



UKRAINIAN NON-FORMAL SKILLS DEVELOPMENT

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UKRAINIAN NON-FORMAL SKILLS DEVELOPMENT

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This report was prepared under the initiative and with financial support of the Helvetas Swiss Intercooperation, and is based on an analysis of open data, educational statistics, results of desk analysis, consultations with experts in the sphere of the vocational education and training, labour market, qualifications and skills development.

The report is dedicated to the study of skill development in the field of non-formal education in Ukraine, identifying challenges and risks for the development of formal and non-formal education in Ukraine under current conditions. It analyzes the specific features of non-formal education and training, best practices in vocational training at the workplace, non-formal education / certification of professional qualifications obtained through non-formal learning. The challenges and prospects of digitalizing the skill development process in the field of non-formal education in Ukraine were explored. Mapping of private providers of non-formal education (by regions and training directions) is an integral part of this report. Key suggestions and recommendations for improving skill development in the field of non-formal education, developed based on expert discussions, are presented in the report.

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INTRODUCTION

Skills development in Ukraine requires ensuring the improvement of the system of formal and non-formal education. To increase the effectiveness of the transition from school to work, ensuring the compliance of education and practical skills (obtained as a result of vocational education and training) with employers' needs, it is necessary to promote the balanced development of both formal and non-formal education.

In modern conditions, the importance of non-formal education for ensuring the competitiveness of employees on the labour market, increasing their employability through updating knowledge and skills, and obtaining professional qualifications is gradually increasing. Under conditions of the COVID-19 pandemic, the development of the non-formal education based on the using of the innovative and communication technologies has become widespread. Important components of non-formal education in Ukraine in modern conditions are on-job vocational training, the development of adult education centers, and the expansion of the offer of various courses and trainings. To ensure effective employment, the practice of verification / recognition of the professional qualifications obtained in the non-formal education system has become widespread.

The development of the non-formal education was also updated with the beginning of the Russia full-scale invasion against Ukraine, which led to the significant worsening of the prospects of the development Ukrainian labour market. In the conditions of the war, the possibilities of obtaining non-formal education by participating in trainings, courses (using online technologies) have not undergone significant changes, since the competition between providers of educational services in certain areas continues to be quite high. Recently, the challenges related to the skills development of war veterans and internally displaced persons (in the system of formal and non-formal education) have been increasing. Accordingly, it is necessary to ensure the rapid response of the education system to the employers' needs, the acquisition of in-demand skills and partial qualifications through participation in short-term educational programs and courses. The strengthening of the importance of non-formal education in the development of the lifelong learning system necessitated the study of the current state, risks and challenges of the development of non-formal education in Ukraine, the analysis of the main components of this system and the determination of directions for its improvement in modern conditions.

The purpose of the study "Ukrainian non-formal skills development" is to identify problematic issues and prospects for the development of non-formal education in Ukraine, mapping providers of non-formal vocational education and training. Within the framework of the study, the normative and legislative principles of the regulation of the process of acquiring skills in the system of formal and non-formal education were analyzed. Statistical data of the National Bank of Ukraine, educational statistics, statistics of the State Employment Service were used for the preparation of the report. Also, to assess the scope and structure of on-job vocational training, the results of the enterprises survey "Labour market of Ukraine 2023-2024: state, trends and prospects" conducted by the State Employment Service, the Federation of Employers of Ukraine, with the support of Helvetas Swiss Intercooperation, were analyzed.

Methodology

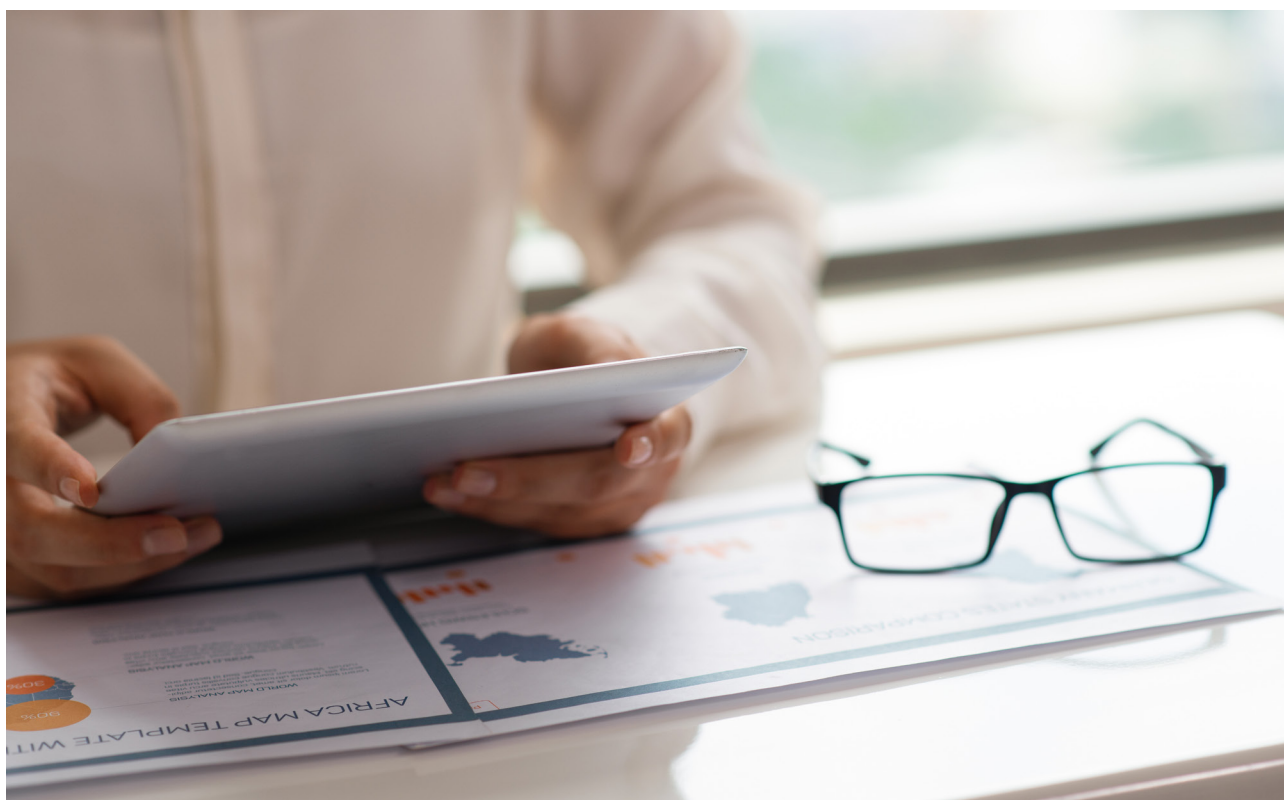
The methodology of the study, conducted with the support of Helvetas Swiss Intercooperation, included the analysis of the components of the non-formal education system, the main risks and challenges of their development and the systematization of the list of providers of educational services in the field of non-formal education.

As a first step a mapping of providers of educational services in the field of non-formal education was conducted, to collect and generalize the information concerning territorial location, contact data, fields of training, licensed / unlicensed programs. Data from administrative and educational statistics, information obtained from mass media, social networks, and the results of research conducted with the participation of key stakeholders were used to obtain said information.

The next stage of the implementation of the mapping methodology is the generalization of the received information, the clustering of providers of educational services in the field of non-formal education (by areas of training and availability of licenses). According to the results of the clustering, electronic tables were formed according to the determined criteria. The obtained information can be used in the formation of an integrated database of providers of the educational services in the field of non-formal education.

The study's methodology also provided for an expert survey of key stakeholders in the field of vocational education and training, labour market, business, and the qualifications. Expert interviews were conducted, dedicated to discussing the main problems and prospects for the development of non-formal education in Ukraine, determining the best practices of skill development (in the formal and non-formal sectors). Given that the interviewees have significant experience in the field of formal and non-formal education, as well as an in-depth understanding of the needs of the Ukrainian labour market, the information obtained provided a more comprehensive approach to the analysis and determination of the prospects for the Ukrainian non-formal skills development (Annex 1).

To determine the existing risks and opportunities for the development of the non-formal education system in Ukraine, it is advisable to conduct further research on the problems and prospects of skill development (informal sphere), to ensure the updating of the database of providers of educational services in the sphere of non-formal education.



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Liudmyla Akimova, Doctor of Public Administration,

Rodion Kolyshko, adviser of the Confederation of Employers of Ukraine, Director of the Institute of Professional Qualifications, were used.

LIST OF THE ABBREVIATION

EDEBO – Unified State Electronic Basis on the Educational Issues

FEU – Federation of the Employers of Ukraine

IDP – Internally displaced persons

KMU – Cabinet of the Ministries of Ukraine

LLL – Life Long Learning

MOES – Ministry of Education and Science of Ukraine

NBU – National Bank of Ukraine

NQA – National Qualification Agency

QC – Qualification centers

SES – State Employment Service

SSS – State Statistical Service

VET – Vocational education and training

VET schools – Vocational education and training schools

1. OVERVIEW OF THE SKILLS DEVELOPMENT LANDSCAPE IN UKRAINE

1.1. Risks and Challenges of the Development of vocational education and training in Ukraine

The Ukrainian skills development landscape is currently not meeting the demand for skills development due to underdeveloped or outdated formal and non-formal education segments and a lack of coordination amongst various providers. The use of innovative methods of education, strengthening of the local and regional coordination is therefore of high relevance to strengthen the system as a whole

Vocational education, which is sensitive to labour market changes needs to react and adapt rapidly to these changes. The VET system in Ukraine faces a series of problems such as:

- The material and technical basis of a significant part of the VET schools are outdated and VET schools' management remain non-effective.
- The prestige of the vocational education and training remains low among the population
- The wage of the pedagogical staff of VET schools is low .
- The mismatch between the training content and the employer's needs remains significant [1].

The full-scale invasion of russia on the territory of Ukraine created unprecedented challenges for the Ukrainian education system, and particularly its VET education. The development of the Ukrainian VET system in the conditions of war is accompanied by the aggravation of risks associated with the impact of combat activity on the socio-economic situation of the country. This concerns the increase in the scale of destruction of the infrastructure VET schools. According to the MoES of Ukraine data, as of August 1, 2023, 13 VET schools have been destroyed and 146 VET schools show damage of varying degrees [2]. The MoES has created an interactive map of destroyed and damaged institutions by regions and the city of Kyiv ([access](#)) [2].

An equally serious challenge for the development of the VET system was the limitation in financing vocational education and training from local budgets. Difficulties with the organization of practical training or industrial practice of VET schools' students and pedagogical staff had increased.

The incentive of employers to participate in the development of curricula of VET schools has weakened significantly due to the significant deterioration of the economic situation of the enterprises. Other notable problems caused by the full-scale war, is the growth of internal and external migration. As of January 1, 2023, the total contingent of VET schools applicants numbered 230.5 thousand people, of the total number almost 12.7 thousand people were internally displaced (IDPs), 17.5 thousand people were abroad, continuing their studies in the VET schools of Ukraine remotely and 5.5 thousand people studied located on the temporarily occupied territories [2]. It led to the widening of the practice of training in a mixed and distance format. As of January 25, 2023, 49% of training in VET schools was provided in a mixed format, 31% – in face-to-face format; 20% – in distance format.

One of the issues that existed before the full-scale invasion and continues to be challenging for the VET schools is the transfer of VET schools from state to communal ownership. Often, institutions do not have the necessary documents for buildings and infrastructure, for the land where this property is located. As a result, institutions are blocked due to this administrative complexity, because expenses for the maintenance of institutions are no longer covered by the central budget, and the regions are in no hurry to accept them on their own balance sheets. Furthermore, there is insufficient attention to the problems of improving the qualifications of both

administrations and pedagogical staff of VET schools, the shortage of teachers and masters of industrial training remains significant.

At the same time, the full-scale invasion, which caused the deterioration of the economic situation in the country, led to a reduction in the amount of funding for vocational training of the unemployed population (with the assistance of the State Employment Service). It led to the decrease of the number of unemployed which have a possibility to be retrained because of shortage of money for program's financing (VET schools receive money per student). In particular, in the first half of 2023, 15,000 people completed vocational training, compared to 28,000 people in the same period of the previous year [3].

The serious problem for the provision of the non-formal skills development remains slow rates of the development of the adult non-formal education. Especially, it related to the absence of the legislative basis for its development, existing problems of the training and migration outflow of the pedagogical staff with experience of the adult education.

With the beginning of the full-scale invasion, the possibilities of financing on-job vocational training programs were significantly limited. According to the previous research results, during 2022 almost 42% of enterprises reduced the costs of employee training. The largest share of enterprises that suspended the training of employees is observed in the segments of small and micro enterprises, and is, respectively, 64 and 80%. The share of enterprises at which the vocational training of employees has been suspended among large and medium-sized enterprises was, respectively, 31% and 44% [4].

During the war period the non-formal education through the participation in the trainings, courses using digital technologies for certain fields of training became a widespread practice. The competition between providers of educational service in the service sector, for example, remained relatively high. Whereas training programs in the production sectors (mainly, industry) depend on the existence of adequate infrastructure and funding volumes.

To the rapid increase in the number of internally displaced persons created new challenges and needs such as to ensuring the development of their skills (in the system of formal and non-formal education). According to the results of the study on the employment of IDPs in Zakarpattia and Lviv regions, conducted in 2022, 71% of surveyed IDPs are interested in receiving professional assistance for career development and job placement, 68% are interested in taking advanced training courses for development in their occupation [5].

Free of charge short-term courses for adults, including IDPs, are organized by SES, to obtain partial professional qualifications. At the same time, the possibilities of providing vocational training and retraining of IDPs mainly depend on funding from state and local budgets. Under conditions of the decentralization the expenditures on the provision of the vocational training in regions significantly depends on the capacities of local budgets to finance VET school infrastructure development.

Also, the incentive of IDPs to participate in vocational training and retraining is critically important for the widening of the training scale. The risks of ensuring vocational training and retraining of war veterans, the number of which will increase significantly, have also increased. The results of the study aimed on the definition of the needs of veterans and obstacles to employment of war veterans indicate that the vast majority of interviewed veterans and combatants will need retraining (53%), obtaining additional education (48%) for successful employment in the future [6]. However, until now, the scale of involvement of veterans in the project remains insufficiently high, which requires improvement in informing them about opportunities for vocational training.

