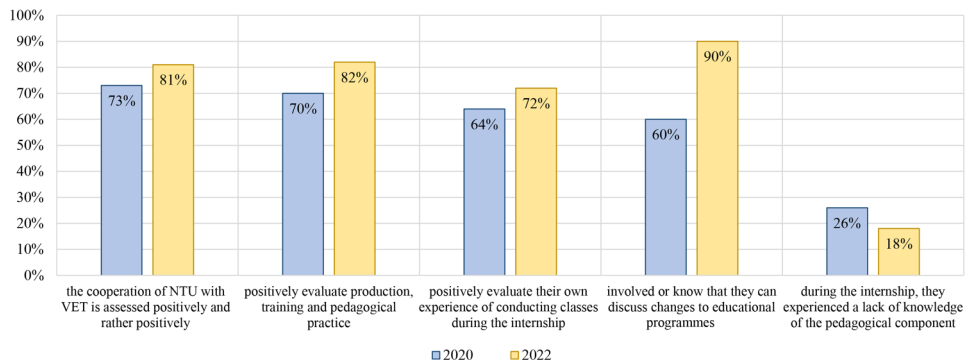


Figure 3: Trends in VET students' assessment of the aspects of cooperation with VET institutions and the organization of the educational process

The increase in the level of positive assessments is due to the formation of new methods of interaction with vocational education institutions. Examples include conducting master classes in teaching technical disciplines using distance learning technologies at vocational education institutions; improving the quality of foreign language learning during classes in a language classroom; increasing the number of pedagogical and psychological educational components in the curriculum; increasing the volume of pedagogical practice at vocational education institutions; and the possibility of independent lesson planning during pedagogical practice at a vocational education institution. At the same time, if necessary, students can always obtain advice from the teacher supervisor of the practice.

Another group of internal stakeholders is NTU teachers who provide the educational process in the training of vocational teachers.

NTU teachers' assessments of the aspects of cooperation with vocational education institutions and the organization of the educational process have also changed during the implementation of the PAGOSTE project (Figures 4a and 4b).

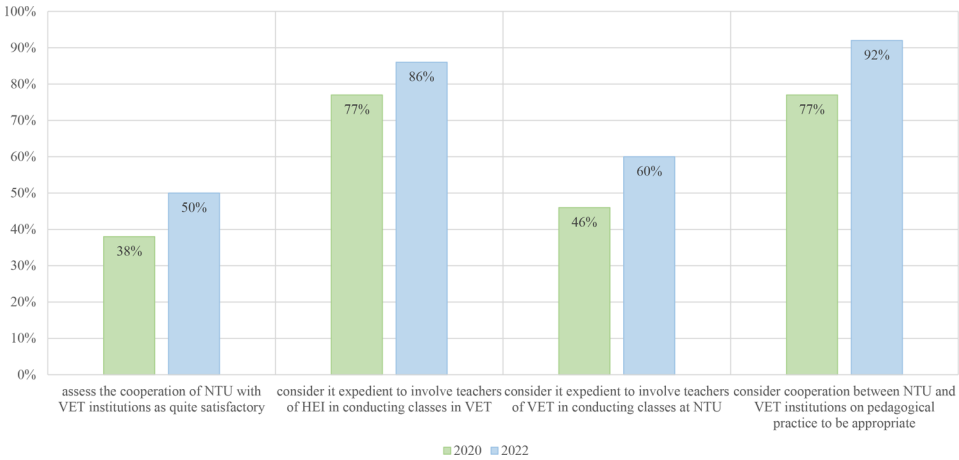


Figure 4a: Evaluation of the aspects of cooperation with VET institutions and the educational process by students majoring in Vocational Education

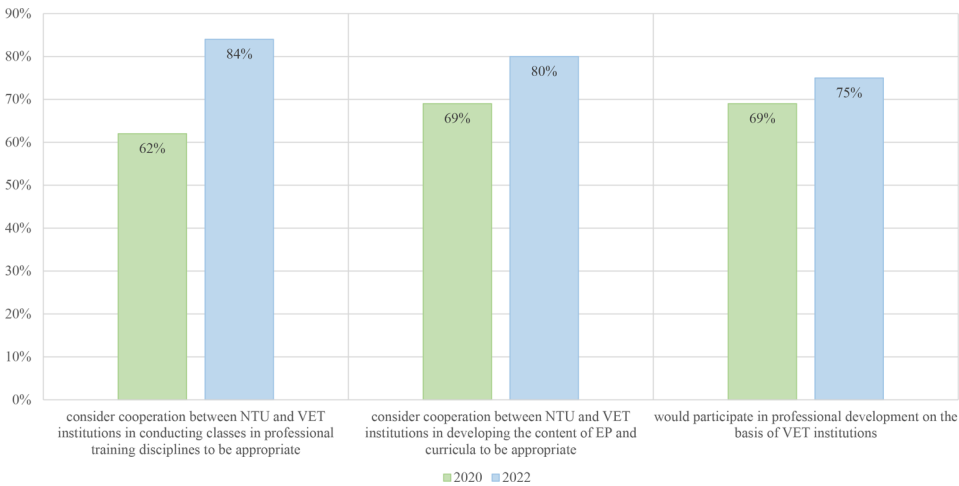


Figure 4b: Evaluation of the aspects of cooperation with VET institutions and the educational process by students majoring in Vocational Education

Among the respondents, the number of academic staff members who consider it necessary to cooperate with vocational education institutions in the course of educational activities has increased. New forms of cooperation include the involvement of teachers from vocational education institutions in discussing bachelor's and master's degree programmes in Vocational Education (Transport) and in conducting and participating

in joint training courses and seminars (including those held as part of the PAGOSTE project).

The number of teachers who consider it expedient to study professional disciplines directly at vocational education institutions or to involve teachers of vocational education institutions in the educational process at NTU has increased significantly.

External stakeholder groups include teachers and managers at VET institutions. As part of the PAGOSTE project, a national survey of these stakeholder groups was conducted during the first phase.

It was found that the interests of vocational teachers include the need for continuous development of professional and pedagogical competence; improvements in the quality of the postgraduate education system, the functioning of advanced training courses, internships for teachers who train specialists for vocational education institutions, the development of platforms for online communication and exchange of experience with colleagues, and the introduction of innovative teaching technologies.

When assessing their own experience and work practice, the teachers noted that at the beginning of their career they lacked pedagogical skills (32 %); professional skills in the subject they taught (20.2 %), professionally significant personal qualities (15.7 %), and pedagogical knowledge (13.6 %); 36.2 % of the respondents believed that they had a sufficient level of training.

In terms of cooperation with higher education institutions, the teachers consider it expedient to organize events for the training and professional development of teachers, career guidance, and professional training classes; 45.1 % consider it expedient to involve university teachers in conducting classes with VET students, and 59.3 % to involve representatives of VET institutions in conducting classes with future teachers.

According to the survey, the main interests of the heads of vocational education institutions are modernization of the material and technical base of these institutions, provision of multi-channel financing, introduction of elements of dual education, and professional development of teaching staff.

The activities carried out within the framework of the PAGOSTE project have substantially contributed to meeting the need for developing the professional competencies of the teaching staff of partner vocational education institutions and for ensuring closer communication with NTU teachers. In particular, 25 people from NTU's partner vocational education institutions actively participated in the project activities.

During the project, two graduates of NTU with a degree in Vocational Education (Transport) were employed by vocational education institutions in Kyiv.

The cooperation with partner vocational education institutions during the project has already ensured the realization of such interests as professional development of employees of vocational education institutions.

NTU developed and implemented the didactic training course "Development of Career Competence of VET Teachers" to meet the needs for professional development of the teaching staff at vocational education institutions. The course was held in January 2022 at NTU.

3. The Committee (Working Group) for Supporting Quality Assurance and Development of Vocational Education and Training meets regularly to analyse the functioning of the mechanism for the development of the system of VET teacher training at NTU. It consists of guarantors of educational programmes of the first (bachelor's) and second (master's) levels of higher education in the speciality 015 "Vocational Education (Transport)"; heads of NTU graduate departments that train specialists in the speciality 015 "Vocational Education (Transport)" (5 people); the dean of the NTU faculty that trains specialists in the speciality 015 "Vocational Education (Transport)"; a representative from the Higher Education Quality Assurance Department at NTU; representatives of external stakeholders, i. e., vocational education institutions with which agreements have been concluded and representatives from among the HEI students for the speciality 015 "Vocational Education (Transport)" (by agreement); and a representative of business employers (by agreement).

The Committee for Supporting Quality Assurance and Development of Vocational Education and Training has the following responsibilities:

- reviewing and updating educational programmes and curricula for the bachelor and master level in the speciality 015 "Vocational Education (Transport)," taking into account the competence approach;
- developing proposals for improving educational standards through a competence-based approach;
- participating in examination commissions;
- reviewing the content and expanding the practice bases.

Regulations were developed for the Committee for Supporting Quality Assurance and Development of Vocational Education and Training at NTU.

The agenda of the committee's meetings includes issues such as improving educational programmes, organizing internships and teacher training, and involving students in scientific and practical conferences.

There is also a practice of holding joint meetings to discuss topical issues with colleagues from domestic partner universities. Thus, the inter-institutional methodological online seminar "Qualification Work of HEI students for Speciality 015 'Vocational Education (by Specialization)': Content and Teaching and Methodological Support" was held within the framework of the Erasmus+ project "New Mechanisms of Partnership-Based Governance and Standardization of Vocational Teacher Training in Ukraine (PAGOSTE)" No. 609536-EPP-1-2019-DE-EPPKA2-CBHE-SP on 23 January 2023. The seminar was organized by representatives of National Transport University (NTU), Kyiv National Economic University named after Vadym Hetman (KNEU), and the Ukrainian Engineering and Pedagogical Academy (UIPA).

The seminar was attended by members of the Committee (Working Group) for Supporting Quality Assurance and Development of Vocational Education and Training at NTU and the Professional Advisory Committee of KNEU, as well as HEI students for educational and professional programmes in speciality 015 "Vocational Education (by specialization)." The participants heard reports that highlighted the achievements of

NTU, KNEU, and UIPA in the content and methodological support of qualification theses (a final degree research paper) at the first (bachelor) and second (master) degrees of higher education. Problems and proposals for improving the content and structure of qualification theses (final degree research papers) of HEI students for the speciality 015 “Vocational Education” were discussed.

Equipment was purchased as part of the international Erasmus+ CA2 higher education capacity development project No. 609536-EPP-1-2019-1-DE-EPPKA2-CBHE-SP “New Mechanisms of Partnership-Based Governance and Standardization of Vocational Teacher Education in Ukraine (PAGOSTE),” allowing NTU to significantly develop and strengthen its material base for training future vocational teachers. Today, five lecture halls, twenty classrooms for seminars and workshops, nine specialized laboratories, and five computer labs are available for training VET teachers at NTU.

The Committee for Supporting Quality Assurance and Development of Vocational Education and Training concluded seven cooperation agreements between NTU and the following vocational education institutions: Katyuzhan Higher Vocational School; Vocational School No. 19 in Drohobych; Kyiv Vocational College with enhanced military and physical training; Vocational School No. 25 in Kyiv; Kyiv Vocational Lyceum of Transport; Kyiv Centre for Vocational Education; and the National Centre for Vocational Education and Training of the National Academy of Pedagogical Sciences of Ukraine.

Memorandums of cooperation were also signed with the following national stakeholders: the Federation of Transport Employers of Ukraine and the National Qualifications Agency.

The following events are held with the participation of stakeholders:

- workshops on teaching technical disciplines by teachers of both vocational education institutions and structural units for students of the Vocational Education (Transport) study programme. In cases where vocational education institutions are located at a distance from Kyiv, such workshops for students are conducted via distance learning technologies;
- internships for students under the Vocational Education (Transport) study programme;
- refresher courses for teachers of vocational education institutions, structural units, and NTU, both stationary and via distance learning technologies;
- joint scientific events (the international scientific and practical conference “Innovative Solutions in Modern Science, Education, and Practice” (18–19 November 2020); the international conference “Improvement of Structural and Operational Performance of Vehicles and Machines” (16–17 November 2022); the international conference “Implementation of Innovative Materials and Technologies in the Design, Construction, and Operation of Transport Infrastructure Facilities within the Framework of the Big Construction Programme” (24–25 November 2022); the international conference “Intelligent Transport Systems: Ecology, Safety, Quality, Comfort” (29–30 November 2022)).

4. NTU made qualitative changes to the training of teachers of vocational education and training during its participation in the PAGOSTE project. First of all, these changes concerned the educational programme of the first (bachelor) level of higher education.

There were changes in the structure of the curriculum and types of practical training for future VET teachers during the project implementation (Figure 5 and Figure 6)

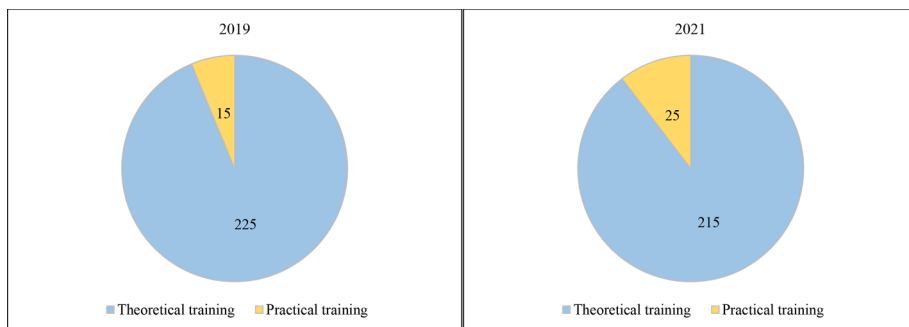


Figure 5: Change in the number of hours of practical training in the curriculum of the first (bachelor) level of higher education

NTU teachers are introducing knowledge of modern teaching methods and skills acquired at training courses and seminars held as part of the PAGOSTE project into their teaching activities. Training approaches are being actively used, and the share of practical classes is increasing.

Students acquire pedagogical, professional, and communication skills, including foreign language skills, making active use of the equipment received within the framework of the PAGOSTE project and with assistance from the global partner corporations SCANIA, KM JSB, MOTUL, SKODA.

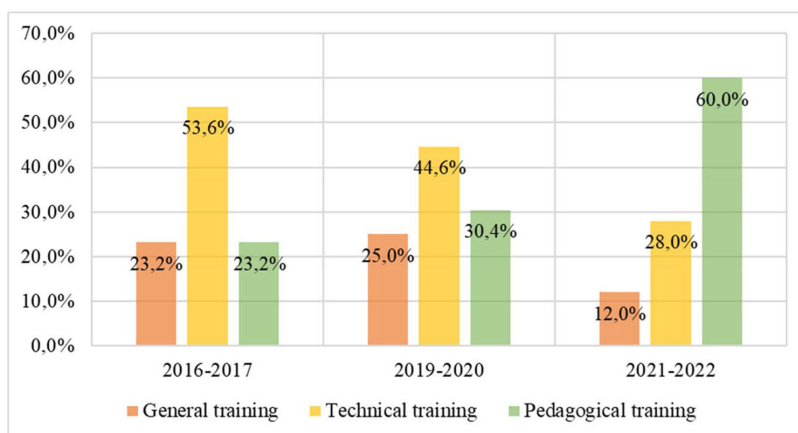


Figure 6: Modification of the structure of types of practical training of future VET teachers at NTU before and during participation in the PAGOSTE project (2016–2022)

During the implementation of the PAGOSTE project, many different events were held for both teachers and students majoring in 015 “Vocational Education.” Teachers and students of National Transport University, teachers of structural units, and partner vocational education institutions took an active part in these events. They included educational seminars, training courses, and the digital international student forum “Exchange of Experience: How Vocational Teachers are Trained in Germany.”

Figure 7 shows the structure of participants in educational events, represented by students and teachers of NTU, as well as teachers of partner vocational education institutions.

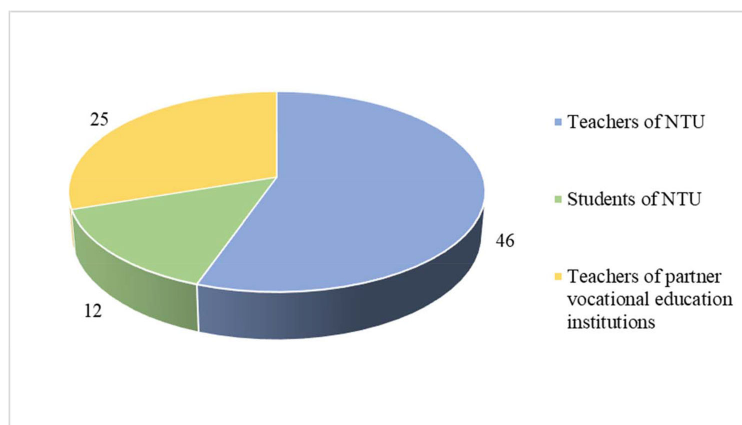


Figure 7: Participation in PAGOSTE project educational seminars and training courses

Study visits for NTU faculty and students took place at the University of Konstanz (Germany), Vienna University of Economics and Business (Austria), and Roma Tre University (Italy). Attendees of these visits shared their knowledge and experience at departmental meetings and scientific conferences at National Transport University.

The educational process is carried out in updated and modernized laboratories and a newly created language laboratory, which has significantly improved the quality of teaching. Thanks to its participation in the PAGOSTE project, NTU received equipment for the teaching laboratory of pedagogical skills at the Department of Philosophy and Pedagogy and the teaching laboratory for developing public teaching skills at the Department of Constitutional and Administrative Law, created a student language laboratory for mastering foreign language skills, and completed the Educational and Research Centre for Motor Transport at the Department of Technical Operation of Vehicles and Car Service.

The criteria for the effectiveness of the implementation of the Concept for the Development of the VET Teacher Education and Training System at NTU on the basis of partnership have been met:

- There has been an increase in student learning outcomes. According to the results of the summer 2021–2022 academic year and the winter 2022–2023 academic year sessions, the academic performance of students increased by 3.2 %,

which exceeded the lower limit of the target (3–10 %) (the current average grade point average is 73.4 against 71.5).

- Joint scientific events have been held with the general public, and public employees have been involved in the international activities of NTU departments; in 2022, three international conferences were held (success criterion: at least two scientific events annually).
- As part of the cooperation with stakeholders, representatives of vocational education institutions were also involved in all training courses and seminars held as part of the PAGOSTE project. The total number of such participants was 25.

The introduction of qualitative changes to the educational process was facilitated by training sessions and seminars from European partner universities that took place during the project. Students were also actively involved in such events. They took part in study visits to Roma Tre University and the University of Konstanz and in the international digital student forum “Exchange of Experience: How VET Teachers are Trained in Germany” and made presentations at international, national, and university conferences at NTU.

NTU actively promotes the participation of university researchers, teachers, and administrative staff of partner vocational education institutions in training courses and seminars held during the PAGOSTE project. Invitations and newsletters were regularly sent to vocational education institutions.

Participation in the PAGOSTE project and the implementation of the Concept for the Development of the VET Teacher Education and Training System at NTU have helped to increase the professional competencies and improve the pedagogical skills of the university’s teaching staff.

5. During the project implementation, the list of vocational education institutions with which cooperation agreements were concluded was expanded to seven.

Teachers of vocational education institutions are actively involved in reviewing and discussing curricula during extended meetings of graduate departments for the speciality “Vocational Education (Transport).”

A new didactic training course, “Development of Career Competence of VET Teachers,” was developed and delivered to VET teachers for the purpose of training VET teachers in advanced training courses.

The areas of cooperation with vocational education institutions include career guidance activities. In particular, they are held among students of vocational education institutions and are aimed at encouraging them to continue their studies and enter NTU in the speciality “Vocational Education (Transport).”

Career guidance activities are held with NTU bachelor’s students for further admission to the master’s degree programme in Vocational Education (Transport).

Systematic surveys of NTU teachers involved in the training of future vocational education teachers are conducted. The proposals received are taken into account in organizing the educational process and revising the discipline-specific programmes and the structure of the curriculum.

NTU teachers were given the opportunity to study at the following European partner higher education institutions: University of Konstanz, Germany; Vienna University of Economics and Business, Austria. They share their experience with colleagues during special meetings.

Representatives of employers are also involved in the educational process, in particular, representatives from the Federation of Transport Employers of Ukraine.

6. Cooperation with stakeholders takes place at all levels.

At the institutional level, these stakeholders are university teachers and students. Surveys are systematically conducted among them on the quality of the educational process, as well as proposals for improving the educational programme, content, and curriculum.

Teachers and students take an active part in scientific and career guidance activities of the university, promoting the speciality 015 "Vocational Education."

Representatives of teachers and students also participate in the work of the Committee for Supporting Quality Assurance and Development of Vocational Education and Training at NTU.

A prerequisite for the stability of NTU's cooperation with external stakeholders at all levels is the signed agreements and memoranda of cooperation, academic mobility, and partnership agreements, which are the legal basis for joint activities.

At the level of vocational education institutions, joint educational and informational events are held for students (master classes on teaching technical disciplines by teachers of vocational education institutions, internships, career guidance meetings) and for teachers (advanced training courses, participation in joint scientific events). Representatives of vocational education institutions are involved in the work of the Committee for Supporting Quality Assurance and Development of Vocational Education and Training at NTU.

At the level of higher education institutions – primarily domestic universities and partners in the PAGOSTE project – joint meetings of advisory bodies are held on the organization of internships, methodological support for the preparation of qualification theses at the first (bachelor's) and second (master's) levels of higher education, etc.

At the national level, memoranda of cooperation were signed between NTU and the Federation of Transport Employers of Ukraine and between NTU and the National Qualifications Agency.

A new level of cooperation is the participation of NTU as a partner in the PAGOSTE project in the development of guidelines for the implementation of partnership-based management mechanisms in higher education institutions that provide training in the speciality 015 "Vocational Education (by specialization)" of the field of knowledge 01 Education/Pedagogy."

5 Discussions

The implementation of the Erasmus+ project “New Mechanisms of Partnership-Based Governance and Standardization of Vocational Teacher Education in Ukraine (PA-GOSTE)” No. 609536-EPP-1-2019-1-DE-EPPKA2-CBHE-SP, in which NTU is a participant, is in line with the objectives of the national reform in the field of vocational education. Thus, it aims at achieving qualitative changes in such areas as “improving the quality of vocational education” and “strengthening the connection with the labour market.”

Participation in the project allowed NTU to cooperate with such eminent European higher education institutions as the University of Konstanz, Germany; Vienna University of Economics and Business, Austria; and Roma Tre University, Italy. These universities have significant historical experience in partnerships with vocational education institutions.

The training courses and seminars held by these universities as part of the project enabled the domestic partner universities to formulate their own concepts for training vocational teachers on a partnership basis.

The National Transport University also prepared such a concept. It was discussed among project participants, and comments that were in line with national legislation in the field of education were taken into account.

The implementation of the Concept for the Development of the System of Vocational Teacher Education and Training at NTU on the basis of partnership took place under the constraints of the Covid-19 pandemic (2020–2021) and Russia’s military aggression against Ukraine (2022–2023). At the same time, the corresponding movement and changes in the composition of the staff involved in the project did not prevent the university from fulfilling its project obligations.

Professional relations with domestic partner universities that train specialists in the field of vocational education have been strengthened.

With the involvement of partner vocational education institutions, educational programmes and curricula for training specialists in the speciality “Vocational Education” were improved, and a course for the professional development of teachers of these institutions was developed.

A total of 46 lecturers and 12 students from NTU took part in training courses, seminars, and study visits. Among the teachers of partner vocational education institutions, 25 people joined these events.

The improvement of the quality of students’ training and the enhanced attractiveness of the profession of vocational education and training teacher is evidenced by the increase in the average score of examination sessions and the employment of NTU graduates at vocational education institutions.

National Transport University expresses its sincere gratitude to all project partners for the fruitful cooperation and the experience and knowledge gained.

6 Conclusions and suggestions for further research

Participation of NTU in the Erasmus+ project “New Mechanisms of Partnership-Based Governance and Standardization of Vocational Teacher Education in Ukraine (PAGOSTE)” No. 609536-EPP-1-2019-1-DE-EPPKA2-CBHE-SP made the introduction of systemic changes to the educational process possible, in particular, in particular to the training of future vocational teachers. Such changes are due to close partnerships with both internal and external stakeholders. The performance indicators planned by the Concept for the Development of the System of Vocational Education and Training Teachers at National Transport University were achieved.

As for further research in the area of vocational teacher training based on partnership and standardization, we believe that it is advisable to study the experiences of higher and vocational education institutions during post-war economic recovery and civil society development, in particular, on the example of the Balkan countries.

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Bibliographical Notes

Professor **Mykola Dmytrychenko** is a Doctor of Technical Sciences and Acting Rector of National Transport University. His research interests are focused on the quality of training of technical specialists, development of their professional competencies, co-operation with employers, and compliance of training with employers' needs.

National Transport University

1, M. Omelyanovych-Pavlenko Str., 01010, Kyiv, Ukraine

m.dmytrychenko@ntu.edu.ua

Professor **Nataliia Bondar** is a Doctor of Economics and Professor of the Department of Economics at National Transport University. She researches the formation and development of professional competencies of future specialists, interaction with stakeholders, and the matching of labour market demand with the supply of relevant a labour force by educational institutions.

National Transport University

1 M. Omelyanovych-Pavlenko Str., 01010, Kyiv, Ukraine

n.bondar@ntu.edu.ua

Professor **Oleksandr Hryshchuk** is a PhD in Engineering and Vice-Rector of National Transport University. His research interests are focused on improving educational programmes and developing the professional and universal competencies of future transport professionals.

National Transport University

1, M. Omelyanovych-Pavlenko Str., 01010, Kyiv, Ukraine

gryshchuk@ntu.edu.ua

Dr **Bakhtiyarova Khalidakhon** is a PhD in Pedagogy and Professor at the Department of Philosophy and Pedagogy of National Transport University. She is the coordinator of professional courses for vocational education teachers. Her research interests are focused on vocational education, psychology and pedagogy in higher education, teaching methods, innovative strategies in teaching.

National Transport University

1 M. Omelyanovych-Pavlenko Str., 01010, Kyiv, Ukraine

bakhty@ukr.net

Dr **Shevchuk Lesia** is a PhD in Pedagogy, Associate Professor, Department Head of Foreign Philology and Translation at National Transport University. Her research interests are focused on theory and methodology of vocational education, current innovations in higher education, foreign language training of translators, comparative pedagogy, translation studies and applied linguistics.

National Transport University

1 M. Omelyanovych-Pavlenko Str., 01010, Kyiv, Ukraine

le.shevchuk@ntu.edu.ua

Establishing Excellence in Vocational Education Teacher Training at Ukrainian Engineering Pedagogics Academy

OLENA KOVALENKO, NATALIYA BRIUKHANOVA*, LIUDMYLA SHTEFAN, TATIANA BONDARENKO, HANNA KORNIUSH & NATALIYA KOROLOVA

Abstract

This chapter examines the historical development of requirements for the quality of vocational education teacher training. The scientific and legal framework of vocational education teacher training at Ukrainian Engineering Pedagogics Academy (UEPA) is explored through a literature analysis. The chapter discusses the implementation of partnership relationships to ensure the quality of vocational teacher education at UEPA and outlines the criteria for evaluating the quality of partnership-based governance and standardization mechanisms in vocational education teacher training. A factor-criterion model is used to assess training outcomes. The positive impact of the ERASMUS+ project “New Mechanisms of Partnership-Based Governance and Standardization of Vocational Teacher Education in Ukraine (PAGOSTE)” on the development of high-quality education that aligns with labour market needs and economic demands is highlighted.

UEPA representatives envision further growth through the establishment of international partnerships and the implementation of international projects in the field of vocational education.

Keywords: quality of training, vocational education teachers, partnership, standardization.

1 Introduction

The attainment of training outcomes that align with contemporary requirements is significantly influenced by the quality of vocational teacher training. Presently, there is a pressing need for a substantial enhancement in the quality of vocational education and vocational training, as recognized by the labour market (Shcherbak, 2014, p. 20). In light of these prospects, it is imperative to develop training programmes based on partnerships between educational institutions and industry. Furthermore, it is important to acknowledge the emerging trends in modern engineering and pedagogical educa-

* Corresponding author

tion, such as a shift in the educational focus towards competency formation and the incorporation of scientific strategies from creative psychology and innovative pedagogy, drawing from both domestic and international scientific and pedagogical heritage (Masych, 2017, p. 110).

The legal foundations for reevaluating approaches to ensure the high-quality training of vocational education teachers in Ukraine are defined in the Law of Ukraine “On Education,” the Law of Ukraine “On Vocational (Vocational-Technical) Education,” the Law of Ukraine “On Higher Education,” the Law of Ukraine “On Education”, and the Law of Ukraine “On Vocational Pre-Higher Education” (Verkhovna Rada of Ukraine, 1998, 2014, 2017, 2019).

Furthermore, the requirements for the accreditation of specialties and educational programmes by the national and European agencies for quality assurance of higher education (ISCED, 2011; ISCED-F, 2013; TEQF, 2018; TFQEHEA, 2018) have assumed great importance.

The theoretical and practical foundations of vocational education teacher training have been studied by a number of scholars (Bozhko, 2019; Bondarenko, 2020a; Briukhanova, 2015; Horbatiuk, 2009; Nychkalo, 2014; D. Kovalenko, 2015; O. Kovalenko, 2018; Masych, 2017; Khomenko, 2016; Shtefan, 2015; Melezinek, 1999).

In the new modern conditions, it is necessary to specify the processes of ensuring the high quality of vocational education teacher training at individual institutions of higher education in order to spread it throughout Ukraine in the future (provided it is successful). In the present study, such an institution is the leading institution of higher education specializing in training teachers for the system of vocational (vocational-technical) education, the Ukrainian Engineering Pedagogics Academy (UEPA).

Thus, the purpose of this chapter is to specify approaches to taking into account trends in the development of education in Europe and Ukraine, requirements of stakeholders, and the distinctive features of vocational education teacher training at Ukrainian Engineering Pedagogics Academy.

To achieve this goal, the authors of the chapter offer the following structure for presenting the results of the study:

- origins of the development of requirements for the quality of vocational education teacher training (O. Kovalenko, N. Briukhanova);
- scientific and legal bases of vocational education teacher training at UEPA (L. Shtefan, H. Korniusch);
- ways of implementing partnership relations to ensure the quality of vocational education teacher training at UEPA (N. Briukhanova, N. Korolova);
- criteria for evaluating the quality of mechanisms of partnership-based governance and standardization of vocational education teacher training (T. Bondarenko).

2 Origins of the Development of Requirements for the Quality of Vocational Education Teacher Training

Modern education needs to revise its approaches to improving the quality of teaching staff training, and this is also the case for modern engineering-pedagogical education. Vocational education teachers are highly qualified specialists for the system of vocational (vocational-technical) education and vocational pre-higher education in Ukraine, whose training is carried out at engineering-pedagogical higher education institutions (EPHEIs) and/or at engineering-pedagogical faculties and departments of technical and pedagogical higher education institutions (HEIs).

Engineering-pedagogical education (EPE) has emerged and developed as a result of the active growth of the industrial and agricultural sectors of the economy. Developments in these two sectors of the economy could never be ignored by the VET system, as both contribute significantly to the state budget. Therefore, as soon as there was an urgent need to train a significant number of qualified workers for enterprises, farmlands, etc., the same need arose for the training of teaching personnel who could properly educate and instruct such workers. But the link between engineering-pedagogical education and the two sectors of the economy has taken on a somewhat different, broader, and more significant meaning compared to the past; today, it not only determines the country's need for engineering-pedagogical education but also contributes to the change in the spectrum of engineering-pedagogical profiles and specialties. Considering the fact that at the current stage of Ukraine's development, market relations have touched all branches of the economy, including the educational sector, the process of finding and opening specialties which will be or already are in great demand on the labour market has accelerated significantly. Under these conditions, the concept of a "teacher-engineer" in its classical sense has a rather narrow meaning. Today, the question of training teacher-agronomists, teacher-programmers, teacher-managers, teacher-designers, etc. is increasingly raised.

The primary *aim* of the training of engineering-pedagogical personnel has always been consistent: to equip them with a professional and psychological-pedagogical foundation that is sufficient and necessary for organizing and executing the training of skilled workers and farmers at the current level of societal requirements (Briukhanova, 2010, p. 13). (It is important to note, however, that qualification levels and the nature of modern requirements have been changing constantly). Nevertheless, attaining this objective is reliant on various factors. Some of the objective factors are the need for workers and engineering-pedagogical personnel; the amount of government funding assigned to the educational sector; the contemporary societal demands for workers in industrial, agricultural, and other sectors, such as engineering and teaching; and the progress made in pedagogical theory and practice. It is recommended to take a historical approach to trace the development of engineering-pedagogical education and identify its characteristics at various periods (Bondarenko, 2020a; Horbatiuk, 2009; D. Kovalenko, 2015; Masych, 2017; Melezinek, 1999; Nychkalo, 2014).

The extent of economic development and the availability of funding for teacher–engineer education influenced the choices available to prospective educators. This resulted in two potential paths for individuals aspiring to become teachers:

- pedagogical education was offered as an extension to their fundamental technical education through courses, technical colleges, and vocational schools;
- components of technical knowledge were incorporated as an additional layer on top of their fundamental pedagogical education, which was obtained from pedagogical universities and colleges.

There were relatively few instances where pedagogical and technical training were offered continuously by engineering-pedagogical higher education institutions, engineering-pedagogical faculties, or departments at other higher education institutions. (Briukhanova, 2010, p. 13).

Admission requirements and training duration were determined on the basis of the objectives and nature of the training. Therefore, targeted pedagogical training via courses required applicants to possess high-quality full-fledged higher education in a specific field, and often pedagogical experience, resulting in short-term courses ranging from 3–4 or 6 months to 1–2 years (Briukhanova, 2010, p. 14). Advantages of this training approach included rigorous and purposeful selection for a pedagogical speciality, a condensed period of study, a concentration of pedagogical disciplines, and guaranteed employment after obtaining a diploma. The disadvantages, however, included a weak link between the technical and pedagogical components, low enrolment, and other related issues.

As a rule, pedagogical training at *vocational schools* was carried out alongside technical training, so it lasted three years on the condition that students enrolled had basic general secondary education with an industrial qualification of at least the third category and a predisposition to pedagogical work (Briukhanova, 2010, p. 14). One of the advantages of such training was an opportunity for potential students to be enrolled on the basis of incomplete general secondary education; furthermore, such training ensured gradual acquisition of pedagogical knowledge, which greatly improved students' motivation, as there was a harmonious combination of both technical and pedagogical components. The only shortcoming, from the point of view of modern VET education, was that it exclusively concerned specialized secondary education, which was only sufficient to obtain the position of an instructor of industrial training; hence, the ties with higher education institutions were not strong enough and the continuity in vocational training was not completely ensured.

At *technical or agricultural higher education institutions*, pedagogical education was provided during one academic year as an addition to the education already received in technical or agricultural fields respectively (Briukhanova, 2010, p. 14). Applicants were required to have corresponding education and work experience. The advantage of such training was that it involved using powerful technical facilities, which boosted employment opportunities in industry (enterprises, organizations). One of the drawbacks of such training, however, was that teachers of pedagogical disciplines demonstrated a

lack of professionalism; therefore, the pedagogical training of students was not good enough and the level of their motivation to study pedagogical disciplines was rather low.

The same requirements were imposed on future engineering teaching staff, whose training was carried out at *pedagogical higher education institutions*. Teaching experience was often required (for example for the training of methodologists) (Briukhanova, 2010, p. 14). The advantages and disadvantages of this training were absolutely different in comparison with the above-mentioned version of the training of engineering teaching staff. Its main advantage was strong pedagogical training, which presented an opportunity for employment in the educational field (at education institutions); however, its disadvantages included a poor technical base and teachers of technical disciplines with a low level of qualification, which resulted in poor technical training.

EPHEIs were established with the aim of offering training in both pedagogy and relevant technical skills. Teacher training was provided as an extension to technical education (as a superstructure), and also as a way to simultaneously offer both components of education.

The first option, which meant providing teacher training as an extension to technical education, required that an applicant have a degree from a technical higher education institution and at least one year of teaching experience; thus, the training programme could be implemented within six months. In case an applicant had a degree from a technical higher education institution and some work experience in the industry, the training programme could be implemented within two years.

The second option, which involved offering teacher training as a way to simultaneously acquire both components of education, required that an applicant have secondary specialized education; thus, the training programme could be implemented over three years; or an applicant had to have secondary general education as a necessary prerequisite for a further five years of study at a higher education institution (Briukhanova, 2010, p. 15).

The second option is also typical of modern engineering-pedagogical education. There were several positive outcomes associated with this approach, such as increased motivation for pedagogical activity resulting from long-term training. Consistent, in-depth study of pedagogical disciplines in a relaxed manner also contributed to better assimilation of relevant knowledge. The gradual integration of technical and pedagogical knowledge ensured objectivity in pedagogical training. Additionally, the teaching staff became stronger as a result, and the real connection between customers (vocational education institutions, colleges) and engineering-pedagogical higher education institutions was strengthened.

However, such training also had some drawbacks. For example, there was not enough time to complete the full teacher training programme (about 12 % of the total number of hours). Moreover, the development of a curriculum in which the schedule of the educational process would ensure consistency, logic, continuity, and profes-

sional relevance in the study of technical and pedagogical disciplines was rather complex.

The results of the analysis of historical data on the emergence and development of engineering-pedagogical education allow the following assertions (Briukhanova, 2010, p. 36):

- the training of engineering-pedagogical personnel must meet the highest requirements, since it determines the quality of training for the country's workers;
- there is a pattern in the correlation between the concepts "training period" and "requirements for applicants" (i. e., the lower the basic education, the longer the period of the training at a higher education institution, and, vice versa, the shorter the period of the training at a higher education institution, the higher the requirements for the basic level of education);
- teacher training as an extension to technical, agricultural, etc. education (as a superstructure) will be of high quality in the event that applicants have pedagogical experience and an aptitude for teaching;
- engineering-pedagogical education of the highest quality can be provided only by engineering-pedagogical higher education institutions and engineering-pedagogical faculties or departments whose teaching staff is highly competent in the field of pedagogy and technology (agriculture, information technology, etc.) and whose educational process is designed to provide pedagogical and technical education alongside each other;
- a gradual and multi-level assimilation of pedagogical theory and practice contributes to the growth in the number of applicants who, after graduating from an engineering-pedagogical higher education institution (faculty), are willing to find a job at a vocational education institution or college;
- engineering-pedagogical education is a young discipline and therefore needs more attention than any other area of education in terms of determining its opportunities, requirements, and development trends, especially under the conditions of European integration of Ukraine;
- in its development, engineering-pedagogical education should take into account the state of vocational technical education and vocational pre-higher education in order to bring the level of the training of engineering-pedagogical specialties as close as possible to the requirements students are likely to face upon employment.

3 Scientific and Legal Bases of Vocational Education Teacher Training at UEPA

First, it is highly important to determine the specifics of the training of vocational education teachers at UEPA. The Academy is located in Kharkiv. It is the only state higher education institution in the country that specializes in training professionals for the system of vocational (vocational-technical) education and vocational pre-higher educa-

tion, such as methodologists, industrial training instructors, and teachers, through the integration of pedagogical and vocational (economic, technological, information technology, etc.) components, starting from the first year of study and throughout the entire period of the training. It offers the following specializations:

- Vocational Education. Design.
- Vocational Education. Economics.
- Vocational Education. Electronics, Radio Engineering, and Telecommunications.
- Vocational Education. Electrical Engineering and Electromechanics.
- Vocational Education. Energy.
- Vocational Education. Welding.
- Vocational Education. Computer Technology.
- Vocational Education. Engineering.
- Vocational Education. Oil and Gas Business.
- Vocational Education. Service Sector.
- Vocational Education. Technology of Light Industry Products.
- Vocational Education. Transport.
- Vocational Education. Agricultural Production, Processing of Agricultural Products, and Food Technology.

The scientific foundations of the modern concept of engineering-pedagogical training are rooted in the research conducted by Bozhko (2019), Bondarenko (2020a), Briukhanova (2015), Horbatiuk (2009), D. Kovalenko (2015), O. Kovalenko (2018), Masych (2017), Khomenko (2016), and Shtefan (2015), among others. These studies have provided valuable insights into the formation of engineering-pedagogical training in contemporary settings. By incorporating these insights, UEPA has developed a comprehensive system of vocational education teacher training, drawing upon systemic, activity-oriented, person-oriented, competency-based, and stakeholder approaches. Moreover, these research findings have guided the determination of principles for organizing the educational process within the following conditions:

- *the principle of systematicity*, which means considering engineering-pedagogical education as a complete system, which, on the one hand, acts as an element of the even broader system of higher education, and, on the other hand, has constituent elements (structural and functional) that are also systems and that can be revealed through a systemic approach;
- *the principle of multidimensionality*, according to which engineering-pedagogical education is complex education, characterized by numerous interrelationships between its levels (junior bachelor, bachelor, master, doctor of philosophy), types of programmes (full and accelerated training), areas (general, technical-technological, and psychological-pedagogical training), competencies (integrative, general, professional), forms (theoretical and practical; face-to-face, part-time, remote; dual), and stages (ensuring motivation for future professional activity, formation of executive actions, control over the competencies developed);

- *the principle of unity* in the modelling of the professional pedagogical competency of a teacher–engineer and the corresponding system of their training (with the participation of stakeholders), which makes it possible to determine requirements for specialists according to the structural components of the personality within each defined competency and, consequently, to construct the training of a future teacher–engineer in accordance with them.

For these reasons, engineering-pedagogical education at UEPA is unique (Figure 1).