One of the most important elements of the non-formal education system is the development of a system of assignment / confirmation and recognition of professional qualifications by qualification centers. The creation of regional qualification centers is taking place at a fairly fast pace, the list of professional qualifications is expanding. At the same time, the level of awareness of the population about the possibilities of the recognition of professional qualifications obtained as a result of non-formal education, as well as the list of professional qualifications, remain limited. This significantly increases the risks of ensuring the sustainable development of the Life Long Learning (LLL).

In general, strengthening the development of formal and non-formal segments of the system of vocational education and training in the conditions of war determines the need to improve the regulatory and legal foundations of the development of this system.

1.2. Regulatory framework for the development of the skills system (formal and non-formal education) in Ukraine

Regulatory and legal support for the development of the education system in Ukraine implies the need to reform formal, non-formal and informal education. According to Article 8 of the Law of Ukraine «On Education», formal education is obtained through educational programs in accordance with the levels of education, fields of knowledge, specialties (occupations) determined by the law, and provides for the achievement by the students of the learning outcomes of the corresponding level of education and the acquisition of qualifications recognized by the state. The result of the non-formal education might be the awarding of the professional and / or partial educational qualifications, obtained through educational programs, although it does not provide for the awarding of state-recognized educational qualifications by level of education. Non-formal education, in turn, involves a person's self-organized acquisition of certain competencies during everyday activities related to professional and public activities [7].

Currently, the regulatory and legislative support for the development of the VET system is being reformed. The reform provides for the decentralization of management and funding in the field of vocational education; ensuring quality improvement; development of public-private partnership; strengthening the relationship with the labour market; formation of a network of qualification centers [8]. In order to increase the compliance of the training of graduates with the employers' needs, it was envisaged to promote the development of a dual form of education (combining the training of individuals in educational institutions with on-job training to acquire the appropriate qualification on the basis of a contract) [9].

The updated course on reforming the VET system foresees the need to modernize the content of education, improve the capacity of institutions and «smart reconstruction» [10]. This concerns increasing the autonomy of institutions, introducing a new financing model, active digitalization, and creating a modern network of these institutions. In order to ensure the modernization of the VET system, to promote the strengthening of its practically oriented content, in 2021 the Council for the Development of Vocational and Technical Education was formed as a consultative and advisory body under the President of Ukraine [11].

In order to ensure the minimization of risks in VET system development in 2022, the possibility of obtaining an education without obtaining a complete general secondary education was provided, obtaining a second working occupation (free of charge) 3 years after obtaining the previous occupation [12]. It is also provided for the possibility of obtaining partial professional qualifications for the purpose of training and retraining under short-term programs for specific needs in the reconstruction.

To increase the competitiveness of certain categories of the population, the Cabinet of Ministers of Ukraine decided to implement an experimental project on the organization of vocational training of combatants and persons with disabilities as a result of the war in VET schools of the State Employment Service [13]. This project provides for a differentiated approach to the development of educational programs, curricula renew, reasonable adaptation of the training place, provision of compensation for veterans' travel expenses.

The development of non-formal education in modern conditions contributes to increasing the efficiency of vocational education and training. In particular, non-formal vocational training of employees is defined by legislation as the acquisition of professional knowledge, skills and abilities by employees, not regulated by the place of acquisition, duration and form of training [14]. At the same time, the development of non-formal vocational education requires the development of the adult education system (postgraduate education; vocational training of employees; retraining and/or professional development courses; continuous professional development). In order to stimulate the development of the LLL-system, the Verkhovna Rada of Ukraine in 2023 considered in the first reading and adopted as a basis the draft Law of Ukraine «On Adult Education» [15], which defined the possibility of providing state support to adults to obtain formal education again, through introduction of preferential lending. The bill is currently being finalized.



Along with this, the Ministry of Education and Science has developed a project of the Law of Ukraine «On the National Qualifications System» [16], which defines the tasks and principles of the functioning of this system, accreditation procedures and the activities of qualification centers, the procedure for assigning / confirmation professional qualifications, recognition of acquired qualifications through non-formal and informal education. The development of the national system of qualifications requires the upgrading of procedures for assigning / confirming complete and partial professional qualifications, recognizing the results of non-formal and informal education [17]. In accordance with the Law of Ukraine «On Education», the procedure for assigning / confirming and recognizing complete and partial professional qualifications, evaluation of training results is carried out by qualification centers [18].

In general, changes in the regulatory framework, the development of vocational education and training (formal and non-formal) are aimed at increasing the employability and promoting job placement of the population. These issues are especially relevant in modern conditions, since post-war reconstruction requires the training of skilled workers in accordance with the employers' needs.

1.3. Overview of economic sectors and their needs in the context of skills development

The development of the Ukrainian economy during the war is characterized by significant losses of the economic potential of the regions, the destruction of industrial and infrastructure facilities as a result of missile attacks, and the disruption of logistical connections. The reduction in exports of metallurgical products, which accounted for a significant share of Ukrainian exports in the pre-war period, negatively affected the development of the Ukrainian economy. Also, the losses of the agricultural sector of Ukraine as a result of the explosion of the Kakhovka hydroelectric power station, which led to significant flooding of agricultural lands and losses of crop production, remained significant. The introduction of trade restrictions for the export of Ukrainian agricultural products by a number of EU countries also had a negative impact on the development of the agricultural sector. As a result, shortening of the production volume significantly effects the labour demand and led to employment reduction in these sectors.

According to the estimates of the NBU, real GDP in the 1st quarter of 2023 decreased by 10.5% y/y. However, the dynamics of GDP changes, compared to the previous macro forecast (13.5% y/y), improved somewhat due to the gradual recovery of economic activity in both the manufacturing and service sectors [19]. In particular, according to the SSS, the real GDP in the II quarter of 2023 increased by 0.8% compared to the previous quarter (taking into account the seasonal factor), and by 19.5% compared to the II quarter of 2022 [20]. The gradual improvement of the energy infrastructure, the increase in external and internal demand contributed to a certain improvement of the situation in the manufacture of the metal products and food production. The need to restore destroyed housing and infrastructure, as well as the development of relocated enterprises, logistics hubs stimulated the development of the construction and manufacture of other non-metallic mineral products (construction materials) [19].

According to expert estimates, the highest level of utilization of production capacities in December 2023 was demonstrated by the manufacture of the food products, printing, and manufacture of textile, although manufacture of machinery and equipment, and the manufacture of other non-metallic mineral products (construction materials) are also gradually recovering (Fig. 1)

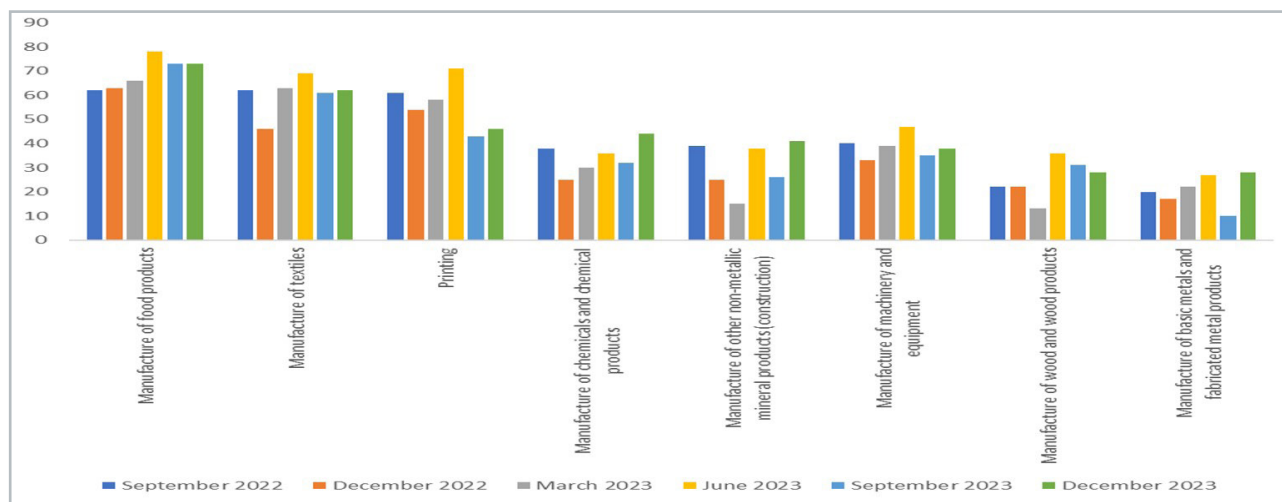


Figure 1. The share of industrial enterprises operating at partially and complete capacity, compared to the pre-war period, %

Source: [21]

SSS data revealed that industrial production indices in the mining in January-June 2023 (compared to the same period of the previous year) were 91%, while in the manufacturing these indices exceeded 103%. At the same time, the indexes of industrial products increased the most in the manufacture of the food products (112%), machine building (113%), while the indexes in the manufacture of chemicals (96%), manufacture of the metal products decreased by 79% [22]. It might lead to the increase of the employment in such industries. At the same time, it stipulates the change of the need for skilled labour. Mobilization process as well as a migration outflow of skilled labour might stipulate the increase of certain skills shortage in these industries.

According to the data of the NBU survey on business expectations of enterprises of Ukraine in the third quarter of 2022-2023, employers predicted a decrease in the number of employees during next year in the construction, transport, and electricity supply enterprises. Results of this survey indicate a significant differentiation of expected changes in the number of employees at enterprises of various sectors of the economy in the next 12 months (Fig. 2). In particular, employers noted the possibility of reducing the number of employees (over the next year) at construction, transport, electricity supply, and mining enterprises in the third quarter of 2023. On the other hand, **the vast majority of** employers of surveyed enterprises in agriculture, manufacturing, and trade expected that the number of employees at the enterprises **would remain unchanged** [23].

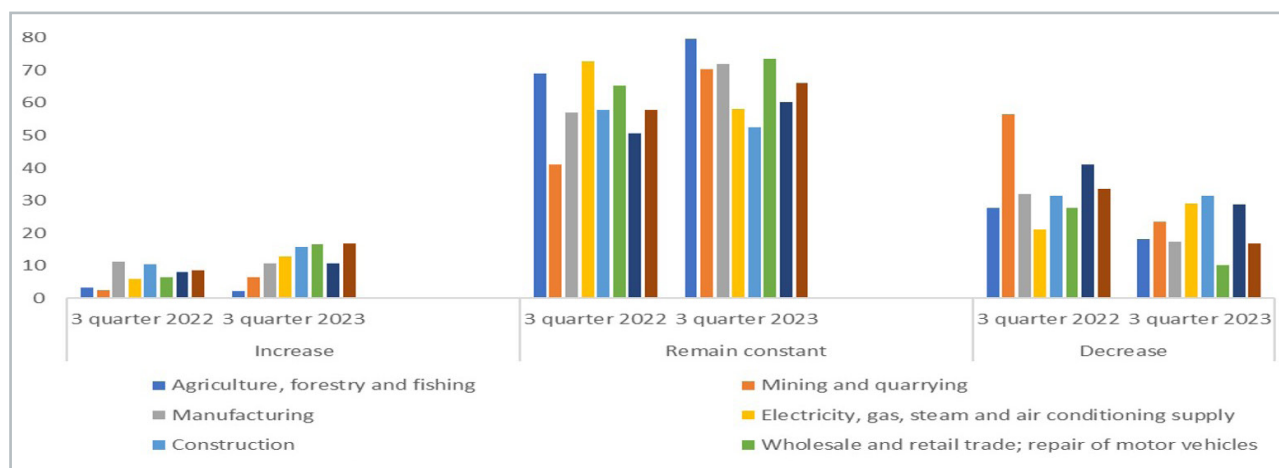


Figure 2. Expected changes in the number of employees at enterprises in the next 12 months, % of the total number of respondents, III quarter 2022-2023.

Source: [23]

According to the study «Labor market of Ukraine 2022-2023: state, trends and prospects», energy companies (46% of surveyed companies), mining industry (45%), manufacturing (42%), hotels and restaurants (39%), agriculture (38%) foresee the possibility of additional hiring of employees in the next 6 months [4].

The gradual increase in the economic activities of enterprises lead to an increase in the demand for skilled workers. The results of the mentioned study [4] indicate a significant differentiation of the needs of certain types of economic activity in the skills defined for 2023 (Table 1).

Table 1 The most in-demand skills (by type of economic activity)

<i>Sector (economic activity NACE)</i>	<i>Most needed skills</i>
Agriculture, forestry and fishing	Working with equipment, responsibility, foreign language, working with tools, computer skills
Mining	Working with equipment, responsibility, working with tools, stress resistance, teamwork
Manufacturing	Working with equipment, working with tools, responsibility, foreign language, working with customers
Electricity, gas, steam and air conditioning supply	Working with equipment, knowledge of relevant regulations, working with tools, working with customers, responsibility
Water supply; sewerage; waste management and remediation activities	Working with equipment, working with tools, responsibility, work with documents, working with customers
Construction	Working with equipment, work with tools, responsibility, teamwork, work with technical documentation
Wholesale and retail trade	Working with customers, responsibility, active sales, teamwork, attentiveness
Transporting and storage	Responsibility, working with equipment, working with customers, teamwork, attentiveness
Accommodation and food service activities	Responsibility, work with clients, teamwork, foreign language, working with equipment
Information and communication	Working with customers, responsibility, stress resistance, foreign language, working with social media
Financial and insurance activities	Responsibility, working with customers, stress resistance, teamwork, foreign language
Real estate activities	Responsibility, attentiveness, stress resistance, working with customers, foreign language
Professional, scientific and technical activities	Responsibility, computer skills, working with equipment, knowledge of relevant regulations, teamwork
Administrative and support service activities	Responsibility, teamwork, attentiveness, stress resistance, computer skills
Education	Foreign language, knowledge of relevant regulations, stress resistance, working with web technologies and programming, computer skills
Human health and social work activities	Foreign language, computer skills, stress resistance, responsibility, knowledge of relevant regulations
Other services	Responsibility, stress resistance, management skills, working with equipment, working with customers

In general, according to the survey data, a fairly significant differentiation of the needs of different sectors of the economy in terms of skills was observed, which requires an appropriate response from the VET system. Among the most sought-after skills, enterprises noted are: responsibility, working with equipment, working with customers, stress resistance, foreign language, teamwork, working with tools, computer skills, attentiveness. Accordingly, this implies the need for increased attention to training in the above-mentioned skills from both formal and non-formal education are of relevance, however it also reveals, that not only technical skills are desired but many soft skills as well.

1.4. The interaction of formal and non-formal education

Under current conditions non-formal skills development should interact with formal education towards improvement of the competitiveness of employees at the labour market. It should be aimed on the minimization of the skills gap between the demand (from private sector side) and the supply of skills (from education side).

It is necessary to create adequate conditions for the provision of the effective interaction of formal, non-formal and informal types of education aimed on the matching of skills needs based on the improvement of the quality of education [7].

Formal education is obtained according to educational programs, in accordance with the levels of education, fields of knowledge, specialties (occupations) determined by the law. The results of formal vocational education meet educational standards. After receiving the formal education, educational and professional qualifications recognized by the state are assigned (in particular, the educational and qualification level 'skilled worker' is assigned). In particular, educational qualifications can only be assigned by educational institutions, while professional qualifications can be assigned by qualification centers, educational institutions or other authorized bodies. Accordingly, a qualification certifies that a person is able to perform a certain type of work or perform a professional activity.

Employers can carry out formal and non-formal (acquisition by a person of professional knowledge, abilities and skills, not regulated by the place of acquisition, period and form of training) vocational training of employees [14].

Formal vocational training of employees – acquisition of professional knowledge, skills and abilities by employees in the educational institution or directly on-job-place in accordance with the requirements of state education standards. Based on the results of formal vocational training, the employee is issued a document on education of the state established model.



Formal vocational training is carried out directly by the employer or organized on contractual terms in VET schools, enterprises (in accordance with the requirements of the VET standards, standard curricula, educational programs, standards of higher education). Formal training of employees in working occupations includes initial vocational training and retraining, certification training.

Non-formal education may culminate in the award of the complete and/or partial professional qualifications. Recently, the practice of using such types of non-formal education as trainings, seminars, and courses that offer obtaining individual professional qualifications has become quite common. Competition between providers of educational services in some segments remains quite high, and varies depending on the direction of training, content of licensed / unlicensed programs, their duration, etc.

Non-formal vocational training is the acquisition of professional knowledge, skills and abilities by employees, which is not regulated by the place of acquisition, term and form of training. In general, it may result in the award of professional and/or partial educational qualifications. The organization of formal and non-formal vocational training is carried out on the basis of VET schools, VET schools of the State Employment Service, directly at enterprises.

Also, an important component of the non-formal education system is the organization of the on-the-job vocational training. The results of the study on the development of Ukrainian labour market in 2022-2023 [4] testified that among the most common forms of on-the-job training, employers noted:

- confirmation / recognition of professional qualifications in qualification centers
- training for newly hired employees
- study in the tertiary institutions
- internal training programs
- study in VET schools
- short-term vocational trainings organized by the external educational providers
- training of employees in own training centers under licenses of the Ministry of Education and Science
- periodic trainings from suppliers of products or equipment.

The increase of the needs of enterprises for skilled employees (for certain occupations) determines the possibility of expanding the scope of the on-the-job vocational training. However, the narrowing of the possibilities of financing this training as a result of the deterioration of the financial and economic condition of enterprises during the war limits the scope of the development of these forms of training.

Adult education centers, organized on the basis of formal and non-formal education institutions, public and other organizations, provide a certain list of educational services. At the same time, the spectrum of educational services is determined depending on the changes in the labour market (in the field of business, provision of administrative services, acquisition of soft skills, foreign languages, IT services, etc.) [24].

The development of non-formal vocational education is aimed at increasing the competitiveness of employees in the labour market, increasing the employability. In order to increase the effectiveness of employees entering the labour market, ensuring the compliance of education and practical skills obtained as a result of non-formal education with the employers' needs, it is necessary to spread the practice of confirming professional qualifications obtained in the system of non-formal education.

In accordance with the procedure for confirming the results of non-formal vocational training of persons in workers occupations, approved by the Cabinet of Ministers of Ukraine, depending on the results of this training, the employee may be issued with appropriate documents on education of the state established model [25]. The certificate (svidotstvo) on the assignment (increase) of

labour qualifications based on the results of non-formal vocational training is issued under the conditions of qualification verification / confirmation. The certificate (certificate) of evaluation of the results of non-formal vocational training is issued under the conditions of confirmation of the level of professional knowledge, abilities and skills sufficient to perform certain types of work by occupation.

In the context of the development of the National Qualifications System and the development of the LLL system, an important component of the non-formal education system is the assignment / confirmation of the complete and / or partial professional qualifications, recognition of the learning outcomes of individuals (in particular, those obtained through non-formal or informal education) by qualification centers. The National Agency of Qualifications creates and maintains the Register of Qualifications, carries out accreditation of the QC; develops criteria and procedures for recognition of the complete and / or partial professional qualifications obtained in other countries and others [7].

The procedure for assigning and confirming professional qualifications of the QC determines the procedure for evaluating the vocational education and training results. It foresees the establishing the compliance of the acquirer's competencies with appropriate professional standard based on the obtained training results which can be recognized and the professional qualification assigned/ confirmed accordingly [18]. A person's professional qualification is certified by a certificate of assignment / confirmation of professional qualification issued by the QC.

The procedure for assigning and confirming professional qualifications by qualification centers determines the procedure for evaluating the training results, i.e. establishing the compliance of the acquirer's competencies with the appropriate occupational standard, based on the results of which the vocational training results obtained by him can be recognized and the professional qualification assigned / confirmed accordingly¹. The certificate of assignment / confirmation of professional qualification is a document certifying the professional qualification of the person, issued by the qualification center in compliance with the requirements established by this Procedure.



Accordingly, the development of formal and non-formal education in Ukraine can be presented in the following form (Fig. 3).

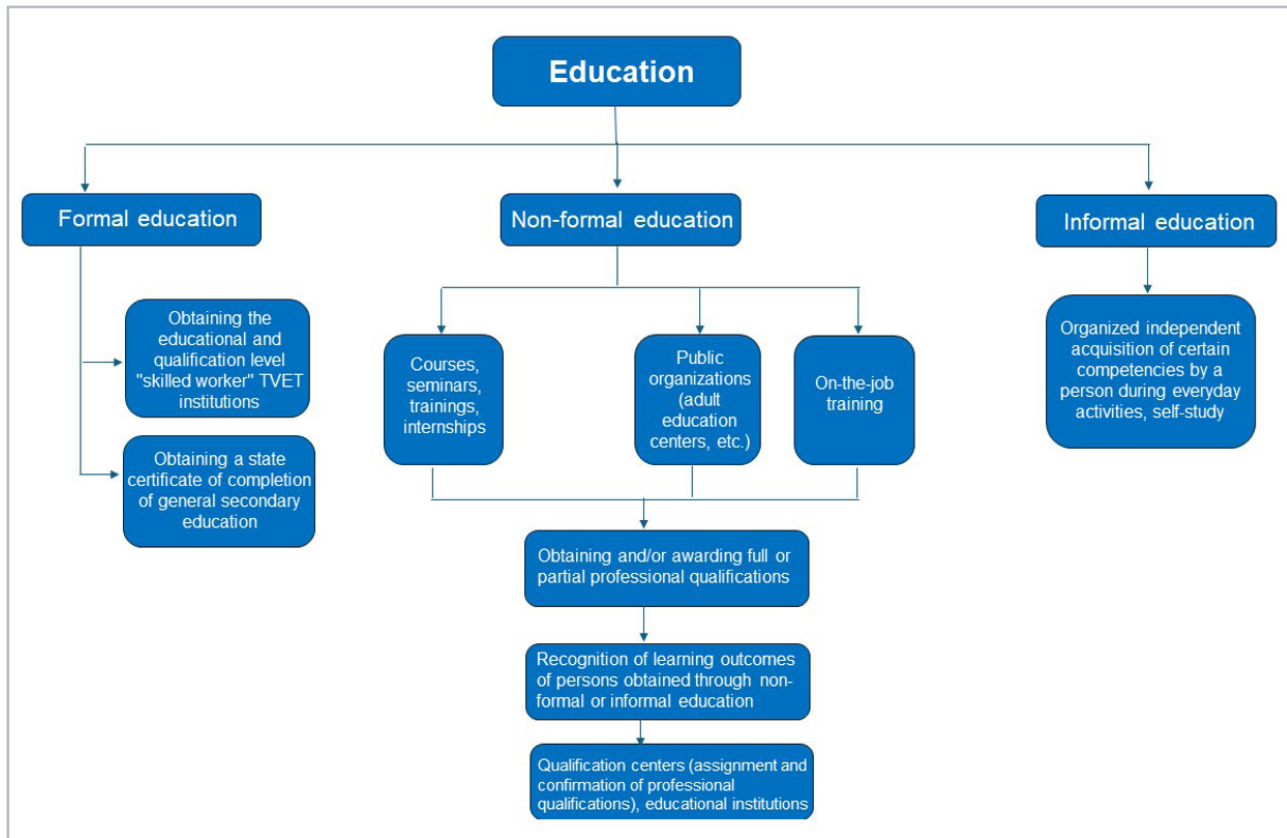


Figure 3. Types of vocational education and training: mechanisms of obtaining education and obtaining qualifications

In general, ensuring more effective interaction and coordination between formal, non-formal and informal components of education promote the improvement of the quality of educational services in the field of acquiring professional qualifications provided by providers of state, communal and private forms of ownership.

2. SKILLS DEVELOPMENT IN UKRAINE: SPECIFIC FEATURES OF THE FORMAL AND NON-FORMAL EDUCATION

2.1. Main actors of the process of Skills Development activity (formal sector)

The main components of the system of formal and non-formal education are the system of vocational education, vocational schools of the State Employment Service, on the one hand, and public organizations, providers of educational services of various forms of ownership, which organize courses, trainings, seminars for different groups of the population, qualification centers for assigning / confirming a complete and partial professional qualification. At the same time, the role of these stakeholders significantly varied depending on their functions.

2.1.1. Vocational schools

Formal *education* is represented by a network of **vocational schools** (higher vocational schools, colleges, vocational lyceums, centers of vocational and technical education etc.). Graduates of higher professional schools or centers of professional (vocational and technical) education of a certain level of accreditation can study at the level of the vocational higher education and receive, in particular, a professional junior bachelor's diploma. Graduates of other VET schools receive only diplomas of qualified workers.

The management and financing VET schools is entrusted to the regional (local) authority, while the state budget finances the acquisition of full general secondary education in VET schools, the publication of textbooks, training in occupations of national importance, the work of educational and methodological centers (offices) of vocational and technical education. In addition, since 2016, a subvention has been provided from the state budget for the creation of educational and practical centers. In 2021, the amount of such subvention was 150 million UAH, in 2020 – 100 million UAH, in 2019 – 50 million UAH, in 2018 – 100 million UAH, in 2016-2017 – 50 million UAH each year. In 2022-2023, funds from the state budget were not allocated for the creation of educational and practical centers.

As of January 1, 2023, there were 670 institutions in the VET system, where 230,500 people receive education. The educational process was provided by 30,200 teaching staff. The largest number of institutions located in Dnipropetrovsk and Lviv regions – 53 and 51 institutions, respectively [2]. Training in VET schools is carried out under the conditions of regional and state order.

In recent years, there has been a process of VET system reforming in the direction of organizing the educational process on a modular-competency basis, developing digital content to improve the quality of distance learning, conducting communication campaigns aimed at increasing the prestige of VET system in society.

The functioning of VET schools under the conditions of war largely depends on the socio-economic situation in the country. Accordingly, the deterioration of the financial and economic condition of enterprises significantly affected the scale of application of dual forms of education, as well as the job placement of students who participated in these programs at the enterprises where training took place. At the same time, the number of potential entrants to VET schools has significantly decreased.

According to the survey of the current state of readiness of VET schools before the beginning of the academic year under the legal regime of martial law, conducted by the State Education Quality Service of Ukraine, the following distribution of education recipients is observed (Fig. 4).