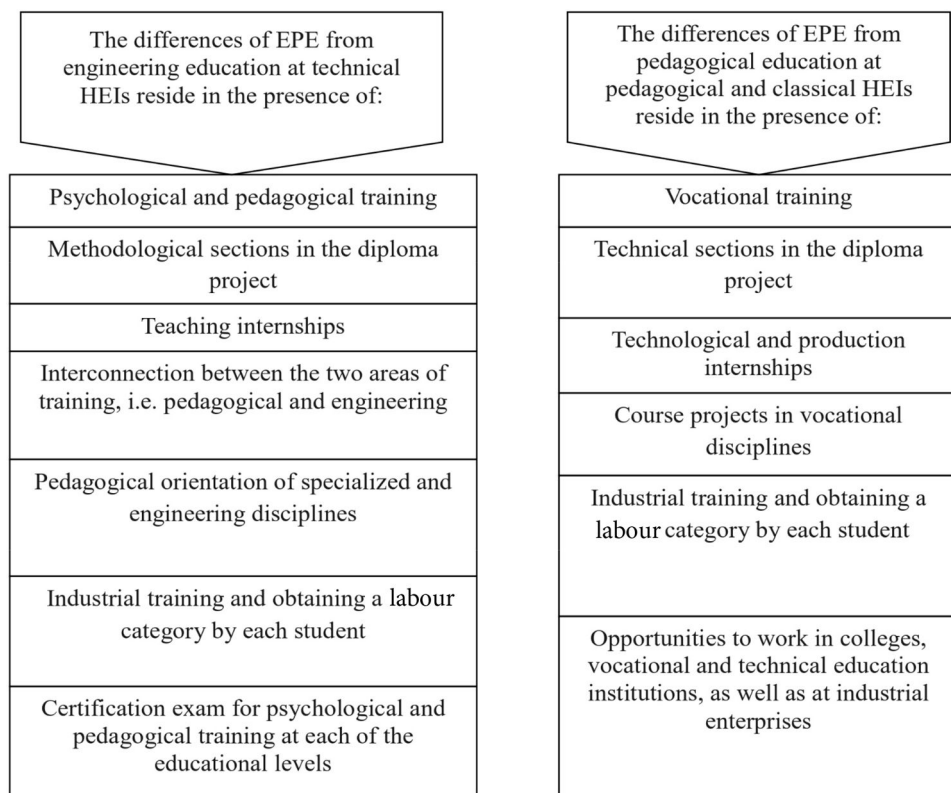


Figure 1: Defining features of engineering-pedagogical education (EPE) in comparison to purely engineering and purely pedagogical education

To ensure quality training of vocational education teachers, UEPA is guided by:

- a legal framework (the Law of Ukraine “On Education,” the Law of Ukraine “On Vocational [Vocational and Technical] Education,” the Law of Ukraine “On Higher Education,” the Law of Ukraine “On Education,” the Law of Ukraine “On Vocational Pre-Higher Education”) (Verkhovna Rada of Ukraine, 1998, 2014, 2017, 2019);

- requirements for accreditation of specialties and educational programmes by the national and European agencies for quality assurance in higher education (ISCED, 2011; ISCED-F, 2013; TEQF, 2018; TFQEHEA, 2018);
- vocational and educational standards (vocational standards for methodologists of vocational [vocational-technical] education institutions, industrial training instructors, vocational training teachers, teachers of higher education institutions; educational standards for junior bachelor, bachelor, master, and doctor of philosophy degree programmes);
- regulations and guidelines on how the educational process should be organized and conducted at UEPA and institutions that provide vocational (vocational-technical) education and vocational pre-higher education;
- tasks related to the development of education, which are determined by the participation of Ukrainian education institutions in international programmes and projects (in particular, the participation of UEPA in the ERASMUS+ project “New Mechanisms of Partnership-Based Governance and Standardization of Vocational Teacher Education in Ukraine [PAGOSTE]”);
- an increasing demand for teachers on the labour market, requirements and experience of stakeholders;
- achievements and experience of higher education institutions that train students in the 015 speciality “Vocational Education (by specialization).”

It is necessary to emphasize that the main task of education in modern conditions is to take into consideration the requirements of employers regarding the training of specialists in general and future vocational education teachers in particular. It is believed that one of the features of contemporary life is that “employers demand a professionally mature graduate of an engineering-pedagogical higher education institution” (Shtefan, 2015, p. 181).

The managerial and teaching staff at UEPA considers the implementation of partnership relations between interested parties (vocational education institutions, enterprises, public organizations, etc.) to be one of the ways to solve the above-mentioned task.

4 Ways of Implementing Partnership Relations to Ensure the Quality of Vocational Education Teacher Training at UEPA

Meaning and principles of a partnership in education

Prior to investigating strategies for establishing partnership relations to ensure the quality of vocational education teacher training at UEPA, we conducted a thorough examination of the relevant literature. This analysis encompassed studies by Avsheniuk (2019), Moskvichova (2016), Tadeush (2010), and Shevchenko (2014), among others, which provided a solid foundation for understanding the subject matter. These studies

contributed valuable insights into the establishment of effective partnership relations in the context of vocational education teacher training at UEPA.

We were guided by the fact that today it is necessary to “create appropriate conditions for the development of a flexible system of social partnership in vocational education, capable of promptly responding to accelerated technological progress, interacting with new service providers, and establishing a dialogue with employers” (Avsheniuk, 2019, p. 5). The idea that “business participation in the development of training programmes is important in social partnership” (Moskvichova, 2016, p. 297) was also taken into consideration.

We consider social partnership in vocational education to be a special type of interaction of education institutions with subjects and institutions on the labour market, as well as with state and local authorities and public organizations, aimed at optimal coordination and in consideration of the interests of all parties involved in this process (Shevchenko, 2014, p. 296).

The main principles of a partnership in education include “the principle of humanization and openness; sociocultural conformity; acceptability of traditions and innovations; systematicity and complexity; competence and scientific knowledge; optimism and long-termism; variability and mobility; tolerance and agreement; manufacturability and efficiency” (Tadeush, 2020, p. 60).

It was found that the development of partnerships in the field of vocational education is one of the aims of the Copenhagen process for the enhancement of cooperation in this field, which is actively implemented in many countries of the European Union. Within the framework of the Copenhagen agreements, social partners are participants in all processes of reforming vocational education, which involve improving the quality of vocational training, ensuring transparency of qualifications, transferring credit units, etc. (Declaration of the European Ministers of Vocational Education and Training and the European Commission, 1995).

Forging a partnership creates the necessary conditions for the high-quality training of competitive specialists for HEIs in general and UEPA in particular due to the following factors:

- fulfilment of the requirements from employers by means of adjusting the content of training;
- simplification of the access to information about the labour market;
- adjustment of training plans, taking into account the requirements of employers;
- organization of student internships;
- advanced training of teachers at enterprises;
- participation in joint commercial projects, etc.

The Centre for Teaching and Administrative Excellence in Ukrainian Vocational Education as a practical solution for the establishment of partnership relations at Ukrainian Engineering Pedagogics Academy

The Centre for Teaching and Administrative Excellence in Ukrainian Vocational Education (hereinafter the Centre) was founded at UEPA because establishing partnership

relations makes it possible to positively influence the development of education, allowing it to meet the needs of the labour market and the demands of the economic development of the state. The main functions of the Centre are

- to ensure partnership-based interaction through the creation of structural and functional horizontal and vertical connections;
- to implement tri-vector management, which combines, first, the efforts of the Academy, second, students as primary users of educational services and teachers of VET institutions as secondary users of educational services, and, third, future employers and the public as representatives of society;
- to conduct scientific, educational, and methodological activities using innovative means, methods, and technologies, which are mostly implemented on the basis of computer equipment.

The Centre delivers basic training for future vocational education teachers (junior bachelor, bachelor, master, doctor of philosophy) as well as advanced training of teaching staff of vocational (vocational-technical) education institutions and vocational pre-higher education institutions, promotes the interaction of students, reinforces cooperation with stakeholders and partners, and conducts scientific studies on the issues of engineering-pedagogical education.

Development of educational documentation at the Centre

Only through close contact and fruitful cooperation of UEPA with stakeholders and partners is it possible to systematically develop and implement

- educational standards (Ministry of Education and Science of Ukraine, 2016, 2019, 2020); (Ministry of Economic Development, Trade, and Agriculture of Ukraine, 2020);
- vocational training programmes (OPP);
- scientific training programmes (ONP);
- educational curricula and programmes;
- syllabi.

In addition, such cooperation makes it possible to adapt the content of academic disciplines, internships, certification exams, and qualification papers for basic training of future vocational education teachers for online and offline formats.

The directions of cooperation of UEPA with stakeholders and partners are summarized in Figure 2.

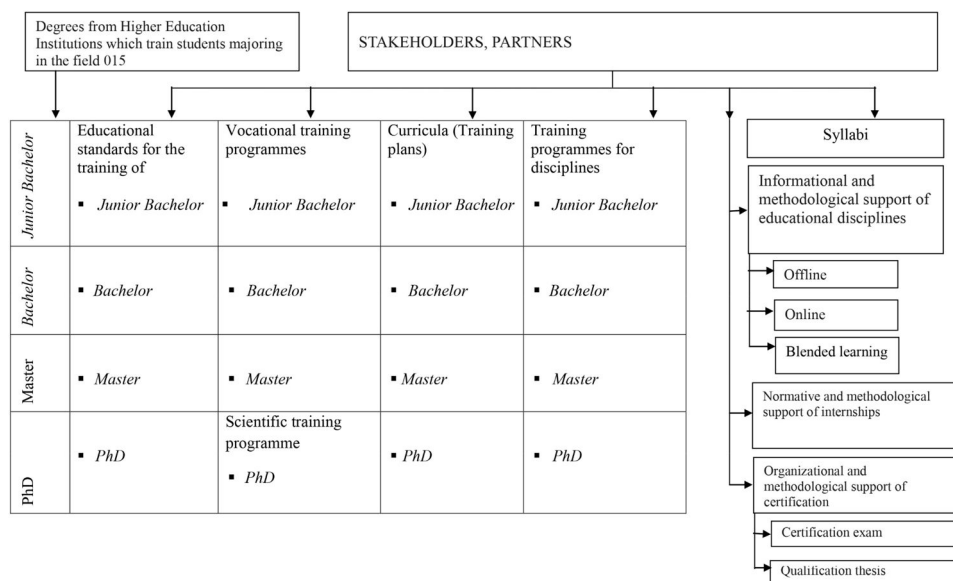


Figure 2: Organization of the educational process at UEPA with the participation of stakeholders and partners

Implementation of the educational process at the Centre

In order to improve the quality of basic engineering-pedagogical education, UEPA involves representatives of the administrative and teaching teams of vocational (vocational-technical) and vocational pre-higher education institutions to conduct practical classes in pedagogical academic disciplines, advise on student course papers, manage teaching internships, and conduct certification exams.

There are a total of nine educational (training) programmes whose accreditation involved representatives of vocational education institutions (and vocational pre-higher education institutions). Three of them are junior bachelor's degree programmes, one is a bachelor's degree programme, and five are master's degree programmes.

A total of 16 representatives of vocational education institutions (and vocational pre-higher education institutions) are involved in the accreditation of educational programmes. Five of these specialists took part in the development of junior bachelor's degree programmes, two stakeholders took part in the creation of bachelor's degree programmes, and nine people worked on the improvement of master's degree programmes.

UEPA used funds allocated within the project "New mechanisms of partnership-based governance and standardization of vocational teacher education in Ukraine (PA-GOSTE)" to purchase new equipment for the following classrooms:

- a lecture room;
- a pedagogical design classroom;
- a multimedia training classroom;
- an innovative educational technologies classroom;
- a pedagogical laboratory.

These classrooms are used for the following purposes:

- holding online/offline meetings with stakeholders;
- conducting training sessions with students;
- holding trial classes conducted by students;
- group viewing and discussing educational video materials;
- searching internet resources when creating and implementing projects;
- conducting scientific conferences;
- conducting business games, training courses, and round tables;
- creating internet projects, such as educational films, online lessons, presentation materials, educational sites; processing and summarizing filmed materials (for example, trial classes held at UEPA within teaching internships);
- designing distance learning courses within specific practical or project tasks.

Thus, now students have the opportunity to study in hybrid classrooms equipped with multimedia panels, TV sets, multimedia projectors, projection screens, computers, laptops, and multifunctional printing devices.

Management of pedagogical practices and internships at the Centre

Junior bachelor's degree programmes include a three-week teaching internship in workshops at UEPA in May–June in the second year of study. *Bachelor's degree* students undergo a three-week teaching internship at a vocational education institution in February (October) in the fourth year of study. *Master's degree* programmes include an eight-week teaching internship at a vocational education institution or a vocational pre-higher education institution in September–October in the second year of study. Preparation for a *doctoral (PhD) degree* involves a two-week assistantship at UEPA in the third year of study in October. The specifics of teaching internships at UEPA are presented in Table 1.

During internships, bachelor's students are actively involved in moral education and career guidance activities, which are integral components of their educational and methodological work. This distinguishes their internships from those of junior bachelor's students. As students progress to the master's level, research tasks are integrated into their teaching internships, in addition to the aforementioned roles. Moreover, during their assistantship practice, PhD students are further expected to engage in research and innovation activities.

For example, *the teaching internship for master's students* involves:

- three weeks to perform all specified types of work at the basic education institution according to the contract;
- one week to go on an excursion at a vocational education institution;
- two weeks to perform all specified types of work at technical and pedagogical departments of UEPA;
- one week to work in the call centre at UEPA;
- one week to prepare the report.

During any internship, comprehensive guidance is provided by representatives of all parties involved in their organization, and this is reflected in the comprehensive assessment in the differentiated credit.

Table 1: Organizational and content characteristics of teaching internships for future vocational education teachers at UEPA

Charac- teristics	JUNIOR BACHELOR	BACHELOR	MASTER	PHD
Duration	3 weeks	3 weeks	8 weeks	2 weeks
Place in the cur- riculum	May–June, 2nd year of study	February/October, 4th year of study	September–October, 2nd year of study	October, 3rd year of study
Location	Workshops at UEPA	VET institutions	VET institutions, specialized pre-higher education institu- tions, UEPA	UEPA
Goal	Skills develop- ment: to possess knowl- edge about mod- ern methods, or- ganizational forms, and tools in the field of the fu- ture profession in accordance with the specialization; to apply educa- tional theories in practical activities working as an in- dustrial training instructor	Skills develop- ment: to manage train- ing/development projects, using specific criteria for evaluating learn- ing outcomes; to ensure the qual- ity of education and management of activities of an education institu- tion, in accord- ance with the spe- cialization	Skills development: to develop and implement projects in vocational educa- tion, including interdisdisci- plinary ones; to carry out infor- mational and methodological support for them; to take into account the diversity of stu- dents when planning and im- plementing the educational process in vocational educa- tion; to apply and create new educational tools and tech- nologies and integrate them into the educational environ- ment of vocational education.	Skills develop- ment: to teach academic disciplines using innovative peda- gogical technolo- gies; to apply modern teaching methods at vocational edu- cation institutions.
Content (areas)	<input type="checkbox"/> educational and methodological work: <input checked="" type="checkbox"/> briefings <input checked="" type="checkbox"/> attendance of industrial training classes	<input type="checkbox"/> educational and methodological work: <input checked="" type="checkbox"/> attendance and conduct- ing of classes <input checked="" type="checkbox"/> development of an instruc- tional toolkit <input type="checkbox"/> educational work <input type="checkbox"/> vocational guid- ance work	<input type="checkbox"/> educational and methodo- logical work: <input checked="" type="checkbox"/> attendance and conduct- ing of classes <input checked="" type="checkbox"/> development of educa- tional and methodologi- cal support <input type="checkbox"/> educational activities <input type="checkbox"/> vocational guidance work <input type="checkbox"/> research activity: pedagogi- cal activity to solve complex tasks and problems in the field of vocational educa- tion <i>3 weeks – performance of all types of work at the basic edu- cation institution according to the agreement; 1 week – visit to a VET institu- tion;</i>	<input type="checkbox"/> educational and methodological work: <input checked="" type="checkbox"/> attendance and conduct- ing of classes <input checked="" type="checkbox"/> development of informa- tional and methodologi- cal support for a disci- pline/topic <input type="checkbox"/> research and in- novation activ- ity: use of peda- gogical activities to solve complex tasks and prob- lems in the field

(Continuing table 1)

Charac- teristics	JUNIOR BACHELOR	BACHELOR	MASTER	PHD
			<i>2 weeks – performance of all types of work at technical and pedagogical departments of UEPA; 1 week – work at the call center of UEPA; 1 week – preparation of the report</i>	of vocational education
Management	Managers from UEPA and its workshops	Managers from UEPA and VET institutions	Managers from UEPA, vocational education institutions, and vocational pre-higher education institutions	Managers from UEPA
Attestation	differentiated credit	differentiated credit	differentiated credit	differentiated credit

Employees (principals, deputy principals, teachers, and instructors) working at institutions of the vocational education system are involved as supervisors of student internships; in the 2020/2021 academic year there were 15 people involved, while in the 2021/2022 academic year there were 14 people involved.

Certification exams at the Centre

The structure and content of the certification exam, which is taken by students of junior bachelor's, bachelor's, and master's degree programmes, has been improved within the framework of the PAGOSTE project (Figure 3). According to the leading experts in the field of engineering-pedagogical education, "the development and implementation of educational programmes and curricula of the new generation has become not only a requirement of modern times, but also an opportunity for higher education institutions to employ a creative approach to the formation of the content of education, and to take into account their own specifics and experience when delivering training" (Kovalenko et al., 2017, p. 8).

To take the example of bachelor's degree training, the certification exam is organized as follows: During the consultation before the exam, students receive a productive task to prepare a didactic project (or its fragment) on the topic of the academic discipline in the relevant specialization. The completed task is, among other things, their admission to the exam, during which students receive reproductive tasks. After the exam, members of the examination board from representatives of the research and teaching staff of UEPA check all completed tasks, after which the board is ready for an interview with each student.

At the same time, a doctor of pedagogical sciences and professor of a pedagogical higher education institution is appointed as the head of the examination board; in addition to the specialists of the Academy (ScDs and PhDs in pedagogical sciences), the

board necessarily includes stakeholders, who are directors and deputy directors of vocational education institutions or vocational pre-higher education institutions.

Organization and defence of qualification theses at the Centre

The structure and content of the qualification theses of master's students have been improved.

At UEPA, a close collaboration between technical, psychological, and pedagogical departments ensures an improved quality of the training of students majoring in the 015 specialties (Figure 4). In the 2020/21 and 2021/22 academic years, two stakeholders were employed to teach pedagogical disciplines to students majoring in the 015 specialties. We assumed that "the new quality of the education system should be guaranteed by teaching staff able to employ modern educational technologies, best practices, and findings of pedagogical research in their professional activities" (Bozhko, 2019, p. 57).

Therefore, in master's theses, a lot of attention has always been paid to the modernization of industry facilities, including a mandatory pedagogical section covering the issue of improving the vocational training of personnel involved in the operation, installation, repair, etc. of the relevant equipment. But under the adjusted conditions, the concept of qualification theses and advising of students has been completely changed. The topic of the thesis, which was previously formulated, for example, as "Modernization of the object ... of the industry ...," is now formulated in the following way: "Vocational training of specialists ... for the object ... of the industry..."

The purpose of this thesis is to improve vocational training of personnel for vocational education institutions, vocational pre-higher education institutions, branch enterprises (organizations, institutions), and UEPA.

The problematics of the paper are reflected in the categorical research apparatus and the contents of the thesis. Its sections are as follows:

Section 1. The relevance of vocational training of specialists ... for the object ... of the industry ...

Section 2. Characteristics of the industry facilities: current state and modernization strategies (technical department).

Section 3. Requirements for supplying personnel for the object ... of the industry ... (technical department).

Section 4. Methodology of vocational training (advanced training) of specialists ... for the object ... of the industry ...

CERTIFICATION EXAM:

- ✓ in general and vocational-pedagogical training (junior bachelor's degree)
- ✓ in pedagogy, psychology, and vocational training methodology (bachelor's degree)
- ✓ in vocational pedagogical training (master's degree)

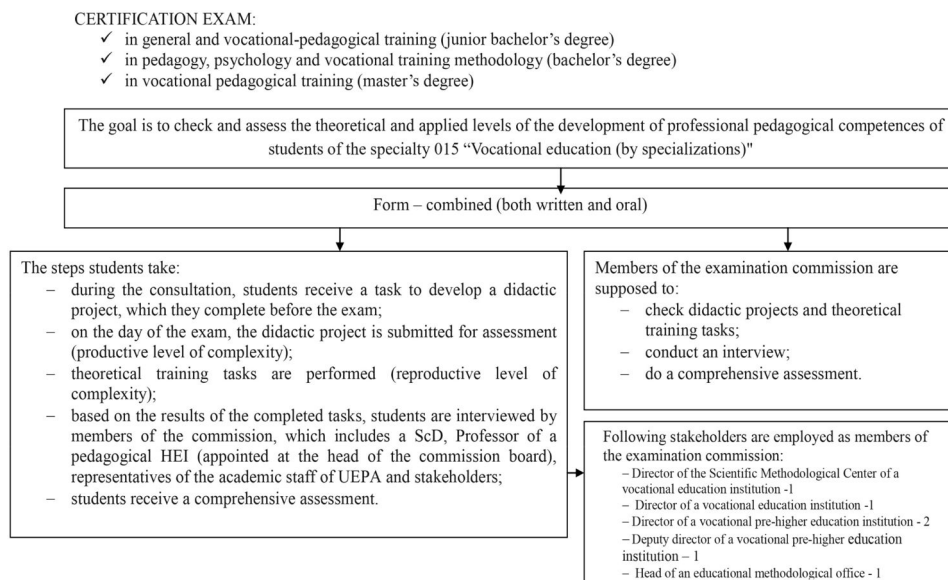


Figure 3: Organization of certification exams for future vocational education teachers at UEPA

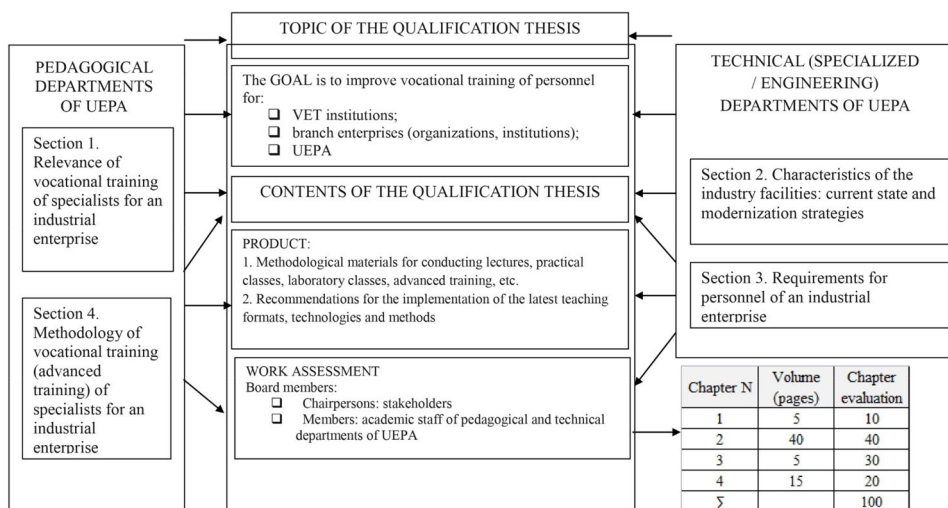


Figure 4: Organization and contents of future vocational education teachers' qualification thesis at UEPA

As a result, such qualification theses contribute to the enhancement of methodological resources for facilitating lessons, lectures, practical and laboratory sessions, elective courses, and professional development programmes. Furthermore, they provide guidance on the incorporation of contemporary instructional formats, technologies, and approaches.

The presentation and evaluation of the qualification thesis occur in the presence of a commission chaired by a key stakeholder who holds a leadership position within a base enterprise, organization, or institution. This commission comprises representatives from both technical and pedagogical departments. Points for the completion of each section are allocated proportionally and in accordance with established guidelines.

The guidance the Centre provides on advanced training (internships) for managerial and teaching staff of vocational (vocational-technical) education institutions as well as research and teaching staff of higher education institutions

The Centre supervises the advanced training (internships) of managerial and teaching staff of vocational education institutions, as well as research and teaching staff of higher vocational institutions (with UEPA being an illustrative example).

The central concept revolves around the notion that students who enrol in UEPA upon graduation from vocational education institutions or pre-higher education institutions specializing in vocational education, and subsequently obtain engineering-pedagogical education at the bachelor's and/or master's level, eventually return to these same institutions as vocational education teachers. In this manner, they assume the role of stakeholders for UEPA (Figure 5).

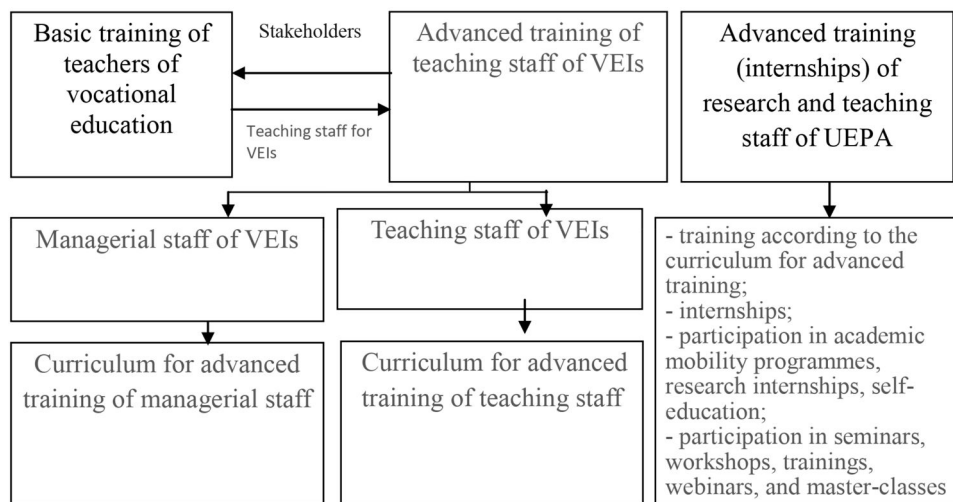


Figure 5: An improved model of partnership-based governance mechanisms for vocational teacher training at UEPA on the basis of the Centre

The objective of providing advanced training for teaching staff of vocational education institutions and vocational pre-higher education institutions is to facilitate their professional growth in alignment with state educational policies and quality assurance standards. The primary areas for professional development at the Centre encompass

- enhancing professional competencies, including expertise in academic disciplines as well as vocational education methodologies and technologies;
- understanding the psychological and physiological characteristics of students across different age groups, fundamentals of andragogy;
- establishing a safe and inclusive educational environment, considering the specificities of inclusive education, and providing additional support in the educational process for students with special educational needs;
- utilizing information, communication, and digital technologies in the educational process;
- developing competencies in language, digital literacy, communication, inclusivity, emotional intelligence, and ethical considerations;
- enhancing managerial competencies for education institution leaders, scientific and methodological institutions, and their deputies, among other areas of focus.

In compliance with Resolution No. 800, issued on 21 August 2019 by the Cabinet of Ministers of Ukraine, pertaining to “Some Issues of Improving the Qualifications of Teaching Personnel, and Research and Teaching Personnel,” the Academy offers a comprehensive solution for the professional development of teaching staff of vocational education institutions.

The educational programmes for advanced training courses designed for teaching staff encompass a diverse range of areas, covering all pertinent aspects of pedagogical practice. These programmes are structured to accommodate different credit requirements, ranging from one credit (equivalent to 30 hours) to six credits (equivalent to 180 hours). Consequently, each participant in the educational process has the opportunity to select an advanced training course that aligns with their individual interests and professional domain.

The educational programme for advanced training follows a modular approach, as illustrated in Figure 4.6; therefore, its structure should comprise modules dedicated to socio-humanitarian studies, psychological and pedagogical aspects, as well as professional-oriented content. These modules include both mandatory and flexible components.

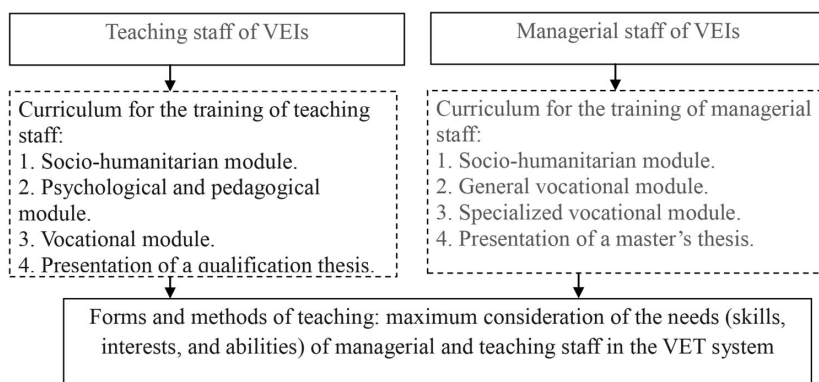


Figure 6: Directions of the improvement of advanced training of teaching staff of VETs at the Centre

The *socio-humanitarian module* aims to update and enhance knowledge and skills related to the regulatory and legal aspects of educational content and structure. It also focuses on fostering the overall culture and personal qualities of teachers and familiarizing them with current information, communication, and digital technologies used in the educational process.

The *psychological-pedagogical module* addresses current issues surrounding the implementation of an inclusive educational environment. It explores strategies for preventing bullying within the educational setting, techniques for minimizing stress levels, and resources for developing professional stress resistance.

The *professional development module* of the programme offers participants an opportunity to refresh their existing knowledge and acquire new insights into modern trends in vocational training methods. It also acquaints them with the latest instructional approaches, technologies, and techniques for organizing the educational process.

As a means of facilitating the advanced training courses, distance learning courses are available through the Moodle e-learning system. Through this platform, students have access to questionnaires, the course curriculum, class schedules, guidelines for the final thesis, lecture and presentation materials, as well as links to relevant videos.

When completing an advanced training course, students receive an opportunity to

- attend online classes that cover topics such as the regulatory and legal framework of education in Ukraine, organization and management in the education system, psychological aspects in education, computer technology in education, leading approaches in education and their implementation, content construction in education, inclusive education, innovative teaching tools, and modern pedagogical techniques;
- access additional informational materials available in the Moodle e-learning system (<https://do.uipa.edu.ua/course/view.php?id=1467>);
- participate in seminars, round tables, workshops, conference lectures (e. g., “Innovative Teaching Culture,” “Innovative Dimensions of the Educational Space,” “Educational Inclusive Space in Vocational Education Institutions,” “Media Lit-

eracy,” “Effective Communication Strategies,” “Training as an Active Form of Learning,” “Facilitation: Problem Solving in Teamwork,” “Gamification: Implementation of Game Approaches in the Educational Process,” etc.), as well as training courses and webinars (e.g., “Critical Thinking,” “Team-Building,” “Effective Communication for Education Managers,” “Art of Pedagogical Communication,” “Professional Growth of a Teacher,” etc.)

This allows teaching professionals to enhance their qualifications at their own convenience in comfortable conditions and receive a document that aligns with the requirements outlined in the Law of Ukraine “On Education” and Resolution No. 800 issued by the Cabinet of Ministers of Ukraine on 21 August 2019, addressing “Some Issues of Improving the Qualifications of Teaching Personnel, and Research and Teaching Personnel.” In the academic year 2020/2021, a total of 234 participants (150 teachers and 84 industrial training instructors) upgraded their qualifications through UEPA. Similarly, in the academic year 2021/2022, 109 participants (57 teachers and 52 industrial training instructors) engaged in the advanced training courses.

Furthermore, as part of the advanced training for research and teaching personnel at UEPA, plans are in place to organize international scientific conferences on engineering pedagogy, as well as to host seminars, round tables, workshops, online meetings, and teacher internships at partnering European universities (Figure 4.7).

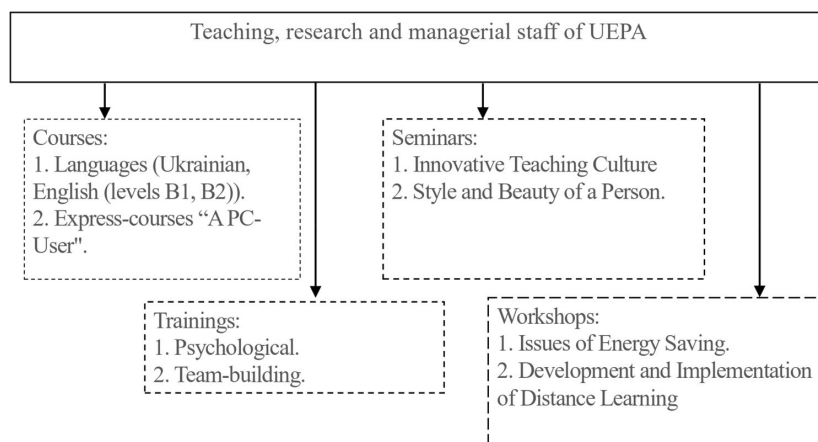


Figure 7: Directions for improving the qualification of research and teaching staff of UEPA on the basis of the Centre

UEPA extends invitations to teachers involved in training students specializing in “Vocational Education (by specializations)” to participate in the above-mentioned events. The administrative community of higher education institutions, vocational education institutions, and vocational pre-higher education institutions also joins these gatherings. At the same time, gender and age balance is observed.

For instance, during the academic year 2020/2021, five workshops were conducted, followed by six workshops in the subsequent academic year of 2021/2022. The topics that garnered significant interest among the participants included “The role of innovative learning technologies in the professional development of students in VET institutions” (O. Yakovets, November 2020), “Professional Skills of Teachers at VET Institutions and Their Impact on Students’ Critical Thinking” (T. Nazarenko, February 2021), “Methodology and Didactics of Distance Learning at VET Institutions” (P. Horbatenko, February 2021), “Professional Focus on Studying Specialized Technologies at VET Institutions” (S. Kalinenko, May 2021), and “Career Development of Future Qualified Workers” (V. Bondarenko, May 2021).

In general, the selection of event topics aligns with identified issues encountered in the process of training teachers and managing such training. This approach enables the implementation of European partners’ experience in managing the training of vocational education teachers, while further advancing international academic mobility for students sent to partner universities.

To ensure that the training of research and teaching staff at UEPA meets current requirements, the Academy has developed “Regulations on the Internship (Advanced Training) of Research and Teaching Staff at UEPA, based on regional educational methodological and practical VET centres, in line with departmental guidelines.”

A model of partner interaction and strategies for its implementation at the Centre

In light of the analysis of theoretical frameworks regarding the establishment of partnership relations in education and practical approaches to their implementation, UEPA has developed a model of partnership interaction among participants, based on the Centre. This model encompasses two key components: a basic training block for vocational education teachers and an advanced training block for teaching staff of vocational education institutions. The latter places emphasis on enhancing the qualifications of teaching professionals (teachers, industrial training instructors, and methodologists), as well as managerial personnel (directors, deputy directors, and heads of methodological associations). The schematic representation of this model is given in Figure 8.

The core objective of implementing the model of partnership interaction among participants at the Centre revolves around integrating basic and postgraduate engineering-pedagogical education through innovative forms and methods. Experienced teachers from VET institutions conduct workshops, seminars, and brainstorming sessions as part of advanced training for students in engineering and pedagogical disciplines. This approach effectively activates cognitive processes, enhances motivation, and promotes a practical orientation in the training of future specialists. Additionally, teaching professionals at UEPA actively explore the vocational training experiences of other higher education institutions through partnership collaborations.

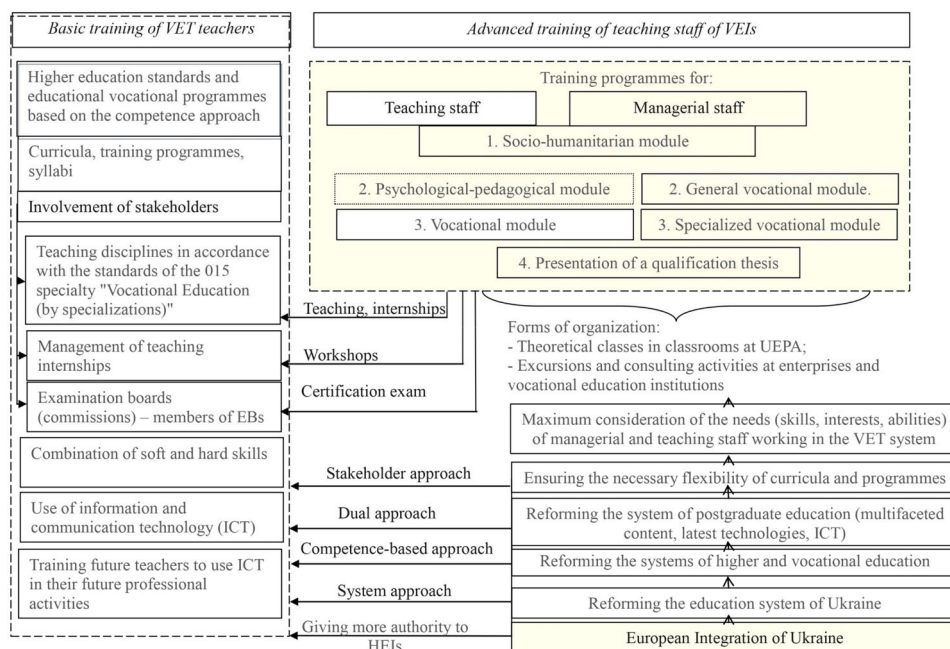


Figure 8: A model of partner interaction of the participants on the basis of the Centre

Partners and stakeholders in educational services, including the Ministry of Education and Science of Ukraine (MESU), the Institute of Vocational Education and Training of the National Academy of Educational Sciences of Ukraine (IVET of NAPS), UEPA, other higher education institutions offering training in the 015 specialty, VET institutions, vocational and pedagogical education students, and postgraduate students, establish interactions based on the principles of systematicity, multidimensionality, and unity in modelling the professional pedagogical competence of a teacher–engineer and the corresponding training system. This approach, which necessitates the active involvement of stakeholders, has yielded positive outcomes for their collaborative efforts, primarily attributed to the implementation of the project “New Mechanisms of Partnership-Based Governance and Standardization of Vocational Teacher Education in Ukraine (PAGOSTE).” These outcomes are presented in Table 2.

Thus, various methods for implementing partnership relations among participants in the educational process are available to ensure the high quality of vocational education teacher training. Research findings indicate that educational partnership is “a systemic phenomenon that reflects the characteristics of social and educational systems. It is based on experiences of social, socio-psychological, and interpersonal interaction, as well as corresponding mechanisms of socialization, integration, and identification” (Tadeush, 2020, p. 61).

Table 2: The outcomes of the collaboration between partners and users of educational services from the implementation of the project “New Mechanisms of Partnership-Based Governance and Standardization of Vocational Teacher Education in Ukraine (PAGOSTE)”

No.	Partners and users of educational services	Outcomes of the interaction between partners and users of educational services
1.	Ministry of Education and Science of Ukraine; Institute of Pedagogy and Vocational Training at National Academy of Educational Sciences of Ukraine	<ul style="list-style-type: none"> • establishing a competitive environment to stimulate the acquisition of major innovations and engage public services; • enhancing the implementation of professional and educational standards to foster the development of professional competencies; • enhancing productivity in the field of vocational education and training (VET); • improving the qualitative and quantitative indicators of staff at VET institutions; • ensuring the systemic nature, coherence, and effectiveness of managerial decision-making; • internationalizing and adapting foreign experiences.
2.	UEPA and other universities offering training in the 015 specialty	<ul style="list-style-type: none"> • enhancing the prestige and reputation of the 015 specialty; • effectively and promptly addressing immediate problems through the horizontal and vertical integration of stakeholders; • implementing targeted teacher training initiatives; • increasing the number of applicants for undergraduate and postgraduate studies; • establishing direct and efficient communication channels with users of educational services and other stakeholders and actively seeking their feedback to ensure the relevance, timeliness, and rationality of the implementation of changes; • boosting the motivation and professional commitment of prospective students, as well as engaging undergraduates and graduates in upgrading their professional skills; • updating and modernizing the content, methodologies, and modes of educational provision with active involvement of stakeholders in academic activities; • expanding the range of academic activities and resources for postgraduate studies, including advanced training and internships for academic teaching staff; • internationalizing and adapting foreign experiences.
3.	VET institutions	<ul style="list-style-type: none"> • effectively and promptly addressing immediate problems through the horizontal and vertical integration of stakeholders; • exercising direct influence over VET teacher training programmes at universities; • -having the ability to plan staffing and provide professional and career guidance for undergraduate and graduate students; • accessing timely, valuable, and efficient advanced and in-service training opportunities for teaching staff and administration; • internationalizing and adapting foreign experiences.
4.	VET students	<ul style="list-style-type: none"> • encouraging students' motivation, involvement, and mobility; • acquiring current knowledge and professional competencies through updated content, innovative technologies, modern equipment, and partnerships; • ensuring graduates' competitiveness in the job market; • internationalizing and adapting foreign experiences.
5.	Postgraduate students	<ul style="list-style-type: none"> • accessing differentiated and personalized post-graduate studies; • gaining contemporary experience on topical issues and in contemporary formats; • having a suitable and flexible study schedule; • cooperating with students who have the potential to become teachers for VET institutions; • internationalizing and adapting foreign experiences.

Today, the adoption of a concept with national status serves as the primary foundation for justifying the system, its methods, and its mechanisms of implementation, considering the dynamic changes in the labour market (Nychkalo, 2014, p. 51). At the same time, “the system-forming factors for the concept of vocational and technical education include social order, professionally qualified characteristics defined by state educational standards, and the structure of activities within the educational process” (Horbatiuk, 2009, p. 49).

The Department of Pedagogy, Methodology, and Education Management at UEPA is conducting research on “Improving psychological and pedagogical training for teaching staff in the VET system through partnership approaches.” The research focuses on the justification and application of effective teaching technologies applicable to VET teachers and students specializing in pedagogy, including “Vocational Education (by specializations).” The study also involves the design and implementation of effective educational technologies in newly equipped computerized classrooms. The research team consists of nine doctors of science, eleven doctors of philosophy, eleven teachers, and two stakeholders.

To disseminate the experience gained, we organized and held an International Round Table on “Development and Implementation of Partnership-Based Governance Mechanisms in the Training of Pedagogical Personnel for the VET System: Concepts of Effective Functioning” at UEPA on 11–12 March 2021. The event brought together 80 representatives from various Ukrainian higher education institutions providing training in the 015 speciality “Vocational Education” (by specialization), 97 directors and teachers from vocational pre-higher education and vocational technical education institutions, 28 employers, and 6 representatives from the Ministry of Education and Science of Ukraine.

In this manner, Ukrainian Engineering Pedagogics Academy is actively working towards defining new conceptual approaches to ensure the quality of VET teacher training and disseminating the obtained results throughout the country.

5 Criteria for Evaluating the Quality of Mechanisms of Partnership-Based Governance and Standardization of Vocational Education Teacher Training

On the basis of the guidelines for structuring the training of vocational education teachers, as outlined in regulatory documents, and considering the unique aspects of bi-professional activity and the personal qualities of professionals, we suggest a set of criteria for evaluating the effectiveness of training management (governance) mechanisms. This structure is based on partnership and standardization and *includes the following components*: value-oriented and motivational, content-based (cognitive), pedagogical and activity-based, technological, individual-psychological, and subject-based. These criteria were proposed by Bondarenko in 2020.