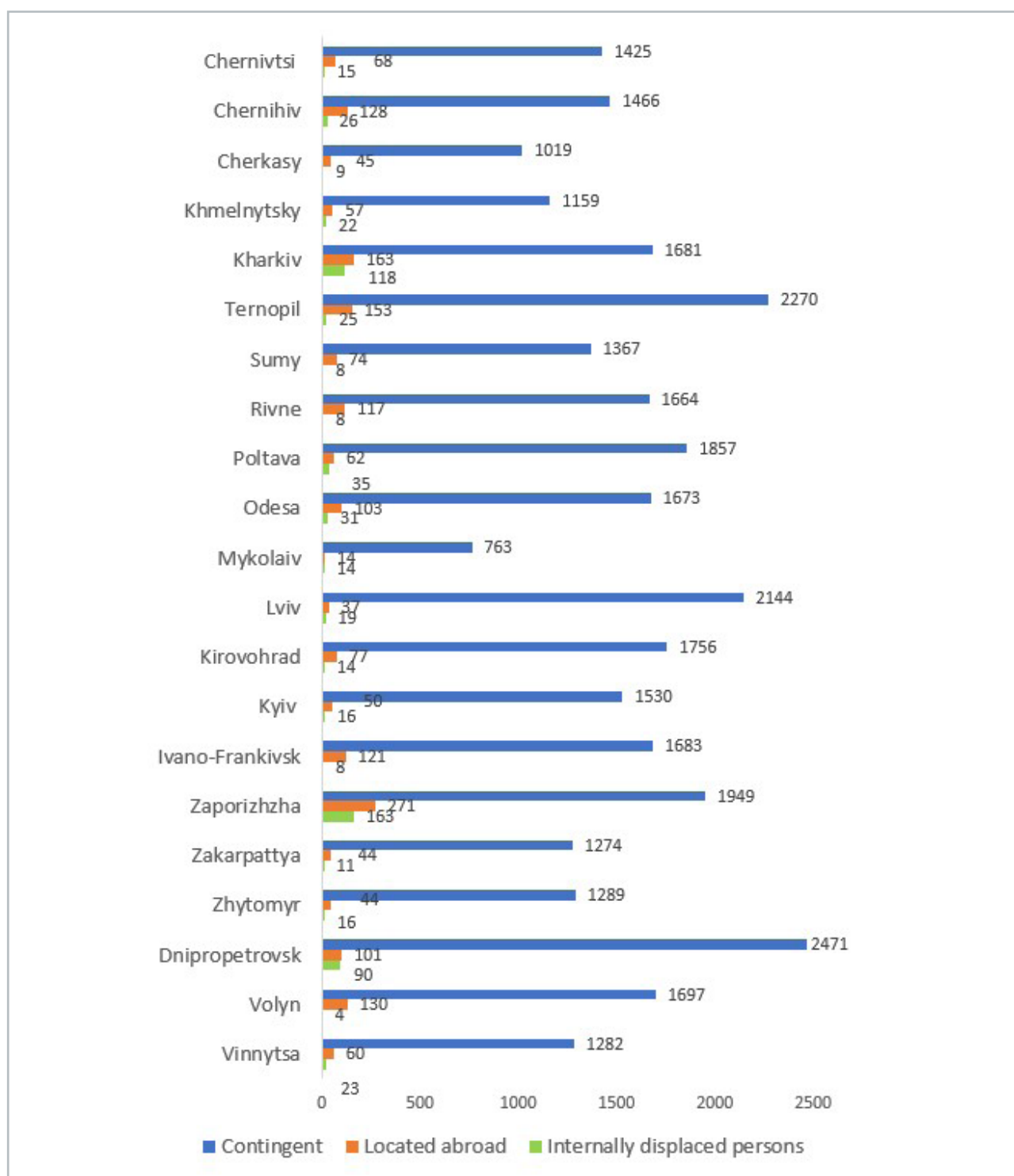


Figure 4. Distribution of VET recipients (by region), persons

Source: [25]

In order to increase the employability and ensure effective entry of internally displaced persons into the labour market, VET schools develop short-term course programs and provide training for partial qualifications in certain working occupations. In particular, they are trained in programs of occupations belonging to the sphere of services, construction and agriculture. Taking into account modern needs, training is being conducted with the aim of acquiring the skills of controlling drones, 3D modeling, and the basics of robotics. Short-term internships are organized and conducted. Course participants have the opportunity to receive certificates that confirm the acquisition of partial qualifications.

To meet the personnel needs of the labour market, business associations, employers or their representatives initiate partnerships with VET institutions. Since VET schools have the appropriate material and technical base and teachers, employers finance short-term courses and agree on a modular training program. In this case, the most attractive for employers are institutions based on which educational and practical centers operate, and teachers systematically participate in advanced training. It led to the widening of the scale of best practices, presented in Annex 2.

VET school «Regional Center for Vocational Education of Innovative Technologies of Construction and Industry», in the framework of the realization of the project «Vocational training on energy efficiency in Ukraine», had organized short-term courses «Installation of solar photovoltaic plants». The course is aimed at acquiring skills in the installation and connection of solar station equipment (photo modules, inverters, controllers, batteries, protective devices and devices).

In 2022, the educational and practical center for plumbers in Brovary Vocational Lyceum, in collaboration with Trade Union of Builders of Ukraine, had elaborated the short-term training courses (free of charge) for two occupations: «Installer of sanitary-technical systems and equipment» and «Tiler». Due to the financial support of the Trade Union, the lyceum purchased consumables and reimbursed the working hours of teachers. The target audience of the courses were IDPs, the unemployed and other people interested in plumbing.

Expert's estimates. The results of the meetings with experts indicate not only the presence of challenges and problems, but also the success of certain practices, the possibility of increasing the efficiency of the activities of VET schools. The opinions of labour market experts and experts representing the educational sphere, regarding the assessment of the readiness of the VET system for adult training differ significantly. Experts – business representatives – believe that the VET system in its current state is not ready for mass training of adults. In particular, due to the fact that the formal education system is not aware of the scale and urgent needs of corporate training. While experts – representatives of the field of education – positively evaluate such a perspective and point out that working with adults motivates teachers of VET schools to prepare educational materials more seriously, to be ready for objective, professional questions from trainees.

At the same time, one more challenge is the preservation of a negative stereotype about VET schools in Ukraine. To overcome this and popularize vocational education and training, the Ministry of Education and Science of Ukraine, together with interested partners, implemented several communication campaign. This gave some positive results. However, experts emphasize that in order to maintain positive dynamics, it is necessary to improve the system of career guidance, starting from early preschool and school age, gradually integrating the individual into the world of occupations. Elements of career guidance are used in the senior grades of the school, while, according to experts, this process should begin much earlier. At the same time, there is such a serious gap in this area, because until now there is no institution that would be responsible for conducting systematic career guidance.

The experts in the sphere of labour market, business and education also emphasized that the success of the VET schools largely depends on the top management: vision of strategic development, work process management, ability to motivate teachers, attention to career guidance

work and communication about the institution. The majority of experts positively evaluates the idea of giving a business, which is part of the Supervisory Board of a VET schools, real influence on the institution's management process. After all, now the employer mostly performs the function of a philanthropist – donates equipment (within permissible limits), consumables, helps with the repair of educational buildings or dormitories, etc.

Some experts also note that the Ukrainian VET system lacks legislative image changes and confirm the need for the adoption of a new special law. It related to the outdated social stamps in society related to vocational education and training, low prestige of VET schools.

Experts also noted such a weak side of the Ukrainian VET system as an insufficiently optimized network of institutions and their insufficient staff. In turn, according to experts, limited resources and the inability to attract additional funds lead to a weakening of managers' incentive for career growth, a decrease in attention to improving the efficiency of teamwork, the search for new opportunities and the use of more productive development tools.

Experts testified the necessity to improve the system of development of teaching staff, to encourage participation in various training programs. With the beginning of the COVID-19 pandemic, there was a transition to the use of new digital technologies in education – the development of electronic educational materials. These processes also intensified with the beginning of the full-scale aggression of the Russian Federation against Ukraine, the transition to the use of remote forms of education. But the digital level skills and new knowledge in the field of technology need constant improvement. Also, the level of distribution of electronic educational materials, such as electronic textbooks, manuals and additional educational materials, is not sufficiently high in the Ukrainian market.

In general, VET institutions play an important role in the training of qualified workers. However, in order to increase the effectiveness of the activities of these institutions, it is necessary to improve cooperation with employers regarding the modernization of the VET school infrastructure, establishing coordination with providers of educational services of various forms of ownership, and increasing the prestige of obtaining vocational education and training.

2.1.2. State Employment Service

To increase the competitiveness of the registered unemployed on the labour market, the State Employment Service organized vocational training on the order to employers for self-employment and entrepreneurial activity. Vocational training was organized on the basis of VET schools, prehigher education institutions, at enterprises, institutions and organizations regardless of the form of ownership, type of economic activity, as well as in VET schools of the State Employment Service.

In particular, in January-September 2023, with the assistance of the State Employment Service, 24,600 unemployed people underwent vocational training (compared to 40,600 unemployed people in the same period of the previous year). Vouchers for training were received by 14,500 persons [26].

There remains a significant differentiation of regions in terms of the number of unemployed people who have completed vocational training (Fig. 5).

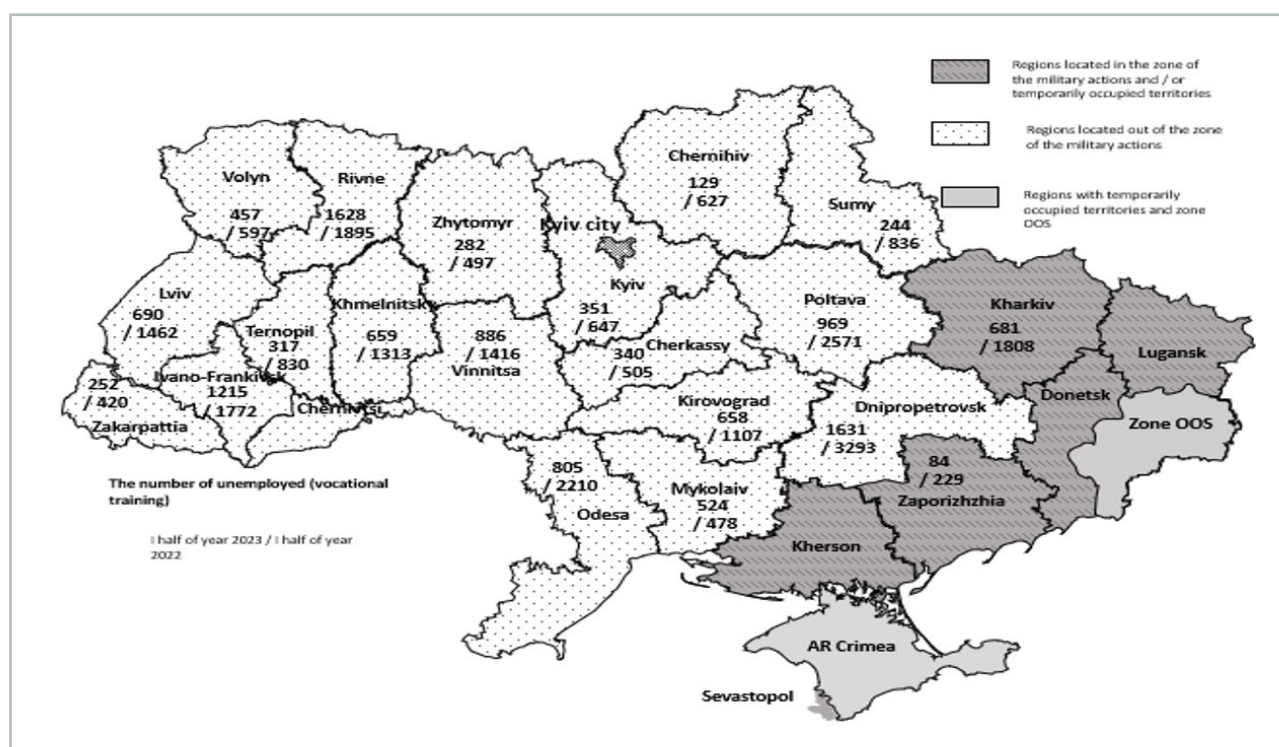


Figure 5. Regional distribution of the unemployed who have completed vocational training in the first half of 2022-2023

Source: State Employment Service

In the first half of 2023 (compared to the same period of the previous year), the number of unemployed people who received vocational training decreased mostly in Dnipropetrovsk, Vinnytsia, and Lviv regions. In 2022, almost 29,000 people from among the registered unemployed received vocational training in VET schools of the SES, in 95 licensed labor professions and in more than 300 areas of targeted courses in demand on the labour market.

After the introduction of martial law, vocational training was organized in VET schools of the SES in regions located relatively far from the zone of combat activity. According to the SES data, educational programs for qualifications and skills in demand in the labour market were developed in VET schools of the SES [27]. The use of a dual form of education is quite common, which involves combining the training of individuals in VET schools with on-the-job training in enterprises, institutions and organizations in order to acquire a certain qualification. At the same time, on-the-job training and industrial practice are carried out at the factory, using the material and technical base and personnel potential of the employer. This provides an opportunity for pupils / students, simultaneously with studying in a VET schools, to master the chosen occupation or competence directly on-the-job.

To ensure the competitiveness of certain categories of population on the labour market, vouchers for retraining, specialization, advanced training, training at the next educational and qualification level were issued for the certain occupations and specialties specified in the List of occupations, specialties, areas of training and advanced training for which vouchers can be issued².

² Resolution No. 1096 of the Cabinet of Ministers of Ukraine from September 30, 2022, expanded the list of persons who have the right to receive a voucher, in particular, persons who have been deprived of their personal freedom as a result of armed aggression against Ukraine, and their family members, after their release. Law of Ukraine "On Amendments to Certain Legislative Acts of Ukraine Regarding Reform of the Employment Service, Social Insurance in Case of Unemployment, Promotion of Productive Employment of the Population, Including Youth, and Implementation of New Active Programs on the Labor Market" No. 2622- IX from September 21, 2022, canceled the requirement of consistency of the list of occupations for which a voucher for priority types of economic activity can be issued.

VET schools of the SES have several advantages, in particular, flexibility in training formats, and presented in the best practices (Annex 2). Depending on the level of available training, programs of different duration are offered in individual and group formats, face-to-face, remote and dual formats. Appropriate flexibility is achieved through the combination of licensed educational programs, the introduction of certifications based on partial qualifications, which makes it possible to issue both state certificates and internal training certificates. In all institutions, advisory councils of employers' function on a permanent basis, which assess the relevance of training programs, the quality of training and offer training for new promising occupations.

In 2022, VET schools of SES had developed and implemented: a program for controlling unmanned aerial vehicles, programs within the framework of the «Farming School 2.0» project, programs for acquiring IT skills.

To improve the quality of educational services, VET schools of the SES actively introduced elements of distance learning technology into the organization of vocational training for the unemployed and developed online courses in various directions and partial qualifications.

Expert's estimates. Employment experts noted that among the successful practices of VET schools of the SES includes the experience of implementing training programs for vulnerable categories, in particular, programs for training blind people to work on a computer, as well as people with various intellectual disabilities level to work on food preparation. At the same time, experts emphasized the need to improve the quality of psychological support skills and take into account the peculiarities of communication with combatants and persons with disabilities to ensure the effective implementation of an experimental project on the organization of their professional training in VET schools of the SES. As part of the implementation of the project, training of employees of the institution, full-time psychologists and masters of industrial training is carried out on the rules of communication and relations with the listed categories of persons. At the same time, it is necessary to ensure the systematic conduct of this training.