Now it is essential to provide a detailed specification of each component.

The value-oriented and motivational criterion is evaluated via the following indicators:

- value orientations of a vocational education teacher;
- interest in engineering and teaching activities;
- satisfaction with the quality of training and learning conditions.

The cognitive criterion is evaluated via the following indicators:

- profound knowledge and comprehension of fundamental laws in the natural sciences, sufficient for applying basic theories, methods, and principles of these sciences in the chosen profession;
- a command of professionally significant knowledge in specialized, psychological and pedagogical, managerial, scientific and methodological, subject-based, technological, and normative-legal domains;
- familiarity with the methodology and technology of designing, implementing, and supporting software for various purposes and directions;
- understanding of the principles and methods involved in organizing students' educational activities using information and communication technology (ICT) (Bondarenko, 2020b).

The pedagogical and activity-based criterion includes the following indicators:

- didactic skills, which encompass the ability to present educational material in an accessible and comprehensible manner, evoke student interest in the discipline, develop active independent thinking in students, adapt educational material to their level of understanding, organize independent work and knowledge acquisition, and effectively manage students' cognitive activity;
- methodological competence, involving the ability and willingness to create original educational and methodological materials incorporating up-to-date information on scientific and technological advancements, use modern teaching aids and innovative methods and technologies, as well as organize research work and respond constructively to diverse pedagogical situations while purposefully selecting educational material;
- diagnostic proficiency, denoting the teacher's aptitude to assess the current level of vocational training attained by their students within a specific educational discipline, engage in self-assessment of their own pedagogical activities to foster students' educational achievements, and create conditions that shape the level of vocational training of future specialists in terms of favourable or unfavourable achievement of learning outcomes (Bondarenko, 2020b).

The technological criterion encompasses the following indicators:

- design and construction activity (proficiency to solve typical specialized tasks related to the design of information systems for various purposes and domains, application of modern information technology methods and tools in designing and developing information systems, creation of applied programmes, such as computer-based training systems and computer-based test control systems, among others);

- production activity (ability to execute educational and production projects using computer technology, including learning management systems, programming languages at different levels, and software applications, and ability to develop applied research software using object-oriented programming methods and technologies for information management systems in diverse fields);
- operational activity (aptitude to use and adapt production and educational software and employ methodologies and technologies for software design, application, support, and maintenance throughout their life cycle) (Bondarenko, 2020b).

The individual-psychological criterion comprises indicators such as communication skills, resilience, and psychophysiological state (Bondarenko, 2020b).

When selecting the indicators for the individual-psychological criterion, the aforementioned requirements were considered primary, specifically: an adequate number of indicators to effectively represent the property of the investigated phenomenon (professionally important qualities of a vocational education teacher), maximum information acquisition, and the technicality of indicator assessment. This approach is determined by the significant number of professionally important qualities possessed by a teacher-engineer, which influence the level of their professional competence.

Drawing upon an analysis of scientific sources (Zavadska, 2002; Semychenko et al., 2000), we compiled a list of professionally important qualities necessary for successful professional activity of vocational education teachers. The list includes

- developed leading cognitive qualities (psychological and pedagogical observation skills, ability to concentrate and distribute attention, logical thinking in practical contexts, mental flexibility, persuasive skills, professional reflection, language proficiency, and rich vocabulary);
- pedagogical expressiveness in the emotional-volitional sphere (expression and intensity of emotions, conscious management of emotions, regulation of actions and behaviour, mental and emotional balance, self-control, patience, independence, decisiveness, organizational skills, discipline, and reasonable persistence);
- certain neurodynamic and characterological properties, such as resilience, strength, balance, mobility of neuropsychological processes, and prudence;
- verbal and communication abilities (clear and distinct speech, expressive communication skills, and effective interaction with others);
- a high level of memory development and attention distribution (ability to pay attention to multiple objects simultaneously) (Bondarenko, 2020b).

The success of constructive and organizational activities conducted by a teacher is heavily influenced by their ability to communicate effectively. This ability relies on the teacher's pedagogical tact, understanding of students' psychology, and establishment of rapport, taking into account their age and individual characteristics. Communication skills are also crucial for engineering specialists. Therefore, communication skills have been chosen as an indicator for the individual-psychological criterion. The inclusion of "resilience" and "communication skills" indicators in the group of indicators for assessing the professional competence of moral and psychological support organizers

can be cited as an example supporting this choice. The inclusion of the “psychophysiological state” indicator in the list is justified by its impact on the effectiveness of an employee’s activity and communication, which is a necessary condition for the professional success of vocational education teachers.

The subject-based criterion is evaluated according to the following indicators:

- adequate self-esteem and self-criticism;
- awareness of one’s own level of professional competence;
- awareness of one’s own activity and oneself as a subject of pedagogical activity.

The specific components of vocational education teacher training are determined via the assignment of appropriate points through diagnosis. Table 3 presents the criteria, indicators, and diagnostic tools for assessing the training of vocational education teachers.

To determine the levels of vocational education teacher training, we calculated the indicators of each component. We then obtained the integral value by taking the weighted average additive convolution of the values from all components using the same rationale.

Table 3: Assessment of the levels of vocational education teacher training

No.	Criteria	Indicators	Assessment Toolkit
1.	Value-oriented and motivational	1. value orientations of a vocational education teacher; 2. interest in engineering and teaching activities; 3. satisfaction with the quality of training and learning conditions	Questionnaire; testing
2.	Cognitive	1. profound knowledge and comprehension of fundamental laws in the natural sciences, sufficient for applying basic theories, methods, and principles of these sciences in the chosen profession; 2. command of professionally significant knowledge in specialized, psychological and pedagogical, managerial, scientific and methodological, subject-based, technological, and normative-legal domains; 3. familiarity with the methodology and technology of designing, implementing, and supporting software for various purposes and directions; 4. understanding of the principles and methods involved in organizing students’ educational activities using information and communication technology (ICT)	Questionnaire; testing; poll
3.	Pedagogical and activity-based	1. didactic activity; 2. methodological activity; 3. diagnostic activity	Performance of quasi-professional and professional practical tasks

(Continuing table 3)

No.	Criteria	Indicators	Assessment Toolkit
4.	Technological	1. design and construction activity; 2. production activity; 3. operational activity	Performance of quasi-professional and professional practical tasks, analysis of activity results
5.	Individual-psychological	1. emotional and volitional stability (resilience); 2. communication skills; 3. psychophysiological state	Questionnaire; psychodiagnostic testing
6.	Subject-based	1. adequate self-esteem and self-criticism; 2. awareness of one's own level of professional competence; 3. awareness of one's own activity and oneself as a subject of pedagogical activity	Questionnaire; psychodiagnostic testing

In order to assess the level of the training of vocational education teachers using obtained numerical data and specific indicators, we employed a qualitative approach, allowing for an appropriate quantitative evaluation through the development of a factor-criterion model. It was recognized that “the qualitative toolkit can be used for monitoring within the internal quality assurance system of vocational education institutions, as well as for institutional audits in the external quality assurance system of vocational education institutions” (Yelnykova, 2019, p. 23).

The diagnosis of the level of vocational education teacher training involved the creation of a factor-criterion model based on the algorithm for constructing qualitative models (Yelnykova, 2019). This model serves as a standardized reference, representing the monitoring of an object with both qualitative and quantitative characteristics. It establishes the primary guidelines for assessing the activities of the objects in the form of parameters, factors, and first-order criteria.

At the core of the model lies the parameter “level of the training of a vocational education teacher,” denoted as P . The value of P ranges from 0 to 1, which corresponds to the selected diagnostic interval for a specialist ranging from 0 to 100 points. The parameter encompasses factors whose role is played by the criteria used to evaluate the levels of vocational education teacher training. Each factor carries a specific weight, and all factors (referred to as criteria in this chapter) are evaluated on a fractional scale.

The calculation of each factor's value is conducted on the basis of the assessment of K_n values for the indicators used to diagnose the level of vocational education teacher training (or criteria, as denoted in this research), while considering their respective weighting coefficients V_j . The overall evaluation of vocational education teacher training is carried out via the following formula:

where m_i is the weight of the i -th criterion;
 V_j is the weight of the j -th indicator;
and K_n is the value of the n -th indicator.

The factor-criterion model for evaluating the training of vocational education teachers is given in Table 4.

Table 4: The factor-criterion model for evaluating the training of vocational education teachers.

No.	Criterion (F _i)	Criterion weight (m _i)	Indicator	Indicator weight (V _j)	Indicator value (K _i)	Partial assessment of V _j *K _n indicators	Partial evaluation of F _i criteria
1.	Value-oriented and motivational $F_1 = m_1 (V_1 K_1 + V_2 K_2 + V_3 K_3)$	0.18	1. value orientations of a vocational education teacher	0.25	0,85	0,21	0,15
			2. interest in engineering and teaching activities	0.37	0,85	0,31	
			3. satisfaction with the quality of training and learning conditions	0.38	0,85	0,32	
2.	Cognitive $F_2 = m_2 (V_4 K_4 + V_5 K_5 + V_6 K_6 + V_7 K_7)$	0.21	4. knowledge of the basic laws of natural sciences	0.2	0,89	0,19	0,19
			5. professionally significant knowledge in specialized, psychological and pedagogical, managerial, scientific and methodological, subject-based, technological, and normative-legal domains	0.32	0,9	0,28	
			6. knowledge of the methodology and technology of the design, application, and maintenance of software for various purposes and directions	0.28	0,9	0,25	
			7. knowledge of the principles and methods of organizing educational activities using ICT	0.2	0,89	0,18	
3.	Pedagogical and activity-based $F_3 = m_3 (V_8 K_8 + V_9 K_9 + V_{10} K_{10})$	0.15	8. didactic activity	0.34	0,6	0,2	0,09
			9. methodological activity	0.31	0,7	0,22	
			10. diagnostic activity	0.35	0,6	0,21	
4.	Technological $F_4 = m_4 (V_{11} K_{11} + V_{12} K_{12} + V_{13} K_{13})$	0.18	11. design and construction activity	0.3	0,94	0,28	0,17
			12. production activity	0.36	0,95	0,34	
			13. operational activity	0.34	0,93	0,32	
5.	Individual-psychological $F_5 = m_5 (V_{14} K_{14} + V_{15} K_{15} + V_{16} K_{16})$	0.15	14. resilience	0.37	0,78	0,29	0,12
			15. communication skills	0.32	0,82	0,26	
			16. psychophysiological state	0.31	0,79	0,24	

(Continuing table 4)

No.	Criterion (Fi)	Criterion weight (mi)	Indicator	Indicator weight (Vj)	Indicator value (Ki)	Partial assessment of $V_j \cdot K_n$ indicators	Partial evaluation of Fi criteria
6.	Subject-based $F_6 = m_6(V_{17}K_{17} + V_{18}K_{18} + V_{19}K_{19})$	0.13	17. adequate self-esteem and self-criticism	0.34	0,83	0,28	0,11
			18. awareness of one's own level of professional competence	0.33	0,85	0,28	
			19. awareness of one's own activity and oneself as a subject of pedagogical activity	0.33	0,86	0,28	

When analysing the results of the experiment, it is crucial to consider the division of the traditional cognitive component of the specialist's professional competence into two distinct components due to the bi-professional nature of vocational education teaching. These components include the technological component, which encompasses the engineering aspect of professional activity, and the pedagogical and activity-based component, which focuses on the pedagogical aspect. Together, these two criteria contribute 0.33 units to the overall assessment, aligning with the evaluation of the cognitive criterion. Collectively, these three criteria constitute approximately 60 % of the overall assessment of professional competence formation. The remaining three criteria (value-oriented and motivational, individual-psychological, and subject-based) account for 40 %, indicating the importance of personal qualities of vocational education teachers.

The structural composition of the components and individual indicators used for diagnosing the training of vocational education teachers is deliberately designed to be interconnected and mutually dependent. Only through a comprehensive approach can the objectivity of the diagnostics be ensured.

The proposed approach has been tested and actively employed in studying the results of the training of future vocational education teachers (see Figure 9).



Figure 9: Dynamics of changes in the general level of the development of professional competence of future vocational education teachers (Source: Bondarenko, 2020b)

The established system of criteria serves as the foundation for future applications in assessing the state of vocational education teacher training.

6 Conclusions and Suggestions for Further Research

The project “New Mechanisms of Partnership-Based Governance and Standardization of Vocational Teacher Education in Ukraine” has facilitated the refinement of approaches that consider the trends in European and domestic education, stakeholder requirements, and the unique nature of VET teacher training at Ukrainian Engineering Pedagogics Academy.

The origins shaping the quality requirements for vocational education teacher training have been identified through extensive research, leading to significant conclusions. Notably, it has been clarified that engineering-pedagogical education of the highest quality can only be provided by institutions with specialized engineering-pedagogical faculties or departments staffed by highly competent educators in the fields of pedagogy and technology. Additionally, the training of students in engineering-pedagogical specialties should closely align with the expectations of potential employers.

The specific scientific and legal framework underpinning the vocational training of vocational education teachers at UEPA has been established, encompassing Ukrainian laws, documents from national and European quality assurance agencies for higher education, and the normative documents issued by the education institution.

Emphasis has been placed on the inclusion of educational standards for junior bachelor's, bachelor's, master's, and PhD degree programmes, along with regulations governing the organization of educational processes at UEPA, vocational education institutions, and vocational pre-higher education institutions. It has been determined that the main task of education in modern conditions is to take into account the requirements of employers regarding the training of specialists in general and future teachers of vocational education in particular.

The structure of criteria for evaluating the quality of governance mechanisms for vocational education teacher training based on partnership and standardization has been found to consist of value-oriented and motivational, cognitive, pedagogical and activity-based, technological, individual-psychological, and subject-based components. Research conducted on this basis has demonstrated that partnerships in vocational education positively influence the development of high-quality education that aligns with labour market needs and supports the state's economic growth.

Regarding future prospects, we see the implementation of the “Concept of the State-Targeted Social Programme for the Development of Vocational (Vocational-Technical) Education for 2022–2027” (Cabinet of Ministers of Ukraine, 2021) as a promising avenue for further development, particularly through international partnerships. The programme highlights the importance of international projects in vocational (vocational-technical) education. Therefore, the Academy's research and teaching staff are considering expanding partnership interactions through grant activities with other

European education institutions engaged in vocational education teacher training as one of the priority directions to pursue.

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Bibliographical Notes

Olena Kovalenko is the Advisor to the Rector of Ukrainian Engineering Pedagogics Academy, a Professor at the Department of Pedagogy, Methodology and Education Management, and Doctor of Pedagogical Sciences (ScD). Her scholarly pursuits revolve around various areas of inquiry, including the establishment of educational quality monitoring systems aligned with international standards, the development of criteria for evaluating educational institution performance, the identification of indicators for assessing training effectiveness, and their integration into educational standards. Additionally, her research focuses on enhancing the content and quality of vocational education and exploring the theoretical and methodological underpinnings of the pedagogical component within engineering-pedagogical education.

Ukrainian Engineering Pedagogics Academy
Universytetska St., 61003, Kharkiv, Ukraine
rektor@uipa.edu.ua

Nataliia Briukhanova is the Head of the Department of Pedagogy, Methodology and Education Management of Ukrainian Engineering Pedagogics Academy and Doctor of Pedagogical Sciences (ScD). Her scientific interests reside in the field of improving the content of pedagogical education of vocational education teachers and methodology of vocational training, as well as designing and modelling educational and vocational training of vocational education teachers.

Ukrainian Engineering Pedagogics Academy
Department of Pedagogy, Methodology and Education Management
Universytetska St., 61003, Kharkiv, Ukraine
brnat@ukr.net

Liudmyla Shtefan is a Professor at the Department of Pedagogy, Methodology and Education Management of Ukrainian Engineering Pedagogics Academy and Doctor of Pedagogical Sciences (ScD). Her scientific interests are focused on the questions of developing an innovative culture of vocational education teachers, as well as fostering and implementing innovative learning technologies in the educational process within vocational training.

Ukrainian Engineering Pedagogics Academy
Department of Pedagogy, Methodology and Education Management
Universytetska St., 61003, Kharkiv, Ukraine
lvlshtefan@gmail.com

Tetiana Bondarenko is a Professor at the Department of Information Computer Technologies and Mathematics of Ukrainian Engineering Pedagogics Academy and Doctor of Pedagogical Sciences (ScD). Her research interests primarily revolve around several areas, including monitoring the quality of education in vocational education teacher training, cloud technology, information technology and programming, robotics, development and utilization of interactive mobile applications, innovative teaching methods for STEM subjects, and digitalization of engineering and pedagogical education.

Ukrainian Engineering Pedagogics Academy
Department of Information Computer Technologies and Mathematics
Universytetska St., 61003, Kharkiv, Ukraine
bondarenko.tc14@gmail.com

Hanna Korniusush is a Senior Lecturer at the Department of Foreign Language Training, European Integration and International Cooperation of Ukrainian Engineering Pedagogics Academy and Candidate of Pedagogical Sciences (PhD). Her scientific interests reside in the realm of the teaching of foreign languages, methodological issues of the introduction of blended, distance, and online learning, methodological prerequisites of the enhancement of students' soft skills and emotional intelligence when teaching foreign languages, and history of education.

Ukrainian Engineering Pedagogics Academy
Department of Foreign Language Training,
European Integration and International Cooperation
Universytetska St., 61003, Kharkiv, Ukraine
hannakorniusush@gmail.com

Nataliia Korolova is an Associate Professor at the Department of Pedagogy, Methodology and Education Management of Ukrainian Engineering Pedagogics Academy and Candidate of Pedagogical Sciences (PhD). Her scientific interests encompass scientific and practical approaches to improving professional competence of vocational education teachers.

Ukrainian Engineering Pedagogics Academy
Department of Pedagogy, Methodology and Education Management
Universytetska St., 61003, Kharkiv, Ukraine
koroleva-nv79@ukr.net

PART III. Ukrainian Vocational Teacher Training in a Broader Context

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 (Chernilevskyi, 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 Velykono-silkivskyi 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 “Khmelnitskyi 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 specialty "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>
1.11. Documents confirming professional and educational qualifications, its attribution to the level of the National Qualifications Framework (NQF)	
<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 specialties of the field of knowledge 01 Education/Pedagogy (level 6 of the NQF).</p> <p>Master's degree in specialty 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>
2.1. Primary professional training	
<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>were added</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)	
Planning of the educational process	
<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>
Implementation of the educational process	
<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>
Implementation of self-educational activities	
<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>
Implementation of methodical work	
<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>
Implementation of research and experimental activities	
<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
A1. 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-

cation 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

Civil Society and Policy Dialogue in Vocational Education and Training

OLEKSANDR KUPRIYANOV*, TETIANA BONDARENKO, HALYNA YELNYKOVA,
DENYS KOVALENKO, ROMAN NESTERENKO & TETIANA RUSLANOVA

Abstract

Civil society in Ukraine is rapidly developing and gaining influence in the field of education. The country is gradually moving from a system of state management to a system based on public influence on processes, also in education. This contributes to the rapid improvement of education in general, including vocational education. The system of vocational education is also subject to radical reformatting with an emphasis on the regional level and the involvement of employers in professional standards development and financing of personnel training. Such an organizational transition can significantly improve the quality of vocational education. However, not all the necessary conditions for this are currently available.

The role of international public organizations in the development of national systems of vocational education has increased due to globalization and the growth of competition on the world market. The new paradigm of relations between civil society, the state, the economy, and the field of vocational education should be based on the search for points of intersection of their interests.

Keywords: VET, Ukraine, civil society, cooperation

1 Introduction

Providing and improving education for citizens is an important and responsible function of the state. Driven by the increase in the level of education of the average worker, modern complex technologies can be introduced in industry, well-being increased, crime reduced, and other measures that contribute to the development of society initiated. The greater the proportion of highly educated citizens, the more highly developed society and the more powerful economy is in the state. That is why almost all countries have introduced compulsory secondary education, and vocational and higher education have support or benefits from the state budget. The future-oriented management of the state tries to grow its own personnel and attract specialists from abroad.

The problem of education development, the formation of human capital, has always been the focus of scientists and education managers. They have studied global

* Corresponding author

problems of modern education, covering a generalized description of the most important directions of the development of society and its future. Strategic tasks and the main routes for reforming vocational education and training new generation educators have been determined to be means of addressing these problems (Nychkalo, 2014). Some attention has also been paid to the development of adult education in Ukraine, including proposals on ways to develop domestic adult education in the context of globalization and European integration (Lukianova, 2011).

However, no matter how effectively education is organized in the state, it cannot do without the support of civil society. There are several reasons for this. First, state institutions do not have the same flexibility as civil society and work only in the main directions namely, democratization of all spheres of public life: politics, economy, culture. Second, civil society in democratic countries is an effective indicator of the correct direction of development. Therefore, professional associations and organizations, foundations, representatives of enterprises and employers, parents, and supervisory boards of educational institutions play an extremely important role in choosing the right vector and effective functioning of education in the state. State managers were engaged in determining the role of public organizations in modern Ukrainian society (Hostieva, 2017). They considered the main principles of the functioning of public associations and problems in the course of their development in the context of the development of civil society. Under conditions of military aggression, civil society has turned into a partner of the state which can perform an important function: strengthening cooperation with donor organizations of European states (Bondarenko, 2022).

In this chapter we will consider these representatives of civil society, taking into account their prevalence and influence in Ukraine.

2 Participants of Civil Society in the Field of Education and Their Areas of Competence

Representatives of professional associations and organizations have considerable experience and knowledge in a certain professional field and can act as experts on issues of vocational education. Their areas of competence include knowledge of labour market needs, the ability to develop innovative vocational education programmes, and the ability to plan and coordinate training programmes. Accordingly, professional associations and organizations in the field of education have a certain influence on development, including that of vocational education.

Industry trade unions have existed in Ukraine since Soviet times. The Trade Union of Education and Science Workers of Ukraine (Profspilka Pratsivnykiv Osvity i Nauky Ukrainy, n. d.) is one of the largest trade unions in Ukraine, uniting workers of education, science, and culture. It sees its tasks as protecting the labour, social, and economic rights of education and science workers, strengthening their material and technical base, and ensuring proper working conditions. The organization conducts collective negotiations with employers regarding salary increases, working conditions,

development of vocational education, and other issues. The trade union is engaged in conducting various cultural, scientific, and methodological events and arranging labour training, retraining, and advanced training of education and science workers. In addition, the organization actively cooperates with state authorities, public organizations, and international organizations to ensure the rights of workers and the development of education in Ukraine.

Quite famous in Ukraine is the Ukrainian Adult Education Association (Ukrainian Adult Education Association, n.d.), which has been operating since 1999. The main tasks of the association are to promote the development of adult education infrastructure, create conditions for the opening of new educational institutions, and improve the quality of adult education. The association develops and implements adult education programmes that meet the needs of the labour market and socio-economic challenges, conducts training courses and seminars for educators and heads of educational institutions, conducts scientific research in the field of adult education, and develops teaching methods and technologies.

Another trade union is the All-Ukrainian Association of Vocational Education Workers. In recent years, it has reduced its activity in the information space but continues to promote the development of vocational education in Ukraine, to protect the rights and interests of vocational education workers, to improve the qualifications of vocational education specialists, and to cooperate with international organizations on vocational education.

The Ukrainian Educational Research Association (Ukrainian Educational Research Association, n.d.) is a scientific and methodological professional association that unites scientists, researchers, educators, doctoral students, graduate students, and other specialists in education. The organization was founded in 1997 and registered as a public organization. The goal of the Education Research Association is to promote the development of scientific research in the field of education, to improve the quality of scientific and methodological support for education, to form a professional community of education researchers, to spread knowledge about education among the population, and to promote cooperation with scientific organizations and educational institutions in Ukraine and abroad. The association holds various events, such as scientific conferences, seminars, training courses, round tables, and other events aimed at discussing and solving current problems of education. The organization also prepares scientific publications devoted to education issues. Members of the association can be both individual researchers and scientists and scientific teams and institutions engaged in research in the field of education. To join the organization, one must have a scientific degree or relevant scientific experience.

The Ukrainian Association for Management Development and Business Education (Ukrainian Association for Management Development and Business Education, n.d.) focuses on economic education. It implements an independent accreditation system and modern management technologies and develops MBA programmes at educational institutions in Ukraine. It also contributes to the entry of management and business education institutions into the European educational space and is developing a

network of short- and medium-term advanced training programmes for educators and administrators of business and management education institutions.

Ukrainian professional associations and educational development organizations cooperate on strategic tasks with various foreign counterparts, such as the International Educators and Scholars Foundation (NGO International Educators And Scientists Foundation, n. d.), the Institute for International Cooperation of the Deutscher Volkshochschul-Verband (vhs. DVV International, n. d.), the European Educational Research Association (European Educational Research Association, n. d.), and the World Education Research Association (World Education Research Association, n. d.)

Funds are available to finance the development of education in Ukraine. These funds help ensure the development of education in Ukraine by supporting projects that help improve the quality of education and teacher training, because without appropriate funding, many things are impossible.

The most famous Ukrainian educational funds include the Fund of the President of Ukraine for the Support of Education, Science, and Sports (The Fund of the President of Ukraine, n. d.) This is an institution that enables the development and support of talented Ukrainians in the field of education, science, and sports in order to restore and realize human potential and strengthen Ukraine's leadership positions in the world, because human capital is the main driving force. This fund was created to improve the quality of education in Ukraine. It finances talented youth, projects for modernizing educational institutions, new educational programmes, the material and technical foundation of schools, etc.

The international charitable foundation "Ukraine 3000" (Ukraina 3000. Mizhnarodnyi blahodiinyi fond, n. d.) is an independent non-governmental, non-profit, non-political charitable organization. The fund also supports education. This fund finances projects to create new curricula, improve the quality of teacher education, develop STEM education, and promote other initiatives.

The Education and Training Development Assistance Foundation (Fond dopomohy rozvytku osvity ta navchannia, n. d.) improves material and technical support for educational institutions by providing equipment, household goods, stationery, and equipment. It also supports talented children and young people by promoting the development of children's scientific activities in the system of the Small Academy of Sciences and encouraging participation in local, national, and international subject olympiads. The foundation works to provide charitable assistance to teachers, educators at preschool institutions, and technical staff. It develops relationships and cooperates with public charitable organizations, higher, secondary and preschool educational institutions, legal entities, and individuals in Ukraine and abroad, studies their experience, and much more. For its work, the foundation attracts voluntary charitable contributions from individuals and legal entities in the form of cash receipts, property, and other material values for carrying out charitable activities.

The Educational Initiatives Foundation (Educational Initiatives Foundation, n. d.) promotes the development of young people and works to make education meet modern needs. The foundation pays special attention to the financing of STEM education –

one of the most effective methods for helping children and adults to acquire competencies.

The charity fund “Borys Grinchenko Charity Foundation for Promoting Education” (Charity Fund “Borys Grinchenko Charity Foundation for Promoting Education”, n. d.) has more than 20 years of experience in charitable activities. The organization finances charitable events, conferences, meetings, seminars, exchanges, and other similar types of cooperation in education and science; contributes to the development of new methods, technologies, and their implementation in the educational environment; provides assistance in the development of publishing, mass media, and information infrastructure; works on the development of science; and promotes scientific inventions through the provision of scholarships and grants.

In addition to professional associations and foundations, representatives of enterprises and employers are an influential component of civil society with regard to education. This is because the customers of vocational and higher education institutions are employers. The situation on the labour market is changing rapidly, and employers are the first to feel these changes.

The most influential organization of business representatives in Ukraine is the Confederation of Employers (Confederation of Employers of Ukraine, n. d.) The Confederation of Employers has a significant influence on the development of vocational education in the country through its links with the government, employers, and other public organizations. The Confederation of Employers influences the development of vocational education through requests to the government regarding the development of vocational education. It influences the increase in funding for vocational education, the creation of new programmes, and the support of vocational education for workers. The Confederation of Employers can influence the content of vocational education programmes that meet the needs of the labour market. It provides guidance on programme content that more accurately reflects the needs of employers. The Confederation of Employers promotes the development of entrepreneurship, the creation of new jobs, and the raising of requirements for the qualifications of employees. This can stimulate the development of vocational education and ensure its compliance with the needs of the labour market. The Confederation of Employers provides support for vocational students, for example through internships at its member companies, job offers after graduation, and financial support.

In addition to the Confederation of Employers, the employers’ interests in the organization of education can be represented by specialized associations and unions formed in certain branches of industry or at large enterprises. Individual large companies may also have their own vocational education development programmes and cooperate with educational institutions to train their employees. In addition, the government can consult with employers on vocational education development policies and take their needs and suggestions into account when making decisions.

Civil society is also integrated directly into educational institutions in supervisory boards. Previously, such boards existed only at universities, because their obligation is prescribed in the Law of Ukraine On Higher Education (Law of Ukraine On Higher

Education, 2017, Article 37), but in recent years they have also been created on a massive scale at institutions of vocational education. Supervisory boards of educational institutions are management bodies that ensure the effective functioning of educational institutions and control their activities. They consist of representatives of various social groups and public organizations and supervise the management of the educational institution in its activities. In particular, supervisory boards may include representatives of local authorities, parents' committees, professional unions of teachers, scientists, representatives of the business environment, public activists, and other interested persons.

Supervisory boards control the financial and economic activities of the educational institution, its performance of tasks as established by legislation and the management of the educational institution, and its compliance with intellectual property rights, while also ensuring the quality of educational services. Such boards ensure interaction between the educational institution and the public, taking into account the wishes and interests of students, teachers, parents, employers, and other interested parties. They contribute to the development of dialogue between the parties, the resolution of problems and issues that arise in the work of the educational institution, and the improvement of the quality of education in general. Supervisory boards of educational institutions are an important element of management of educational institutions and aim to ensure the quality of educational services. They are independent of the management of the educational institution but cooperate with it in matters of development and management.

Institutions of higher education, although not related to civil society as a structure, nevertheless conduct their own policy and interact with vocational education. At the same time, they are customers of vocational educational institutions, since graduates of vocational institutions often continue their studies at universities and train personnel for vocational educational institutions.

Institutions of higher education can participate in the development of vocational education in various ways. Institutions of higher education can conclude partnership agreements with vocational education institutions that allow students to gain practical experience and skills necessary for future employment. Institutions of higher education develop joint programmes with vocational education institutions that allow students to acquire practical skills and knowledge. Universities can arrange advanced training courses for professionals who are already working in the relevant field or for those who wish to retrain. Institutions of higher education can invite expert practitioners working in the relevant field to lectures and seminars for students.

In addition, a few words should be said about the influence of civil society on adult education. The already mentioned Ukrainian Adult Education Association conducts its policy on this matter, but adults are influential enough to conduct the necessary policy on their own. Adult education is important for the development of civil society, because adults have more experience and knowledge that can be used to ensure the sustainable development of society. Adults have the opportunity to more independently choose the

direction of their training and development, which can foster self-organization and self-discipline.

Adults, as a rule, become active participants in public organizations, contribute to the development of social responsibility, and raise the level of consciousness of citizens. There are numerous public organizations engaged in the development of adult education in countries with a developed system of adult education. Such organizations can provide financial and informational support, conduct research, organize training courses and seminars, develop educational materials and programmes, and create networks of partners that expand training opportunities for adults.

Information is integral to the existence of any movement, and civil society is no exception. Education participants in Ukraine develop information services for the education of civil society. Accordingly, the Ukrainian Adult Education Association supports its own online platform of non-formal education in Ukraine (Learn LifeLong, n. d.) The list of providers of educational programs is quite long. It is possible to search by name or geographical location.

The Open University of Maidan (Open University of Maidan, n. d.) has developed its own distance platform for civic education, whose courses are designed to help students to formulate their own civic position on the main issues of concern to society and to develop and improve their civic competencies. The (VUM online, n. d.) platform offers courses for volunteers, civil society, legal literacy, nonviolent resistance, and others. The largest platform of online courses in Ukraine, Prometheus (Prometheus, n. d.), also offers numerous courses for the development of civic education, most of which are free.

3 Areas of Education Development and Their Support by Society

The modern development of Ukrainian society is taking place under special conditions that are changing approaches to the social transformation of the country's economy. The changes have affected all areas of human activity, including education (Stratehiia rozvytku vyshchoi osvity v Ukraini na 2022–2032 roky, 2022). Since 2019, the world community has been facing a global pandemic challenge due to the SARS-CoV-2 (CoV-19) coronavirus epidemic. The activities of most educational institutions in Ukraine were suspended. There were difficulties organizing educational activities at educational institutions. This was especially reflected in the field of general secondary education. Most teachers and students were not prepared to carry out educational activities in conditions of home self-isolation. Teachers had insufficient knowledge of the computer programmes that needed to be used to organize the educational process remotely. Rural schools were not sufficiently equipped for distance education. Many districts did not have high-quality internet access. Moreover, students from low-income families stopped receiving state-funded meals. Children with special needs did not have the opportunity to study remotely. Primary school students needed additional ex-

planations of educational tasks. Therefore, it was necessary not only for primary school teachers to go online but also for parents of primary school students to get involved in the educational process. Thus, parents, students, and teachers joined forces to help children master primary school programmes. All participants in the educational process are also members of the civil society that is developing in Ukraine (Osvita v umovakh pandemii COVID-19, 2023).

Vocational (vocational-technical) education, professional pre-university education, and higher education also faced the above-mentioned difficulties. In addition, it was impossible for students of these institutions to receive high-quality practical training, as enterprises could not accept interns due to the pandemic and later due to martial law in Ukraine.

People's lifestyles were disrupted, and they had to adapt to non-standard living, working, and learning conditions. The pandemic and Russia's open military attack on Ukraine have caused a leap in the development of distance education since February 2022. This has required the introduction of advanced training enabling employees in all areas of human activity to work remotely. The public and official non-governmental organizations, which are elements of civil society, took an active part in creating conditions for teaching teachers, school leaders, parents, and students to use computer equipment and apply internet resources in educational activities. To this end, we organized on-site seminars, webinars, and refresher courses, which were free of charge for participants in the educational process. In an effort to equalise the opportunities for all students to work remotely, daily classes were introduced for students of all grades via television as well as the free use of leading online educational platforms. Educational content was made available to a wide range of educators and students. As a result, not only was the educational process resumed in all educational areas, but the development of education at all levels of its organization was observed: from pre-school to higher education and PhD.

Ukraine began drawing on the experience of educational activities of European countries by integrating its education system into the international educational space. Since 2005, Ukrainian higher education has been implementing the Bologna system, which aims to create a single educational space in Europe. This also includes two-level education: bachelor's and master's degrees and the introduction of a single student assessment system (ECTS). It is also a system of comparability of diplomas and their equal recognition in the European Education Area. The Bologna system was intended to remove obstacles to establishing cooperation between participants in the educational process in the European Education Area (*Bolonska systema osvity v Ukraini: perspektyvy ta problem*, n. d.)

To date, Ukraine has created the basis for the use of the Bologna system: Independent testing for students has been introduced, the system of graduate levels has been simplified, a unified assessment system has been introduced, and a National Promoters Group has been established to regulate the Bologna process in Ukraine. However, the implementation of the Bologna system in Ukraine has experienced some difficulties due to divergent perceptions of its effectiveness. That is why the Bologna system of

education in Ukraine is currently conditional and does not quite correspond to its essence (*Bolonska systema osvity v Ukraini: perspektyvy ta problem*, n. d.)

An important step in the development of the educational sector in Ukraine is the introduction of dual education. According to Wikipedia, dual education is a type of education that combines education in educational institutions with on-the-job training at enterprises (Honchar, 2023). Dual education was first introduced in Germany in the mid-1960s as an innovative and flexible form of vocational education. This system was subsequently adopted by institutions in Austria, Denmark, Canada, Switzerland, and other countries.

In Ukraine, elements of dual education began to be introduced in the 2017–2018 academic year in VET institutions in 25 regions in 54 professions. In the following academic year, the experience of introducing a dual system of education in vocational (vocational-technical) education institutions was extended to higher education institutions and in-service training at the workplaces of enterprises.

For example, the Kharkiv Regional Centre for Vocational Education of Printing Media Technologies and Mechanical Engineering has agreements with RAPID PRESS, Kharkiv Globus Book Factory, and Unisoft to join forces in training offset flatbed printers (*Tsentr kariernoho rozvytku molodi*, n. d.). The educational and production process is structured in such a way that the theoretical part of the curriculum is implemented at a vocational education institution, and the practical part is carried out at the workplaces of enterprises that have agreed to participate in the training of skilled offset flatbed printers. This approach makes it possible to involve future employers in the practical training of workers at the enterprise. The training becomes targeted and is focused on the specifics of a particular enterprise, which has ordered the workers and is directly involved in their training. This allows the enterprise to train future personnel and also reduces the period of professional and social adjustment when the graduate begins work. This is also an example of support for the development of the dual system of education by enterprises that have signed agreements with educational institutions to develop the practical skills of their students.

An example of the introduction of dual education at higher education institutions is the training of strength and process engineers at the National Technical University of Ukraine “Igor Sikorsky Kyiv Polytechnic Institute” with the assistance of Progresstech-Ukraine (*Progresstech Ukraine*, n. d.), the main partner of Boeing in Eastern Europe. The great advantage of this format is that students study at a higher education institution and work at the same time. In doing so, they gain additional professional knowledge that is required at a particular workplace and develop the ability to apply it to solve professional problems. Such training in dual education makes graduates more competitive than those who have not studied in a dual education system. It should be noted that dual education is not fully implemented in the educational activities of institutions and enterprises. This is hampered by an insufficiently developed regulatory framework and the need to rethink the education system. Therefore, since 2017, the Law of Ukraine “On Education” has introduced only elements of dual education. An examination of the best practices of European institutions and enterprises will allow

the educational system of Ukraine to adapt more quickly and develop its own form of dual training of specialists and skilled workers, taking into account the peculiarities and specifics of domestic educational institutions.

The analysis of the educational activities of students of European and Ukrainian institutions shows that students of foreign educational institutions are more independent, responsible, and able to acquire knowledge on their own. Knowledge acquisition is based on practical relevance and mental processing. This result is achieved through practical and project-based learning. Both types require increasing the independence of students. Practical learning is based on the completion of practical tasks: exercises, practical, laboratory, graphic, research, etc. Practical work requires clear planning of learning activities. When performing exercises, students must constantly determine “what” to do and “how” to do it in order to achieve the planned result. When performing practical tasks, students learn to process educational information in their minds. By performing laboratory tasks, pupils/students learn to investigate phenomena, analyse the data obtained, and draw conclusions, mastering new facts, phenomena, and skills to perform certain actions. This combines theoretical knowledge and practical skills. They develop the ability to acquire knowledge through research.

An important area of educational development is project-based learning. This is a search method in which students acquire knowledge and skills by creating new models, developing plans, analysing their search activities, etc. This involves the integration of theoretical knowledge and practical skills, individually or in teamwork, use of the internet, various forms of interaction, the practical implementation of collaborative pedagogy, the globalization of the educational process directed towards a specific result, new opportunities for informal monitoring of student achievements, etc. It also increases student independence (Dyomina, 2018).

The government and NGOs in Ukraine are joining forces to develop project-based activities of pupils/students and educational institutions. An example is the targeted development of the Centre for Children and Youth Creativity in the Pidvolochysk community in Ternopil region. A robotics studio was set up at the centre with the help of a DOBRE sponsorship. The pupils tried to make souvenirs using modern equipment. The children are engaged and create products using their imagination and the skills they have acquired in the classroom. The children of the community have already produced unique souvenirs that are not available in any store. Thus, the robotics studio is a project aimed at improving the education of the youngest residents of the community (Verbytska, 2023).

The NGO School of Adaptive Management of Social and Pedagogical Systems (SHAUSPS) has developed a project to improve the skills of heads of general secondary education institutions in the Pyriatyn community of Lubny district, Poltava region. The community has received more than 500 children who have been temporarily displaced from the territories where hostilities are taking place or temporarily occupied by the Russian Federation. This has led to changes in the conditions of educational activities of schools, requiring managers, teachers, and students to adapt. The NGO SHAUSPS provided a sponsorship to 20 heads of general secondary education institutions for ad-

vanced training in the transfer technology “Methodology of Adaptive Management of Social and Pedagogical Systems” (Shkola adaptivnoho upravlinnia sotsialno-pedahohichnyy systemamy, 2023).

Thus, NGOs are collaborating with state institutions to promote the development of education and enhance its quality in non-standard conditions.

One of the areas of education development in Ukraine in the period of unpredictable changes caused by martial law is digitalization.

The digitalization of education involves the introduction of modern information and communication technologies into the educational process at all levels of education in order to maximize their use for educational purposes (Dukhanina & Lesik, 2022). This is necessary because, under martial law, almost all education in Ukraine is provided online. Digitalization affects all levels of education: from preschool to higher education. In order to implement and use digitalization, it is necessary first of all for teachers to be able to use computer equipment and internet resources. To this end, each user must have a computer or computer applications, both at the institution where they work/study and at home. Both the home and the institution should have internet access, which is provided by the user at home and by the institution's founder, the education department. Without technology and the internet, digitalization is impractical. In order to use digital content, it is necessary to fill relevant websites and blogs with digital platforms, online libraries, distance education platforms, etc. Today, the basic directions of digitalization of national education are gradually being aligned with the priorities of the European development of the information society.

In Ukraine, the All-Ukrainian School Online resource has been developed and is now in operation. It provides access to education and offers managers an information and analytical system for making IT decisions. Various digital ecosystems are being developed as a network of interconnected digital technologies, platforms, and services that interact with each other to create value for consumers. The elements of ecosystems are software, hardware, data, and people that work together to facilitate digital transactions, communication, and collaboration. Socio-emotional skills are becoming increasingly important in the process of digitalization. These are the flexible (or soft) skills that are responsible for successful participation in the work process (Tsyfrovisatsiia osvity, dosvid rehioniv, aktualnist dlia pozashkillia, 2021).

As part of digitalization, different levels of education are being digitally transformed. In higher education, the following areas have been digitalized: the admissions process, pre-university training for foreigners, ordering of educational documents, European-style supplements to higher education documents, exchange of EDEBO data with external systems, electronic licensing in education, monitoring of graduate employment, etc. (Tsyfrova transformatsiia osvity i nauky, 2015).