In general, the activities of VET schools of the SES are focused on providing vocational training for the unemployed, preparing programs for obtaining partial qualifications. This will contribute to strengthening the practically oriented content of educational programs, bringing the level of training of graduates closer to the needs of employers, and improving the skills necessary to increase their competitiveness in the labour market.

2.2. Main actors of the process of Skills Development activity (non-formal sector)

Non-formal education has a greater variety of educational service providers. In particular, the business organizes corporate training to meet the needs for professional development, training or retraining of personnel. Adults who already have a full general secondary education can be taught by VET schools according to an individual curriculum, without breaking away from the main job and at any time of the school year. It is important that the institution that conducts course training must have a license of the MoES for retraining, advanced training in a specific occupation.

According to the results of the study about development of labour market, in 2022-2023, most companies that will need employee training (51%) in 2023 note that they will be able to

independently finance such training. A significant part of them (34%) admits the possibility of problems with the financing of education. At the same time, 23% of enterprises indicate that they will not be able to finance training, despite the need for it. At the same time, 13% are sure that companies do not have the ability to independently finance the necessary training. In the segments of small and micro enterprises, the share of such enterprises exceeds 50% [4].

The results of the skills needs' study conducted by the SES, the FEU, with the support of Helvetas Swiss Intercooperation, indicate the prospects for changes in the number of employees who will participate in vocational training in 2024, compared to 2023 (Fig. 6).

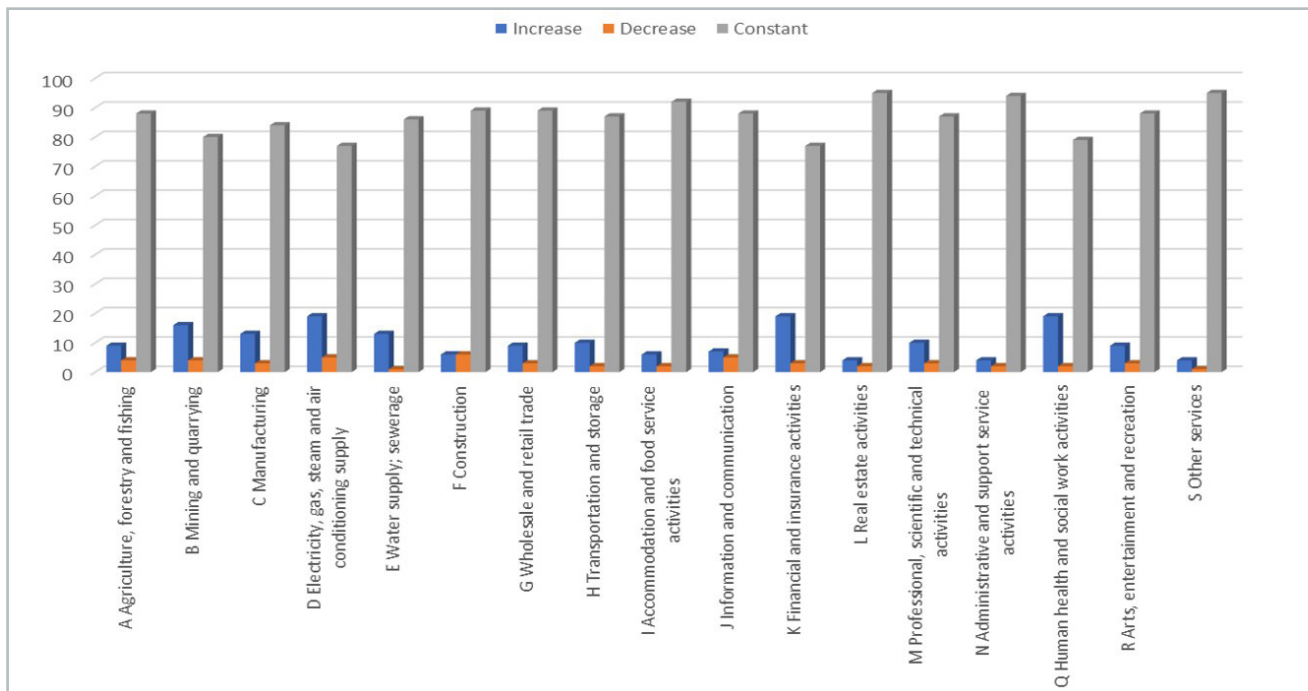


Figure 6. Assessment of prospects for changes in the number of employees who will participate in vocational training in 2024 (by sectors)

Sources: [28]

Employers – representatives of such types of economic activity as finance and insurance, energy, health care – evaluated the prospects of professional training organization most positively. At the same time, employers – representatives of such types of economic activities as construction, information and telecommunications – negatively assessed the possibilities of vocational training organization. In general, the vast majority of enterprises do not note significant changes in the number of employees who will participate in vocational training. However, the possibilities of organizing corporate training to improve the quality of vocational training of employees, to acquire the skills necessary to perform the assigned tasks, depend on the financial capabilities of companies.

Among the most common forms of providing training or improving qualifications of the staff, employers noted the organization of on-the-job training, training for new employees, confirmation of the complete or partial professional qualifications of persons in the qualification centers, short-term profile trainings from external providers, permanent internal training programs and others (Fig. 7).



Figure 7. Forms of providing vocational training, on-the-job career development of personnel

Source: [28]

Large-scaled enterprises had a possibility to elaborate and implement of non-formal education programs, provision of the career development of personnel and organization of the corporate training. There are many successful case studies which demonstrated the effective provision of the formal training in certain occupations (under licensed and non-licensed programs) presented in Annex 2.

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DTEK Academy provided formal training in certain occupations (under licensed programs) in the field of energy production and distribution, carry out informal training to improve the qualifications of employees, conduct special training on work safety, targeted courses. More than 10 VR-simulators are used to organize training, many processes are carried out using digital platforms. As of December 2023, DTEK, together with the Aspichi company, is preparing a pilot project on the return to work of the demobilized employees: based on the use of VR technologies, psychological practices will be implemented.

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Activity of the Corporate University (CU) Nova Poshta is aimed at providing educational support for business, development of new technologies, development models and career growth of personnel engaged into logistics activity. Corporate University provide the corporate training as a significant component of the overall employee evaluation system. The quality and effectiveness of corporate training is monitored by the ratings of operational units on various indicators.

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The Academy of Installers had offered a short-term training courses aimed on the improvement of the qualifications of installers of engineering systems and equipment of Magic Comfort LLC (Zhytomyr). Subsequently, the pandemic led to changes in the implementation of the project, and with the beginning of a full-scale war, the project had to be put on hold, although the prospects for resuming the work of the Academy are quite positive.

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The possibilities of organizing corporate training to improve the quality of vocational training of employees and to acquire the skills necessary to perform the assigned tasks, depend on the financial capabilities of companies. At the same time, the ability to recognize the professional qualifications of employees through QC allows enterprises to avoid the bureaucratic procedure of licensing corporate training, carrying out on-the-job training with the involvement of mentors.

Expert's estimates. Experts in the field of labour market note that institutions of formal education partially lose to providers because they are too focused on the formalization of the process and consider obtaining a diploma is the main goal of education. A rather serious factor is an overly formalized approach of training. At the same time, according to experts' point of view, external private providers are more creative in working with the client, care about the quality of content and services, otherwise they will quickly lose competitiveness.

Along with this, formal education remains dominant for the occupations that are subject to serious legislative regulation, in particular, in the field of occupational health and safety. For example, in the occupations of the industrial sector (welders, electricians, turners, millers, machinists, crane operators, slingers), employers tend to trust formal training, while in the service sector (manicurists, hairdressers, make-up artists, waiters) non-formal education inspires more trust.

The experience of organizing training in adult education centers also shows that under conditions of decentralization, these centers offer a wide range of educational services, contribute to the development of civil society, employment and self-employment of the population, and become centers of social integration in territorial communities.

In general, the development of the non-formal education system has a serious potential for

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Among the best practices of the adult education centers activity, it is worth noting the holding of contests for the best projects in the field of adult education. According to the results of the All-Ukrainian competition of projects in the field of adult education, held in December 2023, projects concerning integration of war veterans into civilian life. The proposed project of creating social and psychological assistance centers is interesting: as a space for social and psychological adaptation of people who suffered during the war [29].

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growth, as it has considerable flexibility and creativity, although it needs to take into account the specifics of the occupations for which training is carried out. Corporate training, organized at large enterprises, maintains a steady trend of development, using practice as training at the expense of own resources, and also as a result of outsourcing educational services. At the same time, informal education, which is carried out in the form of courses, seminars and trainings focused on training for professions that do not require significant resource support, can serve as a fairly effective tool for improving the adaptability of the population to the labour market needs.

2.3 Qualification Centers in the system of the assignment / recognition of the professional qualifications received during non-formal education

Development of the system of assignment / recognition of professional qualifications is an important component of the process of the formation of the national qualification system, skills development in Ukraine. According to Ukrainian legislation, qualifications are divided into complete and partial, according to content – into educational and professional [7]. Until recently, employment in Ukraine took place only upon full qualification. Due to amendments to the Labour Code of Ukraine, employment is also possible with partial qualifications, but this practice is not widespread.

Creation of conditions for independent evaluation of training results through Qualification Centers has become a real breakthrough for both the education industry and the labour market. At January 2024, 54 QC are successfully operating in Ukraine in various regions of the country; and in these centers existing knowledges and skills might be confirmed by 177 professional qualifications. The majority of such centers were created on the basis of educational institutions, because they have the necessary material and technical base and qualified teachers who can perform the role of assessment experts.



The qualification center can be a legal entity or its structural or separate unit. Currently, it is possible to create a QC in two ways:

1. **QC Accreditation.** The applicant submits documents to the National Qualifications Agency (NQA), then the documents are verified for compliance with the accreditation criteria. As a next step, the NQA appoints an expert commission, which carries out an accreditation examination and issues a conclusion on the applicant's compliance/non-compliance with the accreditation criteria. It is important to note that the commission is formed by the agency from among the experts included in the Register of Qualifications. If the conclusion is positive, the NQA makes a decision on the accreditation of the qualification center.

2. Activity according to the declarative principle (regulated by the resolution of the Cabinet of Ministers of Ukraine No. 314) [31]. During the period of martial law, it is allowed to conduct economic activity without obtaining a permit, but by submitting a declaration to the competent authority, regardless of the location and place of business activity of the economic entity. At the same time, declarations have the same legal status as licenses and permits obtained according to the usual procedure in peacetime. Thus, the National Qualifications Agency maintains a list of business entities that have established QC on a declarative basis. These entities have received the right to assign / confirm and recognize professional qualifications. As of January, 2024, 54 QC are operating in Ukraine (Fig. 8).

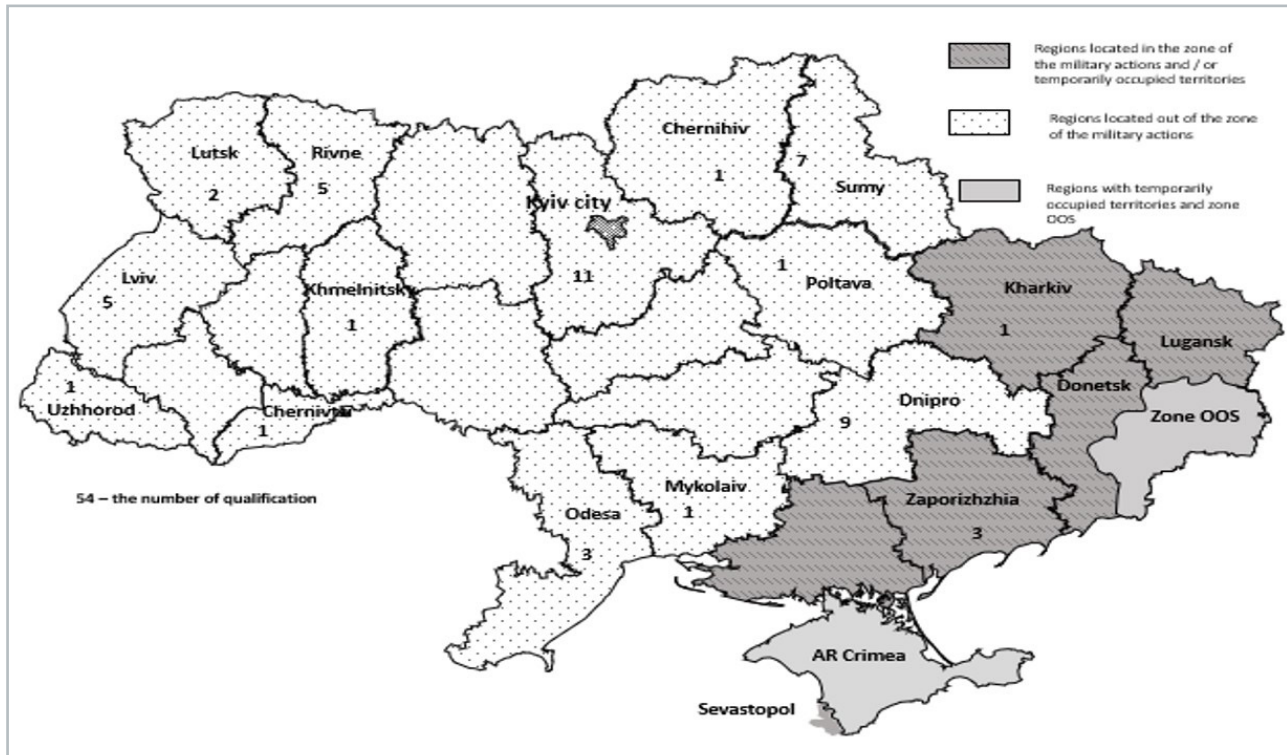


Figure 8. Regional distribution of qualification centers (as of January, 2024)

Source: National Qualification Agency

Qualification centers are created and operate, as a rule, within one or more types of professional activity or types of economic activity. The business is interested in the development of the system of recognition of professional qualifications, because for the admission of employees to work with increased danger, the presence of a document confirming education (qualification) is mandatory.