Digitalization issues are supported and sponsored by NGOs. For example, the NGO InSource (InSource. Center for Development Initiatives, n. d.) regularly conducts training courses on digitalization and digital security for organizations.

The National Digital Education Platform is being developed and is partially operational in Ukraine (Diia. Education, n. d.). Thus, the digitalization of education is sup-

ported by civil society actors and is in demand because of the situation Ukraine currently finds itself in.

The development of education in Ukraine has been greatly influenced by emigration. The beginning of the full-scale invasion of Ukraine by Russian troops sparked a wave of emigration of Ukrainian citizens from the territories where hostilities were taking place or which were occupied. The movement took place within Ukraine and abroad. According to the International Organization for Migration (IOM), from the beginning of the war until mid-May, the number of internally displaced persons in Ukraine was approximately 7.1 million. Some of Ukraine's residents have moved abroad. According to the State Border Guard Service of Ukraine (SBGS), between 24 February and 3 June 2022, more than 5.2 million people left Ukraine, the vast majority of whom are Ukrainian citizens. According to the United Nations Refugee Agency (UNHCR), as of 9 June 2022, more than 4.9 million refugees who fled Ukraine because of the war were in European countries. Migration processes are ongoing. Some people return to Ukraine, while others move within Ukraine, choosing another place to live permanently because their homes have been destroyed.

The large-scale migration of people has had negative consequences for education in Ukraine. Hundreds of institutions were destroyed or partially damaged and suffered human losses: Teachers, students, and parents died. According to a study commissioned by the charitable foundation saved with the support of the International Renaissance Foundation, as of January 2023, 1,259 general secondary education institutions were damaged in Ukraine, and 223 schools were completely destroyed. According to the Ministry of Education and Science of Ukraine, as of 1 August 2022, 2,200 educational institutions in Ukraine were damaged, including 225 that were completely destroyed and 1,975 that were partially damaged (Osvita Ukrainy v umovakh voiennoho stanu, 2023). Among those completely destroyed are 9 vocational higher education institutions and 7 higher education institutions.

As a result, Ukraine's education system is facing the challenges of restoring and developing the infrastructure of institutions, human resources, and the competitiveness of teachers. It should be noted that most Ukrainian emigrants (including educators) have a high level of qualifications and extensive teaching experience, which need to be reoriented to the new conditions of existence. The return of Ukrainian emigrants to the education sector and the use of their potential and experience in European countries will have a positive impact on the quality of education, the training of students, and the international ranking of Ukrainian educational institutions.

Students, millions of whom have been forced to change their place of residence, require special attention. The challenges of the war forced a shift to distance or blended learning, which led to forced interruptions in education due to air raids, power outages, internet interruptions, etc. In this regard, there has been a reorientation of teaching activities to a digital basis, giving students a certain degree of independence in the search for and mastering of educational information. This has led to an individualization of educational trajectories, in which students must build their own model of learning and self-realization in an unpredictable environment.

The challenges of martial law and the temporary emigration of educators provided a new life experience in the changing conditions of Ukraine and the foreign experience of European countries. This led to a combination of efforts of the state and citizens/society to ensure the development of education in Ukraine in the directions determined by the current conditions.

4 Innovative Transformations and Public Initiatives in the Development of Vocational Education in Ukraine

New socio-economic needs of the market economy, rapid information and technological development, and the emergence of new branches in industry, agriculture, and the service sector have caused the need to reform the vocational education system in many countries of the world. Ukraine is no exception.

The modern socio-economic environment is increasingly globalized and is characterized by extreme dynamism. In these conditions, the state and various public structures exert a contradictory influence on the development of the domestic system of vocational education. Decentralizing the management of vocational education institutions (VEI) at an accelerated pace and granting them autonomy in decision-making on key issues to individual VEIs in a period of deep economic and political crisis in Ukraine requires the study and generalization of world experience, the development of methodological principles, and methodological support (Syvstun et al., 2012).

There are many concepts of best practices in vocational education. These concepts reflect different models of vocational education and different approaches to improving its quality and processes. Different countries and development organizations assign more or less weight to one or more possible characteristics of vocational education centres, such as their role in changing systems, their symbiosis with the economic sector or with regional ecosystems, their ability to innovate, or their organizational and legal status (European Commission, 2010; Pepe & Casentini, 2014; Republique française, 2014).

The financial crisis places increased requirements on the professional structure and qualifications of the workforce and the level of training of new specialists in the vocational education system. The shortage of qualified workers, especially in high-tech and innovative industries, is becoming a serious obstacle to the development of Ukraine's economy. Thus, ensuring the availability on the labour market of qualified workers and specialists trained in accordance with the requirements of international standards is one of the most important tasks facing the vocational education system in Ukraine.

The role of international public organizations and their influence on the development of vocational education is growing in view of globalization and increased competition on the world market, leading to the emergence of a new paradigm of relations between civil society, the state, the economy, and the field of education. Reforming the most important spheres of social life, also in the field of education, requires changes in

the approaches, methods, and principles of relation-building between the state and civil society and recognition of the public as an equal subject in the implementation of modern state policy, also with regard to education. Today, public organizations act as an important entity that monitors the quality of the educational process, the level of knowledge of graduates, and their compliance with the demands of the modern labour market and that provides proposals for the continuous improvement of each actor and their interaction. The growth of employment and the creation of conditions for sustainable development on an innovative basis reduces social tension and improves the investment climate. Through social dialogue, public organizations contribute to high-quality workplaces and sustainable labour relations (Hrytsiak & Kalinina, 2009; Kalinina & Onats 2013).

All innovations in the system of domestic vocational education are aimed at improving management functions, the content of education and its structure, and the quality of training of qualified workers at all types of educational institutions: higher vocational schools, institutions of vocational education, lyceums, etc.

The global trend in the implementation of educational reforms involves, first of all, changes in the management of education. Centralized, rigid administrative control is being replaced by flexible management of autonomous educational institutions, responsibility for decision-making is being redistributed between different levels of management, and organizational and economic methods and tools are changing.

Ukraine has announced its intention to integrate itself into the European community. And although the specific terms of joining the European Union have not yet been determined, the orientations of professional training are clearly outlined in the National Doctrine of Education Development. Global trends are the basis of strategic and tactical development of the system of professional education, in particular vocational education. First of all, this includes maximum consideration of socio-economic and cultural-historical conditions of development of the regions; the study of requests and consideration of the requirements of consumers, which are based on a significant increase in the requirements for the quality of educational services; the transfer of forms and methods of child education to adult education; the formation of innovative capacities of teachers (readiness for research, design, practical activities, etc.); and the formation of innovative abilities in pedagogical workers (Pashkov et al., 2022).

The main obstacles to the development of vocational education are a shortage of resources, an imbalance of functioning, and a deformation of social consciousness. Among the deficits associated with the shortage are a lack of social trust (employers and representatives of education authorities, education management bodies, and vocational education organizations); a lack of qualifications of teaching staff; and a shortage of textbooks, teaching aids, and methods that meet modern requirements.

For many vocational institutions, the tasks related to building such an “innovative image” may seem too unachievable and ambitious. But it is ambitious plans that encourage people to achieve them. The key to the success of vocational education is its practical orientation, i. e., in addressing the sphere of work and professions and in the development of tools and mechanisms of interaction between vocational education institutions and operating enterprises.

A characteristic feature today is the constant increase in employers' requirements for the level of qualification and professional competence of workers, in particular graduates of vocational education. It should be noted that these requirements are fundamentally different at enterprises with foreign capital from those in domestic production. There is therefore an urgent need for a systematic study of promising areas of development in various fields, for new occupations. And it is quite clear that substantiating the new strategy for the development of Ukrainian vocational education in conditions of decentralization should involve using the leading conceptual ideas of life-long vocational education, which are common to all educational systems.

The prospects for the modernization of the vocational education system are connected with increasing the prestige of working professions. The low quality of personnel training at vocational educational institutions puts their graduates in the last place in the ranking of the employment index of young people who have graduated and entered the labour market.

Today, the priorities for vocational education development are the problems of communal property, in particular the transfer of the material and technical base of vocational educational institutions under their jurisdiction. Currently, less than 50 % of them have received such a right.

The decentralized approach to the management of vocational education implemented in Ukraine raises the issue of determining the mechanism for forming a regional order and compensating the costs of vocational education institutions for the training of specialists for the labour market across the region and territorial communities.

For the success of the reform policy in the vocational education system, it is necessary to take into account its complex nature and the close connection of vocational education with the system of labour and employment. Complexity implies organizational and institutional changes in the positions of all reform participants.

Reforms cannot be implemented only through the reform of internal organization and decision-making mechanisms at various levels of the professional system. Uncoordinated actions with the real sector of the economy deprive graduates of vocational education institutions of guaranteed and stable employment.

An effective reform will ensure a close connection between the current education system and the structure of employment. The experience of OECD countries that combine education with the labour market shows that this process is possible through innovative forms of regulation of the education system, including through so-called "dual education."

Conducting the specified course is a difficult task. The current system of vocational education, which was mostly focused on large monopolized enterprises, remained specialized and unbalanced with the modern structure of the economy and underwent a serious division of labour during the years of reforms.

Ukraine has had positive experiences with solving topical issues of the development of vocational education. Since 2016, 184 educational and practical centres of industry direction have been created at the expense of the state budget (UAH 350 million)

on the basis of existing institutions of vocational education (Storonianska & Vasylytsiv, 2022).

The Ukrainian government has approved 179 standards of vocational education, developed on the basis of the competence approach. The dual form of education has been implemented at 270 institutions of vocational education in 160 labour professions, covering more than 10,000 students and 1,000 employers. Regional councils of vocational education that participate in the formation of regional policy in the field of vocational education have been established in 24 regions and the city of Kyiv. At the same time, a number of problems that need to be solved remain relevant:

- outdated material and technical base of vocational education institutions;
- ineffective multi-level management of vocational education;
- inconsistency of the quality of training students of vocational education with the requirements of employers and the needs of the individual;
- a lack of analysis and monitoring of labour market needs introduced on a permanent basis;
- the low activity of business and institutions of vocational education in the implementation of programmes and projects of public–private partnership;
- the low level of prestige of vocational education in Ukraine.

It should be noted that in the strategy adopted by UNESCO in the field of vocational education and training for 2022–2029, reform in the interest of effective and just transformations in particular recognizes the need to respond on the basis of a comprehensive and proactive approach to solving problems related to six key aspects, which in turn are related to progress in achieving the SDGs:

(a) economic recovery – the crisis caused by the COVID-19 pandemic has accelerated certain changes in the world of work, adding new factors of uncertainty about the skills and competencies that will be in demand after the pandemic;

(b) technological change – technology affects labour markets and the demand for skills, while ensuring human rights requires the use of technology with a clear focus on inclusivity as a common public good;

(c) preservation of informal employment – informal employment is still widespread throughout the world and can no longer be seen as a temporary phenomenon that will be displaced as economic development progresses;

(d) demographic shifts – continents and countries are at different stages of transition: countries with a high proportion of young people need to ensure a constant and rapid expansion of education and training systems and create jobs on a massive scale, while countries with a declining working-age population, an aging population, and higher life expectancy need to ensure skills development for older workers;

(e) social problems – political instability, conflicts, climate change, and other factors lead to social instability and large-scale migration both within and between countries;

(f) transition to a “green” and sustainable economy – there is a need to expand activities to mitigate the effects of climate change, combat biodiversity loss, restore ecosystems, and reduce environmental pollution.

Reforming vocational education today is becoming a challenge for the country in terms of investments in the future development of the economy. Finding a balance between the goals of the state, the capabilities of vocational education institutions, and the interests of employers in providing the labour market with qualified workers will continue to be a problematic issue. The solution to this problem requires modernization of the education system, systematic preparation of forecasts for the demand for professions and specialties, improvement of organizational forms, and increase in funding of the state vocational education system.

The success of the reform depends on the definition and implementation of priorities for the development of vocational education. It is focused on making positive changes through didactic, economic-organizational, and social innovations, with the aim of improving the practices of training competitive specialists.

In order to assess the potential of the vocational education system for reform and predict possible risks of its decline, it is necessary to analyse not only the content of transformations but also the forms of vocational institutions and means of adapting them to the new decentralized vector of their development. Issues that have accumulated in terms of expanding the effective employment of young people and ensuring their mobility require further improvement in line with the state youth policy.

It is worth noting that despite the war, the Cabinet of Ministers approved the Concept of the State Targeted Social Programme for the Development of Vocational Education for 2022–2027 (*Pro skhvalennia Kontseptsii Derzhavnoi tsilovoi sotsialnoi prohramy rozvytku profesiinoi [profesiino-tekhnichnoi] osvity na 2022–2027 roky*, 2021). The document provides for the implementation of the decentralization reform, modernization of the content and quality of education, development of partnerships, and popularization of vocational education. The concept defines the problems of the field and ways to solve them: increasing the motivation of educators by increasing salaries and attracting more international partners.

In addition, the document defines the key characteristics of the effectiveness of vocational education. In particular, the institutions should fulfil the state and regional order for the training of workers by at least 95 %, the employment of graduates should be about 80 %, and centres of professional excellence are to be created in each region.

An important result of the concept should be the final transfer of professional technicians from state to communal ownership and the expansion of their autonomy.

According to the developers of the programme, its implementation will make it possible

- to form an optimal network of vocational education institutions;
- to complete the transfer of integral property complexes of vocational education institutions from state to communal ownership and authority to manage vocational education institutions at the regional level and their financing;
- to increase the specific weight of expenses for the development of the institution of vocational education by 3 percent every year;
- to increase the salary level of teaching staff of vocational education institutions in accordance with the Law of Ukraine On Education;

- to increase the amount of scholarships for students of vocational education institutions to the amount of scholarships for students of vocational pre-university education institutions;
- to introduce a methodology for calculating the cost of training applicants of vocational education by profession, taking into account the coefficient of their complexity;
- to introduce a subvention for the modernization of social infrastructure (dormitories, sports fields), ensuring universal inclusive and gender-sensitive design at vocational education institutions;
- to create supervisory boards at each institution of vocational education;
- to expand the autonomy of vocational education institutions;
- to create an education management information system (EMIS);
- to introduce a framework methodology for the analysis of regional labour markets, with the possibility of annual monitoring and updating of relevant data, for forecasting the needs of personnel by professions and specialties;
- to develop/update standards of vocational education and educational programmes based on competence;
- to develop online courses and educational materials for professions;
- to create/update textbooks/manuals, including electronic ones, on key subjects, disciplines, and competencies (including those for students with special educational needs) according to updated educational standards;
- to develop new and modernize existing educational programmes for improving the qualifications of pedagogical workers based on national and international successful practices, also through participation in the EU Erasmus+ Programme and other international programmes and projects;
- to improve the qualifications and level of digital literacy of pedagogical workers, to ensure continuous professional development of managers and other pedagogical workers at vocational education institutions;
- to improve the system of training of pedagogical workers at vocational education institutions in production and in the service sector within the limits of professional activity;
- to form the potential (requires correct wording) of pedagogical and other personnel to participate in programmes of international cooperation, educational mobility, and exchange of experience;
- to introduce an institutional audit of vocational education institutions;
- to ensure that institutions of vocational education fulfil the state and regional order for personnel training by not less than 95 percent;
- to introduce a system of independent assessment of training results of vocational education recipients;
- to ensure employment of graduates of vocational education institutions of not less than 80 percent;

- to spread the practice of obtaining vocational education in a dual form (increasing the number of vocational education institutions that conduct training in a dual form of education by 10 institutions every year);
- to create centres of professional excellence and new educational and practical centres in each region (not less than 30 every year due to the provision of subventions from the state budget to local budgets, and not less than 3 with business funds);
- to develop a mechanism of economic stimulation for businesses that invest in the development of vocational education institutions;
- to involve (analyse best practices and propose methods of involving) production workers in the training of education applicants at vocational education institutions;
- to introduce economic incentives (tax benefits) for the educational and production activities of vocational education institutions.
- to introduce financial incentives for the work of mentors at enterprises where students of vocational education institutions undergo industrial training, industrial practice, or other types of practical training;
- to create a comprehensive system for conducting an information campaign regarding the advantages of vocational education among young people, taking into account the gender aspect, including the involvement of business;
- to direct social advertising to the popularization of labour professions, taking into account the gender aspect;
- to modernize the mechanisms of professional orientation and counselling on professional career development;
- to create a data bank on best practices, successful institutions, and career achievements of graduates of educational institutions to promote the benefits of vocational education;
- to put into practice inclusive and gender-sensitive career guidance activities;
- to create a structural unit at each vocational education institution that provides career development counselling services for students;
- to increase the number of participants in professional skills competitions and partners in their holding, including WorldSkills;
- to increase the share of the population that is aware (informed) of the advantages of vocational education in Ukraine.

Ensuring such an approach requires clear definitions. The concepts of professional standards, dual system of vocational education, regional ordering, and competence, which determine the sustainability of vocational education and its impact on employment, should become priorities.

In modern conditions, the development of vocational education becomes an arena of multifaceted partnership interaction of state bodies with educational institutions, educators, parents, students, potential employers, and public associations. One of the main trends today is a noticeable increase in the quantitative and qualitative institu-

tions of civil society and in their role in socio-economic development. The strengthening of the self-organization processes is connected with the formation of a post-industrial mode of production, which is characterized by a combination of private initiative with innovative business activity and a high quality of human life, the implementation of a strategic innovative function by the state, the social orientation of the market economy, and a high level of development of the non-market sector, which ensures the reproduction of human and social capital.

The formation of regional councils has been determined to be one of the ways to ensure the effective implementation of a decentralized management system of vocational education, but the effectiveness of their activities in terms of influencing the adoption of management decisions at the local (regional) level remains extremely low.

The underdevelopment of public-private partnership mechanisms in vocational education leads to weak interest of private partners in managing the development of vocational education and modernization of the infrastructure of vocational education institutions.

The main reasons for the occurrence of these problems include an insufficient level of cooperation and intersectoral interaction between state authorities, local self-government bodies, institutions of vocational education, the business sector, civil society institutions, and institutions that cooperate with the system of vocational education, as well as a low level of ability to jointly solve topical issues in the development of vocational education;

The Institute of Civil Society has a significant potential to influence the development of the vocational education system through the formation of a state-public model of management. The content of public administration is the activity of its subjects in the integration of three areas of work:

- democratization of activities of state authorities and education management;
- development of self-governing associations of participants in educational activities (professional associations, educators, student and parent self-government bodies at all levels);
- creation and arrangement of activities of public education management bodies, where all strata of the population are represented.

The main goal of social partnership in the field of vocational education and training is to ensure high quality and efficiency of training and retraining of personnel. The quality and efficiency of vocational education and training are the most important aspects of modernization of the economy in general and the education system in particular. They are the main criteria and indicators for the effectiveness of the educational process.

The relationship between economic and social effects requires the social partners to assess the costs, results, and factors affecting the improvement of the effectiveness of personnel training. In domestic and foreign practice, there is no consensus on the methods of calculating efficiency, especially the socio-economic efficiency of personnel

training and retraining, although there have been several attempts to develop such a method.

It is known that increasing the level of training and retraining of personnel leads to an increase in labour productivity, both at the level of an individual employee and at the level of a labour team. In recent years, a number of methods have been developed that make it possible to calculate the labour productivity of employees as a result of increasing the level of their qualifications. The least studied problem is that of the impact of social partnership on the effectiveness and quality of vocational education and personnel training.

At all stages of societal development, the strategy of reforming education was determined by socio-economic conditions. The latest reforms are also conditioned by the modern labour market, the formation of non-state enterprises, and the need for people to obtain several professions characteristic of a market economy. In vocational education, the transition to a qualitatively new content of education characterized by multiple levels, flexibility, variability, and continuity has begun. In the future, this will ensure professional mobility and competitiveness of graduates on the labour market.

5 The Association of Vocational and Lifelong Education Development and Its Role in the Post-War Reconstruction of Ukraine

A fairly typical example of a professional association that refers to active civil society actors is the public union “Association of Vocational and Lifelong Education Development” (Asotsiatsiia z rozvytku profesiinoi ta neperervnoi osvity, n.d.), which was launched as part of the new mechanisms of partnership-based governance and standardization of vocational teacher education in Ukraine (PAGOSTE, 609536-EPP-1-2019-1-DE-EPPKA2-CBHE-SP). The association was founded in 2021 and passed the necessary state registration. Although the association was founded relatively recently, it has already achieved success in its work. We will use it as an example to consider how such members of civil society work.

The purpose of the association is to promote the development and popularization of vocational education in Ukraine, to ensure the lifelong self-improvement of vocational education teachers, to introduce innovative pedagogical and production technologies, to support the lifelong education of citizens, to implement the educational policy of the state, and to satisfy the professional, scientific, social, cultural, and other interests of its members. The association is committed to advancing vocational education in Ukraine by promoting lifelong learning for instructors and integrating innovative teaching methods. It aims to support citizens' ongoing education and align with state educational policies while addressing the diverse interests of its members.

To achieve these goals, the association focuses on improving training content and methodologies and fostering collaboration among stakeholders. It creates an enabling environment for members' professional and research activities, actively shaping voca-

tional and lifelong education policies, and promoting research and educational initiatives.

By sharing domestic and international best practices, the association enhances vocational and lifelong education standards. It provides consulting and methodological support, organizes various events on vocational education, and encourages international cooperation through joint projects.

Ultimately, the association seeks to advance vocational education by facilitating experience exchange and partnerships, thereby promoting its objectives effectively.