According to the National Agency of Qualifications, among the most common professional qualifications (with a valid accreditation certificate) the following prevail: cooks, electric gas welders, locksmiths for the repair of wheeled vehicles, electricians for the repair and maintenance of electrical equipment, hairdressers, masters of restaurant service, masters of tailoring. At the same time, professional qualifications related to social sphere services are certified in separate qualification centers, in particular: practical psychologist (social sphere), social worker, specialist in social work. QC were also accredited, in which assignment/confirmation and recognition of professional qualifications of masters in installation and maintenance of renewable energy systems takes place [32]. This indicates a gradual expansion of the list of professional qualifications that are confirmed and recognized by the QC.

An important activity area of the NAQ is the process of registering professional standards and ensuring open access to them. Accordingly, with the participation of employers, the list of professional standards is expanding, which is unconditional progress for the development of vocational training. Along with this, professional standards should undergo a wider public discussion in order to avoid possible contradictions.

Until recently, employment in Ukraine took place only upon complete qualification. Thanks to amendments to the Labor Code of Ukraine, the concept of "partial qualifications" was introduced for the first time, which, accordingly, simplified the employment process not only for full, but also for partial qualifications. Therefore, people who do not have the opportunity to study for a long time to obtain a full professional qualification (occupation / specialty) can get a job based on actual skills (partial qualifications). At the same time, the presence of a document confirming education (qualification) is required for admission to work with increased risk, which significantly strengthens the role of qualification centers in providing employment. Also, QC are important for confirming the professional qualifications of internally displaced persons, promoting their effective employment.

In general, the development of a network of qualification centers as centers for the assignment / confirmation of the complete and partial professional qualifications, recognition of the results of training of individuals (in particular, obtained through informal or non-formal education) will contribute to the effectiveness of the entry of employees (with partial qualifications) into the labour market, ensuring the matching of education and practical skills, obtained as a result of non-formal education, to the requirements of employers. At the same time, formalization of the process of creating qualification centers should be prevented, and their activities should be monitored. At the same time, it is necessary to improve the information of all population groups, in particular, war veterans, internally displaced persons, persons with special needs regarding the possibility of confirming qualifications.

3. Mapping of non-formal Skills Development actors (private providers of VET training and schooling)

Mapping educational service providers in the non-formal education sector was chosen as a key method for carrying out an inventory of educational service entities. The purpose of mapping is:

- determining the potential of the educational service provision system (in the non-formal education sector)
- identification of educational services currently provided to users of these services in all regions of Ukraine (with the exception of temporarily occupied territories, war zones)
- creation of a database of providers (providers) of educational services in the non-formal education sector.

The methodology of mapping providers of educational services in the field of non-formal education requires:

- collection of information about the actual address of accommodation, contact data obtained from all possible sources (in particular, mass media, social networks, as well as administrative sources of information (departments of education and science of local executive bodies, educational and methodological offices, employers)
- summarization of the received information and grouping of providers (taking into account common features of activity) (Fig. 9)
- collection of information regarding training areas, licensed / unlicensed programs (using the EDEBO database)
- summarization of the received information, grouping of providers of educational services in the field of non-formal education according to areas of training and availability of licenses
- creation of electronic spreadsheets according to defined criteria.

The main method of data collection for the purposes of this study is the generalization of information from all available information bases, educational statistics, advertising information, and grouped in accordance with the above-mentioned classification features

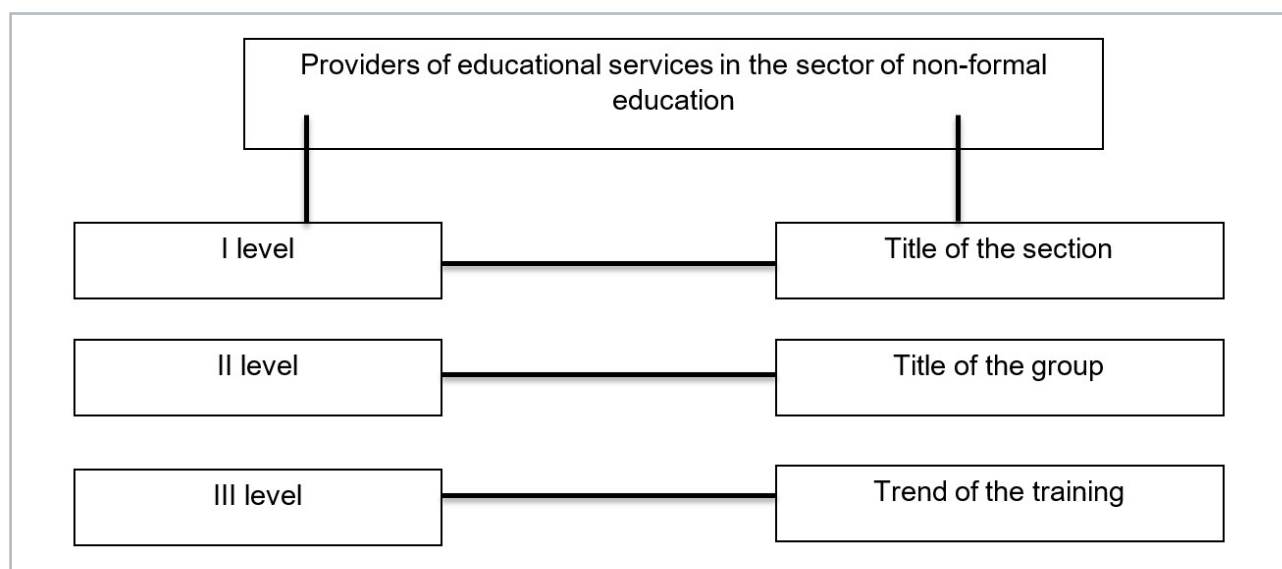


Figure 9. Grouping of the providers of educational services in the field of non-formal education

Taking into account the common features of the activity, the indicators were grouped according to the relevant sections (Fig. 10)



Figure 10. Grouping of indicators by relevant sectors

The grouping of providers of educational services in the field of non-formal education was also carried out according to the following characteristics:

- availability / absence of the license
- the number of providers of educational services
- volumes of training per month

As additional information about providers, information was received about:

- addresses of the actual location
- starting date of activity
- contact data (phone, e-mail)

The formation of the base of vocational training providers included the collection and generalization of information on organizations that provide educational services in the field of VET. Information about private ownership organizations that have licenses to conduct educational activities was obtained by analyzing current data from EDEBO.

The data obtained as a result of the analysis of the educational statistics of the EDEBO show that as of the end of 2023, 329 privately owned providers providing educational services in the field of vocational education and training were registered in Ukraine (Annex 3). This is 25.1% of the

total number of registered educational institutions, educational centers of state, communal, and private ownership. The largest share of privately owned providers providing educational services in the field of vocational education and training is concentrated in the city of Kyiv (48%), Odesa region (39%), Poltava region (37%), Dnipropetrovsk region (35%).

Among the privately owned organizations that have licenses to carry out educational activities in the field of vocational education and training, the largest share is concentrated in the Dnipropetrovsk region (14%), in the city of Kyiv (12%), Poltava region (9%), Odesa region (7%) and Kharkiv region (6%).

At the same time, almost 40% of the total number of all privately owned organizations that can carry out educational activities in the field of vocational education and training have blocked licenses to carry out educational activities in the EDEBO.

The reasons for blocking in EDEBO can be different:

- blocking of the subscriber in the occupied territories and/or temporarily occupied territories because of security measures
- establishments that have been relocated (moved from occupied territories and/or from temporarily occupied territories) have not confirmed their passwords and access keys
- shortened terms for renegotiating the contract (contract) with Inforesurs (state-owned enterprise responsible for the EDEBO serving)
- weakening of the incentive of private providers to renew their licenses due to the possibility of recognition of professional qualifications through the QC.

But these facts do not prevent the activity of private providers of educational services in the field of vocational education and training, however, after the completion of the acquisition, they do not receive a document of the state standard.

The largest number of privately owned providers, which include educational activities in the field of vocational education and training under unlicensed programs, is concentrated in Kyiv city, Dnipropetrovsk, Lviv, Poltava, Kharkiv regions.

The database created as a result of mapping on products and regional distribution of providers of educational services in the vocational education and training can be used to determine the educational potential of regions / communities; in the process of planning and further development of educational services; improvement of information of local authorities regarding providers of educational services.

It is planned to use a web platform to visualize and present the mapping results. The information obtained as a result of the research can be used in the formation of an integrated database of providers (providers) of educational services in the field of non-formal education, taking into account the following criteria:

- distribution by territorial location
- distribution based on the presence of common features of activity (sector, group)
- distribution by area of training (provision of educational services).

Formation of the list of providers of educational services is based on the generalization of information obtained at the regional level. At the same time, the established base of educational service providers needs updating (taking into account the need for monitoring and systematic

updating of information, improving the quality of information for account reconciliation, coordination between key stakeholders).

The results of data analysis regarding the number and regional distribution of providers of educational services in the non-formal sector indicate the differentiation of regions by the level of concentration of providers of educational services.

Mainly, educational service providers are concentrated in regions with fairly stable labour demand, which require corresponding changes in the supply of educational services (in particular, Kyiv, Dnipropetrovsk, Lviv, Poltava, Kharkiv regions) (Fig. 11).

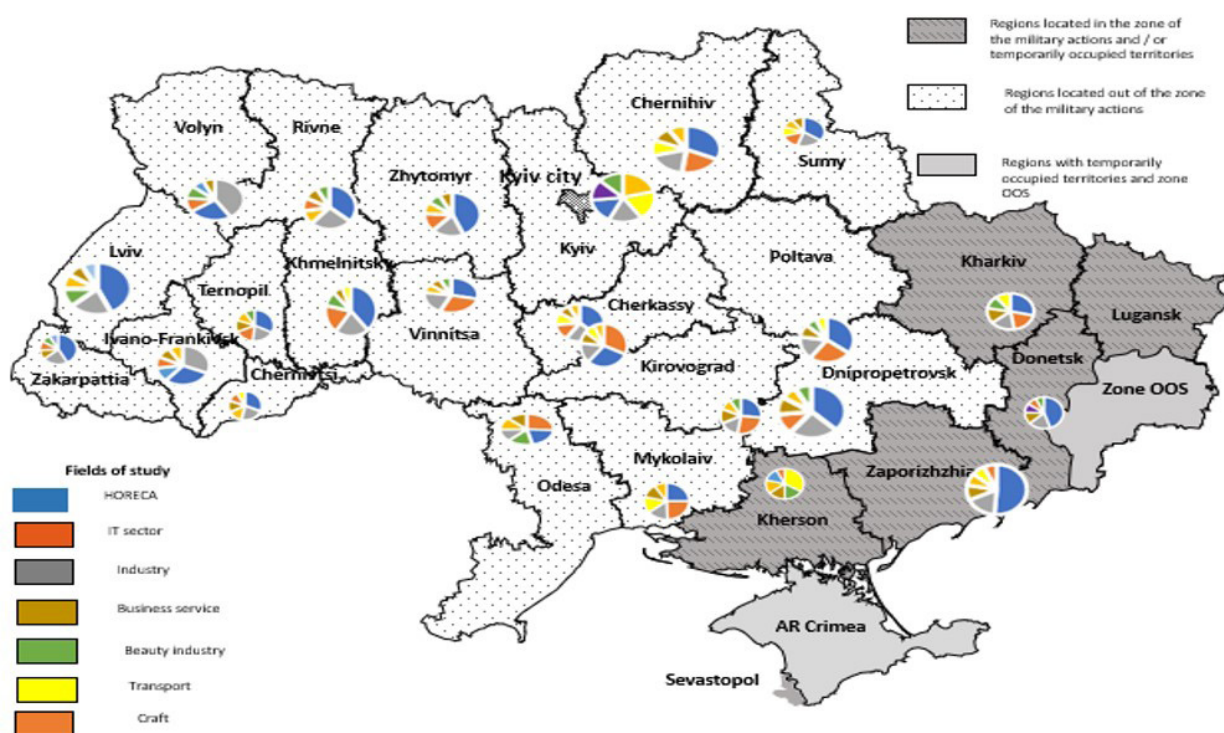


Figure 11. Map of the distribution of educational service providers by region and areas of training

At the same time, relocation of enterprises, revitalization of the economic situation in some regions can stimulate an increase in the number of providers of educational services, with a corresponding change in their structure.

The analysis of the distribution of providers of educational services (by fields of training and groups) also shows the unevenness of their distribution, depending on the potential saturation of the offer from the consumers of education services (Fig. 12).

The significant share of the providers of educational services in the field of the non-formal education is specialized by such areas of training as services sectors (nearly 35% of the total number of educational programs), transport (almost 20%), industry (18%), business (18%) and IT sector (12%).

At the same time, the structure of vocational education and training by educational providers which have licenses programs mainly oriented on the production sphere (covered by state regulation in the sphere of work safety). And service sector as well as IT sector less oriented on the licenses' programs (because of more flexible and short-term programs).

Simultaneously, the regional distribution of providers of educational services by areas of training depends precisely on the possibilities of saturation of regional labour markets with a skilled labour with appropriate professional qualifications.

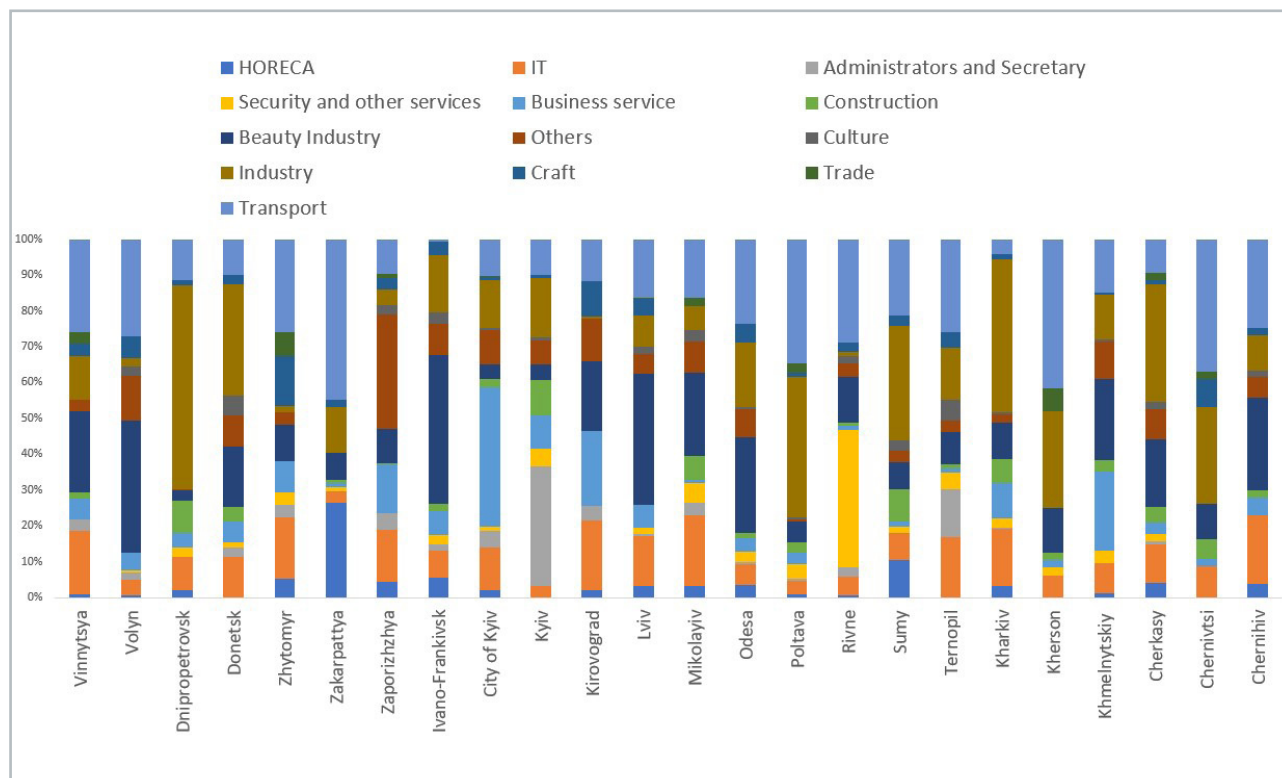


Figure 12. Regional structure of providers of educational services in the sphere of non-formal education (by areas of training), %

A more detailed study of the distribution of providers of educational services in the field of non-formal education can be carried out based on the analysis of Excel tables, formed as a result of summarizing the previously obtained information. At the same time, it is necessary to ensure a constant process of updating, updating and supplementing data, identifying stakeholders interested in receiving the above data.

4 Impact of the digitalization on the non-formal skills development in Ukraine

The level of digitalization of society largely reflects the degree of its readiness to accept innovations, ability to develop the digital skills of the population is necessary to ensure LLL-models. However, in order to increase the level of digitization of the economy and society, it is necessary to ensure the improvement of the ICT infrastructure quality. According to the results of the study on the labour market development in Ukraine in 2022-2023, there is currently a significant cross-sectoral differentiation of enterprises by the level of access to the Internet [28] (Fig. 13).

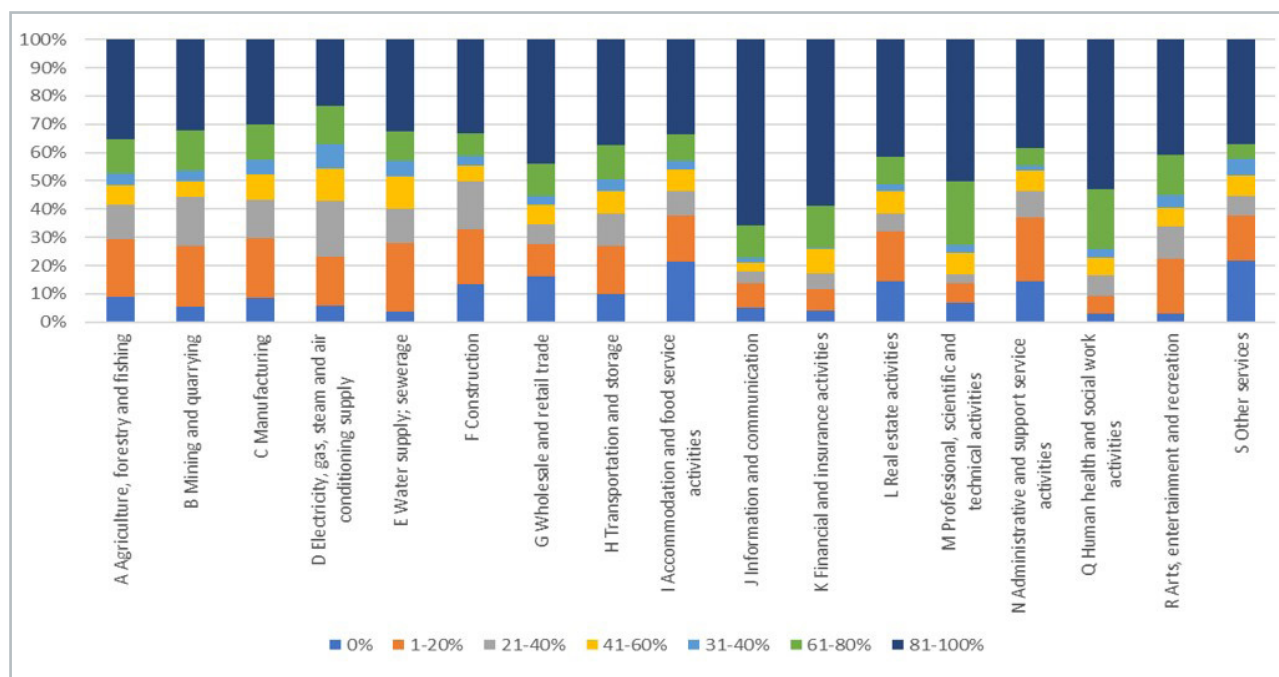


Figure 13. Sectoral distribution of enterprises according to the level of access to the Internet, % of the total number

Source: [28]

Objectively, the highest level of access to the Internet traditionally is characterized by enterprises of information and telecommunications (almost 66% of enterprises of this type of activity noted the high quality of accessible Internet, more than 80% in finance and insurance). On the other hand, the level of Internet availability remained the lowest in energy, manufacturing and water supply.

An equally important indicator reflecting the level of digitization in the country is the level of digital skills of employees. Data from the survey of enterprises also indicate the preservation of a significant differentiation of enterprises of various sectors of the economy according to the level of possession of digital skills (Fig. 14). In particular, the high level of possession of digital skills by employees is characteristic for the enterprises in the fields of finance, information and communication, art, science.

Large-scale businesses use various online platforms for employee training, created either on their own technology base, or buy ready-made software from technology companies. Despite the presence of corporate training systems and teams of trainers, experts note that it is expensive and difficult to cover the need for personnel training with a coaching resource. Accordingly, it stimulates the use of digital technologies.

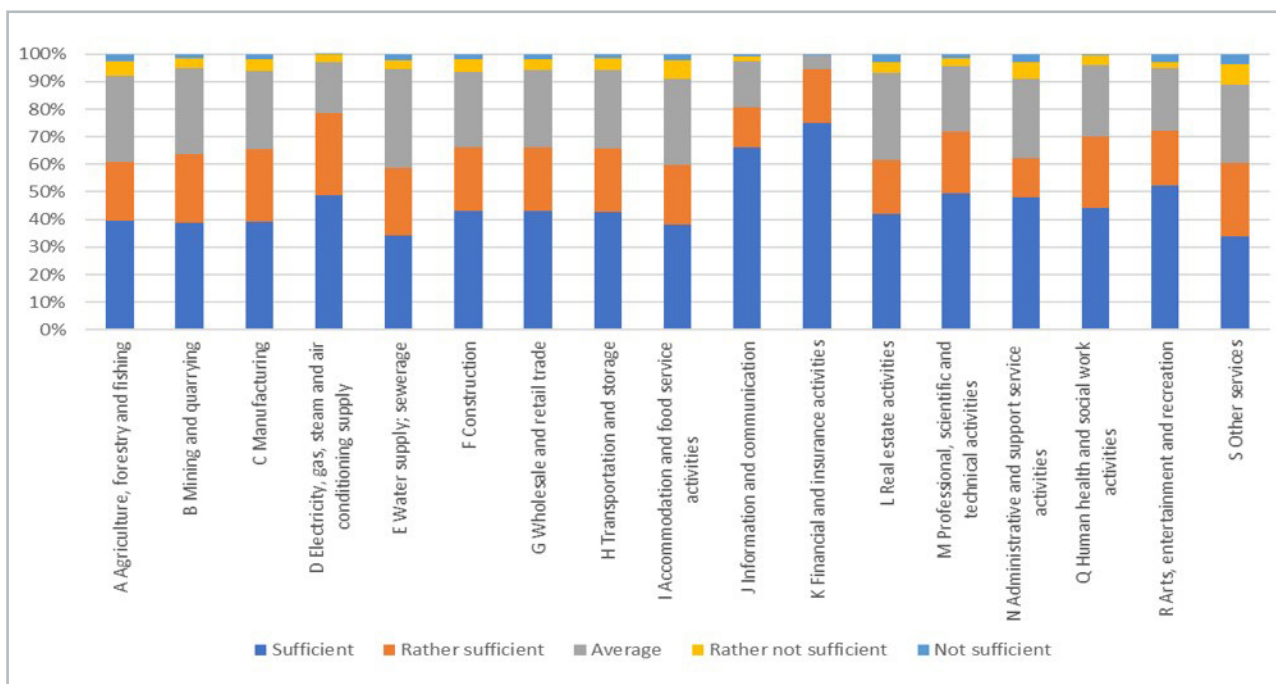


Figure 14. Sectoral distribution of enterprises by the level of digital skills by employees, % of the total number

Source: [28]

In recent years, distance learning has become not only relevant, but also a vital component of education. The COVID-19 pandemic forced the rapid introduction of not only online learning, but also stimulated the development of modern digital educational content.

The introduction of martial law in Ukraine caused significant challenges for the education system, in particular:

- the impossibility of returning students to offline learning, which requires improving the quality of digital education
- insufficient provision of equipment for both students and teachers
- low level of development of digital infrastructure, in particular, providing access to high-speed Internet
- limited possibility of obtaining online services and services in the field of education (ordering a duplicate diploma in case of loss of the original; obtaining certificates, extracts and extracts from registers)
- lack of reliable, up-to-date information in the field of education, which comes in real time [33].

The virtual educational process is carried out in VET schools in the following forms: independent work, educational classes, control tests. Distance classes are held in synchronous or asynchronous mode.

The following resources are used to conduct online classes in the VET system: distance courses, websites, e-mail, forums, blogs, online chats (Viber, Telegram), TV and video conferences, virtual classrooms, dashboards. Distance learning platforms are a serious source of information for teachers.

The distance learning platform is software to support distance learning, the purpose of which is to create and manage pedagogical content, individualize learning

At the end of 2022, the Ministry of Education and Science launched the «Vocational Education Online» platform for distance, mixed, synchronous and asynchronous learning. As of December 2023, the platform hosts more than 100 online courses in 32 categories: for individual occupations, subjects, short master classes, short-term online courses for the development of pedagogical skills, development or acquisition of soft skills. The platform also provides ample opportunities for the development of non-formal and adult education ^{*3}.

In almost a year of operation, the «Vocational Education Online» platform has 21,200 users. During meetings with experts in the field of education it was noted that the launch of the platform gave impetus to the development of distance and mixed learning in the VET system. At the same time, experts noted that teachers have a low motivation to improve the level of digital skills, as they sometimes do not understand the advantages of digital technologies, in particular, the use of artificial intelligence capabilities. There is also the problem of effective use of gadgets, creation of digital educational content, information search, etc.

As part of the implementation of the EU Program "EU4Skills: the best skills for modern Ukraine" in 2022, a presentation of short-term online courses for the reconstruction of Ukraine took place in several areas:

social work and health care, construction, information technologies, pedagogy, entrepreneurship and management. Piloting of short-term courses was conducted from 19.12.2022 to 31.03.2023, during 3 main stages (Annex 4).

As a result of participation in the piloting of short-term courses by the participants, the most popular topics related to social work and health care were determined. This indicates the actual problems that exist in today's conditions, as well as the need to develop soft skills in order to be ready for any events.

However, there are still significant problems in the development and spread of distance learning technologies: quite frequent lack of Internet, lack of personal computers (gadgets), network equipment, uninterruptible power sources, servers, equipment for video conferencing. The problem of the availability of devices for learning is relevant both for VET students and their teachers.

European partners support Ukrainian educational institutions with equipment. To record and distribute computer equipment transferred by partners, the Ministry of Education and Science of Ukraine together with the Ministry of Digital Transformation launched a public information panel – dashboard ([access](#)). The dashboard shows the locations of the devices, automatically calculates how many of them have been received by a specific educational institution and what need remains within the region.

^{*3} The online platform was created on the initiative of the Ministry of Education and Science of Ukraine, with the financial support of the International Labor Organization and partners of the EU Program "EU4Skills: Better skills for modern Ukraine", in order to overcome the challenges caused by COVID-19 and the full-scale invasion. They became partners in the adaptation and development of educational materials with subsequent placement on the platform: ILO - DANIDA project, EU4Skills – GIZ, Solidarity Fund PL, EDUFI, ETF, SwissContact, IFES Ukraine, OneHealth

VET schools of the State Employment Service use distance learning to build individual learning trajectories, increase access to learning for adults from remote cities and villages. An important component of the use of digital technologies in the VET schools of the State Employment Service is the constant improvement of the qualifications of teachers and masters of industrial training, which is sometimes carried out by employers or equipment suppliers.

In 2023, on the initiative of the Rivne IT cluster, the course "Fundamentals of working with artificial intelligence" was developed and implemented.

The introduction of the latest virtual reality simulators into the educational process is important and effective. Experts are unanimous in their assessment that such educational tools are not only very interesting for youth, but also significantly reduce the cost of the training process, save materials and avoid injury risks.