Legal entities under private law, in particular public associations with the status of a legal entity, can join the association, as can individuals who support the association's goal of developing vocational and lifelong education. Members undertake to adhere to the association's charter.

To become a member of the association, one must submit a written or electronic application to the appropriate email address of the association. The decision to accept a new member is made by the board of the association at regular meetings under the submitted application. The applicant is notified of the decision in writing or by email within 15 days after the meeting. Membership is confirmed by an appropriate certificate issued for a limited period, usually one year. Membership fees are waived for the first year of membership.

Opportunities (benefits) for association members:

- to influence the strategy of vocational education development in Ukraine;
- to jointly propose legislative initiatives;
- to gain access to insider information on vocational education reforms in Ukraine;
- in the case of payment of membership fees, to receive a discount on participation in events held under the auspices of the association and a chance to be published in the journals of the association members;
- to improve achievements in professional activity in accordance with licensing requirements;
- to benefit from being involved in the best practices of training experts on vocational education;
- staff exchange and training;
- to enjoy a priority placement of advertising information on the web platform and site;
- to receive consultations on the organization of activities for improving the competence of the association members;
- to attract partners in the areas of development, support, and implementation of international projects on capacity development and academic mobility (grants), in particular under the EU ERASMUS+ programme.

The association popularizes its activities among those involved in Ukrainian education and production, but the main efforts are aimed at attracting

- representatives of the governing bodies of Ukraine;
- stakeholders from educational, industrial, and service sectors;
- representatives of scientific and methodological centres for vocational education;
- managerial personnel of vocational and pre-higher education institutions;
- scientific and pedagogical workers of higher education institutions involved in the training of teachers of vocational education;
- pedagogical employees of vocational and pre-higher education institutions.

In its activities, the association develops working groups. The number and focus of working groups can be changed. Each member can participate or not participate in the following activities of working groups:

- monitoring and ensuring the quality of education;
- improving training curricula;
- developing innovative technologies in education;
- enacting legislation on vocational and life-long education;
- promoting scientific and educational technology transfer;
- promoting international cooperation and internationalization in education;
- promoting vocational education;
- developing partnerships and cluster initiatives;
- implementing dual education.

During the last year, the following regional branches of the association representing different geographical parts of Ukraine were launched:

- a northern one on the basis of the Institute of Vocational Education of the National Academy of Educational Sciences of Ukraine, Kyiv;
- a southern one on the basis of the K. D. Ushinsky South Ukrainian National Pedagogical University, Odesa;
- a central one on the basis of the Ukrainian State University of Science and Technologies, Dnipro;
- an eastern one on the basis of the Liubotyn Vocational Lyceum of Railway Transport, Kharkiv;
- a western one on the basis of Ternopil Volodymyr Hnatiuk National Pedagogical University, Ternopil

Regional branches have launched their own work plans to attract new members to the association. Expanding the target audiences of the association involves informational support from all project participants. The regional representative office can operate on the basis of both an educational institution and any interested organization.

The association's website has been in operation since its founding: <https://vetdev.org.ua/>

The anticipated outcomes of the association include an expansion of its target audiences and an increase in the types and the quality of possible activities, the dissemi-

nation of information about the association among contact audiences, and the expansion of opportunities for cooperation with stakeholders with the aim of developing vocational and lifelong education. The aims with regard to the new website include disseminating information about the capabilities of the platform among contact audiences, increasing traffic to the web platform, increasing the number of active links, and disseminating information about the goals, objectives, and opportunities of the association among the target contact audiences.

By the end of spring 2023, the association had accepted more than 130 members, from graduate students to directors and vice-rectors, representing 18 educational institutions of both higher and vocational pre-higher education.

The following events were held last year with the participation of the association:

- IX International Scientific and Practical Conference “Enterprise Economics: Theory and Practice” (12–13 October 2022).
- National scientific and practical forum “Science. Innovations. Quality” (9–10 August 2022).
- International School of Leadership “Social Entrepreneurship: New Ideas and Opportunities for Teachers and Masters of Industrial Training of the Vocational Education System of Ukraine” (16 June–21 July 2022).
- II International Summer Scientific Online School “Adaptive Processes in Education” (5 and 6 July 2022).
- 3rd School of Pedagogical Excellence “Education 4.0 and Pedagogical Excellence” (26 January–4 February 2022).
- International scientific and practical conference “Quality, standardization and metrological support” (25–26 January 2022).

Under the auspices of the association, work has begun on harmonizing the educational and professional standards of training in specialty 015 Vocational Education (by specializations), searching for grants for the development of vocational institutions, and developing scientific topics for the training of renewable energy specialists.

What is the difference between the association as a member of civil society and others that exist today in Ukraine? First, it is proposed to emphasize the professional training of engineering and pedagogical personnel for vocational education institutions and to solve urgent needs in this area with the help of the association. The second main focus is on lifelong learning, which promotes professional development throughout the working life.

The association, as well as other public unions, will have a certain role in the post-war reconstruction of Ukraine. One of the priorities of the new Ministry of Education is to establish cooperation with public initiatives. This is necessary for a constructive conversation about who is working on what and how to synchronize, to build synergy and an understanding of what should be done to organize access to education for all who need it. Certain steps in this direction have already been taken, and certain memoranda have been signed.

6 Social Partnership as a Basis for the Formation of an Innovative Space of a Vocational Education Institution Based on the Example of the Kharkiv Region of Ukraine

The socio-economic transformations taking place in Ukraine dictate the need to find new guidelines in educational policy and to take a new look at the role of the education system, in particular vocational education (VE), in the development of the country. VE should be considered part of a wider system including the labour market, economic policy, production technologies, social organization of work, etc.

Modern humans live and act in conditions that require high professionalism and significant intellectual efforts. Whereas earlier it was the lack of information that hindered the right decisions, nowadays, on the contrary, it is its excess that creates obstacles. The requirements for graduates of VET are high due to the complication of socio-economic processes, the increase in the influence of external factors, the increase in information flows and the difficulty of understanding them, and the growth of competitiveness and anger.

The high mobility in a market economy means that every person has to change not only their place of work but also their profession 5–6 times on average during their working life. This requires, first of all, breaking the psychological stereotype that a person needs to work at the same workplace for decades to be considered a good employee. Second, under these conditions, young people need to receive a vocational education that will allow them to master new professions in the future, that is, vocational education should become adaptable.

Modern society needs specialists who are prepared for daily activities in constantly changing conditions: social, professional, economic, etc. Therefore, the training of professionally mobile skilled workers is the main goal of VET based on social partnership.

The main goal of social partnership is to facilitate the process of training and re-training competitive, professionally mobile skilled workers who are capable of adapting to rapid changes in the labour market (Dutko, 2020; Kudriachenko, 2008; Odaiskyi, 2016).

There are three main categories of social partners of VET: employers (enterprises); workers' unions (trade unions, public organizations); and state management bodies, including the employment service (Kolot et al., 2009; Darchenko et al., 2007).

The main partner is the state, which determines policy in the field of industry, transport, or agriculture. Specifically, these bodies finance the training of specialists through the system of vocational education, develop state educational standards, and involve educational institutions in cooperation with industrial enterprises through participation in conferences, meetings, and exhibitions.

Local self-government bodies involve various categories of social partners in cooperation (media, publishing houses, career guidance centres, employment services, etc.) At the same time, enterprises participate in the implementation of educational programmes by arranging practical training for students at their base, employing

them, and funding employee training (Borodiyenko, 2021; Radkevych et al. 2021; Shcherbak, 2008).

The close interaction between the labour market and the market of educational services in the conditions of the economic transformation remains an important factor for changes, for the emergence of new trends in the educational space, and for the formation of human capital as the basis of effective economic and social development of the country (Kolot, 2005). The needs of modern enterprises of the region prompt the search for ways of effective cooperation with employers.

Social partnership is, first of all, trust, confidence in tomorrow, and a professional, highly qualified workforce. The active involvement of social partners in all components of the educational institution's activities is one of the priorities of the work of the Lozova Vocational Education Centre in the Kharkiv region. It is the establishment of a constructive, mutually beneficial partnership with employers and authorities that makes it possible to attract additional resources for the development of an educational institution.

The space of social partnership of the Lozova Vocational Education Centre in the Kharkiv region includes

- LLC 'LKMZ';
- household service enterprises of the city and the district;
- industrial enterprises of the Lozova and Lozivskyi districts;
- farms of the Lozivskyi, Blyzniukivskyi, and Sakhnovshchynskyi districts (agrarian policy department);
- department for family and youth affairs;
- district and regional employment centres;
- unions of workers (trade unions, public organizations);
- local management bodies.

Areas of joint activity with enterprises:

- organization of professional training of workers of enterprises at the Lozova Vocational Education Centre in the Kharkiv region;
- participation of enterprises in the development of training manuals, plans; training, retraining, and advanced training of workers;
- involvement of qualified employees of enterprises in the educational process and in the assessment of the quality of professional training of workers;
- provision of jobs by enterprises to give students industrial practice; further employment of graduates, ensuring their adaptation and consolidation at jobs;
- provision of opportunities by enterprises to familiarize the centre's pedagogues with new technologies, modern equipment, and techniques; internships; opportunities for students to learn new equipment and technologies and work with modern materials at the centre's training workshops;
- financial support for the centre's development;
- performance, together with employers, of permanent purposeful career guidance work with applicants and students of VEI;

- prompt awareness of VEI about the need for qualified workers from one or another profession;
- the opportunity to involve representatives of social partners, including employers, in the educational and production process;
- timely updating of the professional training content in accordance with the changed conditions of production.

Thus, for example, the Lozova Vocational Education Centre in the Kharkiv region and the employment centre engaged in the following joint activities:

- established cooperation regarding the employment of graduates of the centre, including orphans;
- held meetings with the administration and masters of industrial training and specialists of the employment centre regarding the clarification of new vacancies and training of unemployed persons in the following professions: tractor operator, electrical fitter for repair and maintenance of electrical equipment, and cook.

Cooperation with the LLC “Lozova Forging-Mechanical Plant” is performed on the basis of the Memorandum On Cooperation between the LLC “Lozova Forging-Mechanical Plant,” the Lozova branch of the Kharkiv Automobile and Road College, and the Lozova Vocational Education Centre in the Kharkiv region. The memorandum was concluded with the aim of unifying efforts aimed at preserving, developing, and supporting the intellectual potential of the region and popularizing vocational education among young people.

The pace of technological re-equipment of modern industries is such that a significant amount of knowledge loses its relevance within 3–5 years. This once again confirms the need for anticipatory education focused on new fundamental knowledge, studying processes, and technologies. Currently, new mutual relations of VEI are being formed with enterprises, employers’ unions, and employment services – with all those who have become not only consumers of VEI products but also a source of financing.

As an example, we can cite the social partnership space of the Institution of Vocational Education “Bohodukhiv Regional Vocational Education Centre of the Kharkiv Region” (Figure 1).

As we can see, the social partners of this educational institution are the bodies of the state executive power, local self-government, public organizations, representatives of small and medium-sized businesses, private enterprises, the employment centre, mass media, etc.

The scope of cooperation includes the study of innovative production technologies and modern equipment and discussion of the issues involved in training pedagogical workers at the workplaces of enterprises and improving material and technical support. Proposals are provided to improve the quality of training of students. Representatives of social partners are actively involved in professional skills competitions and special courses and take part in the expert assessment of the quality of educational programmes, the work of the state qualification commission, etc.



Figure 1: Space of social partnership of VET “Bogodukhivsky Regional Vocational Education Centre of the Kharkiv Region”

Accordingly, the LLC Agrarian Company “Promin-2012” collaborated with representatives of the company-customer of labour personnel in 2021 to hold the seminar “Modern Technologies of Soil Cultivation” and the seminar-workshop “Features of the Implementation of the State Standard of Vocational Education on a Modular Competency Basis from the Profession Tractor Driver of Agricultural Production” for teachers of vocational training subjects and masters of industrial training of the institution. The seminars led to suggestions for improving work plans and programmes and the development of informational and methodological support, including training manuals, methodical recommendations, and didactic materials.

Professional training, retraining, and advanced training of the unemployed are performed jointly with the Bogodukhiv branch of the Kharkiv Regional Employment Centre, with the participation of representatives of employer enterprises. The unemployed population is trained on the basis of the educational and practical centre for the training of qualified workers in profession 8331, tractor driver of agricultural production, taking into account the needs of the local labour market and the specific need for personnel of enterprises that hire employees.

Cooperation with social partners opens up opportunities for close cooperation of the vocational education institution with customers of labour personnel, business partners, and other interested subjects. This provides an opportunity to carry out initial

professional training, retraining, vocational training, and advanced training in construction professions.

A vivid example of social partnership is the activity of the state educational institution “Regional Vocational Training Centre for Construction Technology of the Kharkiv Region,” which takes place on the basis of a cooperation agreement with the Eberghard Shchyok Foundation and the Department of Science and Education of the Kharkiv Regional State Administration.

Educational and practical construction centres based on the technologies of the “TRIORA” and “Knauf” companies were created for construction and assembly professions for the purpose of providing training, retraining, internships, and advanced training to students of this educational institution, as well as students of higher education institutions, workers of the construction industry, masters of industrial training, and teachers of VEI of this and other regions of Ukraine. Previously established partnership relations with well-known enterprises of the city were continued, including those with JSC “Trust Zhytlobud-1,” TDV “Zhytlobud-2,” the “Turboatom” plant, and SUI “KHARKIVZELENBUD”.

According to the state programme for the creation of educational and practical centres in vocational education institutions and with the support of the national companies LLC “Fomalhaut-Polimin” and Henkel Bautechnik (Ukraine), the State Vocational Educational Institution “Kharkiv Higher Vocational School of Construction” established educational and practical centres for the professions “installer of building insulation systems,” “Plasterer,” “tiler,” and “painter”. These two companies are leading manufacturers of modern building materials in Ukraine, so cooperation with them contributes to better training of workers. One of the areas of work created by the centres involves training and upgrading the qualifications of installers of building insulation systems, plasterers, tilers, and painters.

To date, the educational institution has concluded contracts with the customers of labour personnel, including the following enterprises: JSC “Trust Zhytlobud-1,” TDV “Zhytlobud-2,” LLC “DMKA Group”. Memorandums of cooperation and partnership were also signed between Kharkiv Higher Vocational School of Construction, LLC “Fomalhaut-Polimin,” and LLC “DMKA Group”.

The cooperation of VEI in the Kharkiv region with the Ukrainian Engineering and Pedagogical Academy is important, particularly with regard to participation in the work of the international school of leadership “Social Entrepreneurship: New Ideas and Opportunities for Teachers and Masters of Industrial Training of the Vocational Education System of Ukraine”. The goal of the school is to implement a training course based on the best practices of the United Kingdom and the EU. The training provided an opportunity to look at social partnership as a means of developing the educational institution by obtaining funds for the provision of social plan services.

Therefore, social partnership in VEI can be considered a reliable and proven social mechanism that contributes to the economic stability and innovative development of the educational institution, the creation of a competitive, flexible, and dynamic education system, as well as the formation of competitive skilled workers.

7 Conclusions and Suggestions for Further Research

In summary, we can conclude that civil society in Ukraine is rapidly developing and gaining influence in the area of education. Ukraine is gradually moving from a system in which everything is decided by the leadership to increased influence of the public in all processes characteristic of European countries, and education is no exception. This contributes to the rapid improvement of all branches of education in general and vocational education in particular.

The system of vocational education is subject to radical reforms. In this field, the emphasis has shifted from state management to the regional level with the use of new tools and the involvement of employers in the development of professional standards and the financing of personnel training. Such an organizational transition can improve vocational education and bring it to a qualitatively new level. However, all the necessary conditions have not yet been met for this.

Functionalism is the methodological basis for the task of modernizing vocational education. Economic and social consolidation of specific functions by state and regional authorities and the creation of business structures in normative and procedural forms are necessary steps towards the implementation of the regulatory principles of combining the status and functions of institutional agents of the vocational training system.

The activity of the vocational education system in the current socio-economic conditions is oriented towards the peculiarities that have developed in the available scientific and educational space, while vocational educational institutions master the mechanisms of survival and sustainable development. The paths of development of these educational institutions are different, but they are all oriented towards innovative development. The decisive factor for the innovative development of the vocational education system is the strategy of integrating education and training.

In consequence, civil society is an independent social institution and is characterized by relative autonomy, self-regulation, complex organization, openness, pluralism, high mobility, and dynamism. In the conditions of globalization and increased competition on the world market, the role of international public organizations in the development of national systems of vocational education has also increased. The new paradigm of relations between civil society, the state, the economy, and the field of vocational education should be based on the invention of points of intersection of their interests through the interpenetration of sectors and the creation of a single space of functioning.

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Bibliographical Notes

Oleksandr Kupriyanov is Doctor of Engineering Sciences and professor at the Department of Information Computer Technologies and Mathematics of the Ukrainian Engineering Pedagogics Academy. His scientific interests are focused on computerization of the educational process and manufacturing engineering. He teaches software engineering, e-learning fundamentals, and project management. He is editor-in-chief of the collection of scientific papers “Engineering” and Ukraine IGIP National Sections Secretary General.

Ukrainian Engineering Pedagogics Academy
Department of Information Computer Technologies and Mathematics
St. Universitetska 16, 61003, Kharkiv, Ukraine
a_kupriyanov@uipa.edu.ua

Tetiana Bondarenko is Doctor of Pedagogical Sciences and professor at the Department of Information Computer Technologies and Mathematics of Ukrainian Engineering Pedagogics Academy. Her scientific interests are focused on monitoring the quality of education in vocational education teacher training, cloud technologies, IT technologies and programming, robotics, the development and use of interactive mobile applications, innovative methods of teaching STEM subjects, and digitalization in engineering and pedagogical education. She is the executive director of the PO “Association of vocational and life-long education development.”

Ukrainian Engineering Pedagogics Academy
Department of Information Computer Technologies and Mathematics
St. Universitetska 16, 61003, Kharkiv, Ukraine
bondarenko_tc@uipa.edu.ua

Halyna Yelnykova is Doctor of Pedagogical Sciences and professor at the Department of Pedagogy, Methodology, and Education Management of Ukrainian Engineering Pedagogics Academy. Her scientific interests are focused on the problems of adaptive processes in socio-pedagogical and socio-economic systems. She has served as head of the PO “School of Adaptive Management of Social and Pedagogical Systems” since 2016. She is an expert of the National Research Foundation of Ukraine and a member of the Interagency Council for Coordination of Research Topics of the National Academy of Pedagogical Sciences of Ukraine.

Ukrainian Engineering Pedagogics Academy
Department of Pedagogy, Methodology and Education Management
St. Universitetska 16, 61003, Kharkiv, Ukraine
galina.yelnykova@gmail.com

Denys Kovalenko is Doctor of Pedagogical Sciences and rector of the Ukrainian Engineering Pedagogics Academy, professor at the Department of Pedagogy, Methodology, and Education Management of Ukrainian Engineering Pedagogics Academy. Her scientific interests are focused on the legal basis of education and the regulatory and legal maintenance of education.

Ukrainian Engineering Pedagogics Academy
Department of Pedagogy, Methodology and Education Management
St. Universitetska 16, 61003, Kharkiv, Ukraine
kovalenko_denys@uipa.edu.ua

Roman Nesterenko is a senior lecturer at the Foreign Language Training, European Integration, and International Cooperation Department, Head of the Innovative Educational Technologies, International Relations, and Academic Mobility Centre of Ukrainian Engineering Pedagogics Academy, and ERASMUS+ institutional coordinator. His scientific interests are focused on European studies, project management, development of creative thinking and entrepreneurship skills, innovative methods, and gamification of business education.

Ukrainian Engineering Pedagogics Academy
Foreign Language Training,
European Integration and International Cooperation Department
St. Universitetska 16, 61003, Kharkiv, Ukraine
roman.nesterenko@uipa.edu.ua

Tetiana Ruslanova is director of the Training and Methodological Centre for Vocational Education in the Kharkiv region. She is a specialist in the management of institutions of vocational education in the Kharkiv region and has extensive methodological experience in organizing classes for industrial training.

Director of the Training and Methodological Center for Vocational Education
in Kharkiv Region
St. Vladyslava Zubenko 37, 61121, Kharkiv, Ukraine
ruslanova1951@gmail.com

This publication addresses the pressing issues of vocational teacher education (VTE), focusing on institutional, organizational and governance aspects. Firstly, it summarizes the results of the four-year Erasmus+ capacity-building project “New Mechanisms of Partnership-based Governance and Standardization of Vocational Teacher Education in Ukraine” (PAGOSTE), funded by the European Education and Culture Executive Agency. The project’s focus has been governance in VTE in Ukraine. Secondly, it goes beyond the narrow project context and explores challenges as well as good practices in VTE systems of other countries in and outside of Europe. Therefore, contributions from England, New Zealand, Australia, Italy, Germany, Austria and Switzerland complement the Ukrainian context and provide readers with a more comprehensive understanding of VTE systems.

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Editors of this volume are:

Thomas Deissinger, Professor of Business and Economics Education at the University of Konstanz, specializes in the history of vocational education and training (VET), VET policy, and comparative VET, including two EU projects on VET teacher education.

Oksana Melnyk is a postdoc researcher at the University of Konstanz. She specializes in changes in vocational education systems, international cooperation in vocational education and training, and vocational teacher training.



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