The use of a virtual reality simulator gives an opportunity to master the skill of welding without wasting metal blanks, electrodes and electricity. The tractor simulator allows you to practice basic driving skills and be more confident during practice



The system of non-formal education is also being actively digitized. For example, a digital online information platform «World of Professions» has been developed (<https://svitprof.org.ua/>), where you can familiarize yourself with current educational analytics about occupations and fields of training. This platform will be useful for those who want to choose a occupation, change their occupation or improve their qualifications. Professional tutorials and videos can be found on the platform. There is also information about the institution where you can get a occupation.

Opened educational platforms

In order to ensure the development of the LLL- model, using non-formal forms of education, open educational platforms have gained significant popularity in Ukraine. The use of the online platforms in wartime facilitates access to non-formal distance learning for those categories of the population who are abroad or remain in temporarily occupied territories. In general, this contributes to the spread of the practice of obtaining non-formal education, with the acquisition of relevant certificates.

In order to implement the LLL principles, the All-Ukrainian online platform was created on the basis of the «All-Ukrainian Online School» specifically for VET students, teachers and anyone who wants to acquire a professional qualification. Also the online platform “Prosvita” for the obtaining of the different educational programs was founded [34].

The online platform «Maidan Open University» [35] (VUM online) offers more than 30 modern topics for study related to personal development and realization of one's own potential.

In the field of culture and design, the online platform «Educational Platform. Creative Practice» [36]. The platform offers more than 35 free courses in 6 areas of design, web design, programming, as well as European grants for cultural and creative projects, grants of the Ukrainian Startup Fund.

The Prometheus online platform offers to learn new skills in online courses from the best teachers. More than 350 courses on various topics are available on the platform.

National online platform «Diia. Digital education» offers courses for the development of digital literacy. Popular topics: business, programming, entrepreneurship, cyber security, information literacy. The certificate confirms the acquired skills and will support employability.

Open educational platforms provide the opportunity to acquire skills in the process of non-formal education, using innovative technologies. In general, this indicates a sufficient prevalence of the practice of using information and communication technologies in the system of formal and informal education in modern conditions, which stimulates the use of educational innovations in the process of professional training and retraining of the population, acquisition of new, in-demand skills. At the same time, the dynamics and scope of application of these technologies vary significantly, depending on the economic potential and development strategies of enterprises of certain types of economic activity.

5. CONCLUSIONS

Based on the results of the research, the following conclusions were made.

1. In recent years, and most of all – before the start of the full-scale invasion, the VET system has undergone a number of positive transformations. Among them are the provision of state subsidies for the creation of educational and practical centers, a significant increase in international cooperation projects, the organization of the educational process on a modular-competency basis, the creation of digital content to improve the quality of distance learning, conducting communication campaigns aimed at building a positive image of VET system. In the process of the study, the need to improve public-private partnership, to provide businesses, (who are members of the Supervisory Board of the VET schools), with real possibility to influence the institution's curricula's, strategic development of the institution, election of the director etc. After all, at present, the employer mostly performs the function of a benefactor – (handed over equipment, consumables, supported with the repair of educational infrastructure etc), which does not allow to fully protect the interests of the business as an educational investor.

VET schools mostly focused on youth needs. Adult education is perceived as additional, not the main activity, however, such a practice exists and occurs quite often. In addition, VET schools have experience in adults training using SES vouchers. However, until now the system of formal education needs adaptation to short-term training of adults. Adult education and LLL needs to be strengthened as many IDPs or Veterans will need retraining in the future in order to be reintegrated into the labour market.

2. The system of *non-formal education* is represented by a wide range of service providers. As a rule, this is the private sector, which is focused on fast and high-quality training, able to flexibly and proactively respond to consumer requests.

Informal education is carried out by organizations that can be conventionally divided into two types:

- organizations that have licenses to conduct training, which is reflected in the EDEBO
- organizations that have no licenses to conduct training.

The rapid development of the non-formal education creates serious competition to formal education. Institutions as public providers, partially lose to private ones due to the fact, that they are too focused on the formalization of the process, considering the main goal of education to be obtaining a document of the state standard. Meanwhile, external (private) providers are more creative and client-oriented and care about the quality of education content. However, as a serious problem remains the limited opportunity for participants of non-formal education to obtain a document of the state standard, which to some extent complicates their effective entry into the labour market. Creation of the QC might to minimize this challenge.

Besides, formal education remains dominant for occupations that are subject to serious legislative regulation, in particular in the field of occupational health and safety. For example, in the occupations of the industrial sector (welders, electricians, turners, millers, machinists, crane operators, slingers), employers tend to trust formal training, while in the service sector (manicurists, hairdressers, make-up artists, waiters) employers are completely satisfied with non-formal training.

3. A large segment of non-formal education is corporate training. The prerequisites for its launch are the need of enterprises for the fast and high-quality training of the staff. Corporate training centers use different tools: they combine face-to-face and distance learning, offer courses on the record, have ready-made modular programs and they are able to quickly develop a program at the request of a business. Some businesses see corporate training as a mechanism to motivate employees to professional development and move along a career path.

With the beginning of the invasion, the possibilities of financing on-job vocational training programs were significantly limited. According to the study, a significant number of employers have suspended the training of employees due to financial constraints. In particular, the largest share of enterprises that suspended the training of employees is observed in the segments of small and micro enterprises. As a result of the military actions of Russia, part of the enterprises was destroyed, so the business needs improvement (restoration) of the infrastructure of training centers.

Assessing the readiness of the VET system to carry out training, retraining or advanced training of adults, the experts noted the following. Experts (representatives of the labour market) noted that businesses would like to outsource the issue of employee training to educational institutions, but VET schools are not ready to respond to this challenge. First of all, due to the fact that the formal

education system does not realize the scale of the needs for corporate training. While other experts – representatives of the field of education – positively evaluate the prospect of training adults on the order of business and point out that working with adults motivates VET pedagogical staff to prepare educational materials more seriously, to be ready for substantive, professional questions from trainees.

4. In 2022, Ukraine made a breakthrough in the development of the national system of qualifications by launching a system of recognition of the results of non-formal education through the Qualification Centers. Due to the changes in the labour legislation, QC system was launched to recognize full or partial professional qualifications, and employment based on partial professional qualifications was legalized.

Currently, business and educational institutions are the most active participants in the process of creating QC, in particular, according to the declarative principle. This is facilitated by the openness of the National Qualifications Agency, the institution that oversees the qualifications system in Ukraine. The Agency promptly responds to requests for consultation, conducts explanatory seminars on the creation of QC, accreditation of experts, etc.

Experts pointed to the possibility of providing independent assessment of knowledge and skills of the VET schools and tertiary education institutions in the QC. At the same time, due to the large number of occupations and specialties for which training is carried out, it currently does not seem realistic to quickly create a network of centers for each direction. Another caveat is: the active creation of the QC based on educational institutions could lead to a formalization of the graduate evaluation procedure.



In the long term, QC will be in demand during the post-war reconstruction period, because part of the economically active population, which, starting in 2022, is mobilized into the Armed Forces of Ukraine, will not be able or have a weak interest to return to their former workplaces.

5. VET schools of the SES play an important role in the system of vocational training and retraining of adults, particularly the unemployed. Currently, there are 8 VET schools of the SES, which provide training in more than 60 occupations. Another 3 establishments temporarily stopped their activities because of the war.

In all institutions, advisory councils of employer's function on a permanent basis, which evaluate the relevance of curricula, the quality of training and offer training for new occupations.

It is noted that the list of professional standards has been expanding in Ukraine in recent years. Along with this, professional standards should undergo a wider public discussion in order to avoid possible contradictions that occur from time to time. One of the experts gave an example of the adoption of the standard for the occupation «Beautician», in which the occupation is assigned to the 5th qualification level, which made it impossible to train for this occupation in VET schools. At the same time, the Rivne Vocational Training Center of the SES has been successfully providing training in this occupation for several years and has the latest equipment, qualified teaching staff, but now it will not be able to provide training in this direction, as it is a VET school.

VET schools of SES have many years of experience in implementing the training programs for vulnerable groups of the population. The Government's decision to train combatants in the VET schools of the SES led to serious training of the employees in the rules of communication and relations with combat actions participants, mastered the skills of psychological support and communication with veterans. At the same time, the interviewed experts point to the lack of a single balanced policy of preparing the education system for new challenges regarding the need to provide services to veterans, especially veterans with acquired disabilities and people affected by war in general.

6. Distance education is not a novelty for the Ukrainian education system. It was present in the legislative field even before the start of the COVID-19 pandemic. However, it was with the introduction of quarantine restrictions in 2020, that the scale of using distance learning increased significantly. The war in Ukraine also accelerated the process of spreading digital services.

Distance learning in VET schools is carried out in the following formats: independent work, training sessions, control tests. Distance classes are held in synchronous or asynchronous mode. Having experience of working in quarantine conditions, VET pedagogical staff have learned to use distance courses, forums, blogs, online chats (Viber, Telegram), tele- and video conferences, virtual classrooms, testing for control measures, etc. in their work.

At the end of 2022, the MES launched the [«Vocational Education Online» platform](#) for distance, mixed, synchronous and asynchronous learning. As of December 2023, the platform hosts more than 100 online courses in 32 categories. The platform also provides ample opportunities for the development of non-formal education and adult education. Possibilities of the using of the "Vocational Education Online" platform significantly facilitate access of the IDPs and representatives of the other groups of population to the vocational training in the different regions. At the same time, the possibilities of the access to the platform of Ukrainians at the occupied territories limited by the necessity of the provision of personal safety. In general, the launch of the Vocational Education Online platform had a positive impact, but it did not cover all the needs of distance and blended learning in the field of VET. The level of digital competences of VET pedagogical staff is also not high enough. Teachers of formal education often have low motivation, sometimes do not understand the advantages of digital technologies, in particular based on artificial intelligence. There is also a problem regarding the effective use of gadgets, platforms for creating digital educational content, searching for information, etc.

There are several problematic issues in the development and spread of distance learning technologies: lack of personal computers (gadgets), network equipment, sources of uninterrupted power supply, servers, equipment for video conferencing. The problem of the availability of gadgets for learning is relevant both for VET students and their teachers.

Large businesses use various online platforms for employee training, created either on their own technological base, or buy ready-made software from technology companies. Despite the presence of corporate training systems, teams of trainers, experts note that it is expensive and difficult to cover the need for personnel training with a coaching resource. So digital technology is very helpful. Also important for the dissemination of the best practices of the non-formal education and training is the improvement of the population about the possibilities of using online platforms (Diia. Osvita).

In general, in order to improve the efficiency and effectiveness of the activities of providers of educational services in the field of non-formal education, it is advisable to establish coordination between the local authorities, employers, VET schools, private providers of educational services and expert organizations regarding the analysis of the labour market and the determination of the qualification gap (from the supply and demand side).

It is also important to improve partnership relations between VET schools of the state, communal and private forms of ownership, aimed at improving the quality of educational services, strengthening cooperation for more efficient use of resources. For this, it is necessary to improve information about the possibilities of obtaining formal, non-formal and informal education. It is also important to ensure improvement of the content, reduction of the duration of educational programs for training in the occupations that are most needed in the labor market. It is expedient to promote the opening of new specialties in VET schools, corporate universities under the patronage of key players of the labour market (industry clusters), to promote the development of dual forms of education.

6. Recommendations for further interventions (sectoral, partnership, types of training). Lessons learned

The results of this study indicates the need to ensure the systematic collection and generalization of information about the number and structure of providers of educational service in the field of non-formal education by regions (communities) and fields of training.

- The need to strengthen coordination between providers of educational services of different forms regarding the effective use of resource potential
 - *Short term perspective:* monitor the process of the network optimization, in particular the state of the institutions in de-occupied regions or regions located near the zone of combat actions.
 - *Long term perspective:* development and implementation of infrastructure projects to rebuild VET schools, which are a priority for regional labour markets.
- creating conditions for better informing local authorities about non-formal education providers working in their territory (within the region)
 - *Short term perspective:* continue the process of collecting and updating data on non-formal education providers; creation of the web platform which can be used to visualize and present the results of the mapping in the future.
 - *Long term perspective:* establish coordination between institutions civil society institutions and providers of educational services of regarding the organization of training courses, to obtain the most needed professional qualifications.

- Monitoring of the labor market and employers' needs
 - *Short term perspective:* monitoring of changes in the labour market, open dialogue with employers regarding the skills needs, prospects for recruitment, promotion of the development of dual forms of education.
 - *Long term perspective:* creation of conditions for combining efforts of business and VET schools towards the improvement of the quality of training for obtaining of the partial and/or complete professional qualifications. This approach will provide a high-quality theoretical basis (from VET school side), as well as practical training, in accordance with production needs (from employers' side).

- made research about corporate training (according to the size of enterprises), determine its condition and needs for improvement skills development
 - *Short term perspective:* research on the principles of corporate training organizing in large-scale business, to promote the exchange of best practices between systems of corporate training and formal education
 - *Long term perspective:* determining the specifics of the organization of corporate training in small-scale and medium-scale businesses. Consideration of opportunities to involve corporate training centers in infrastructure projects (in priority de-occupied regions or regions located near the zone of combat actions).

- advertising the activities of qualification centers and increase the skills-range in the curriculars of the VET schools
 - *Short term perspective:* improving public awareness of the possibilities of recognizing /verification of the learning outcomes (in particular, those obtained through non-formal or informal education) in the qualification centers
 - *Long term perspective:* evaluation of the learning outcomes of graduates of VET schools and tertiary education institutions (formal education) through the qualification centers. Activation of the involvement of the State Service of Education Quality of Ukraine to the process of the evaluation of the learning outcomes.

- increasing institutional capacity at the national and regional level regarding the development and implementation of short-term online courses for the recovery of Ukraine
 - *Short term perspective:* definition of the most popular and needed topics related to the modernization and reconstruction process, piloting of the short-term online courses for the selected sectors of economy.
 - *Long term perspective:* carrying out activities at the national and regional level for the creation of the network of institutions involved into the process of the actualization of the list of the short-term online courses.

- improvement of conditions for the development of a career guidance system taking into account existing base. Implementation modern system in view of the growing needs for skilled labour
 - *Short term perspective:* improve the quality of career guidance among school children of all educational levels: elementary grades, basic general secondary education, full general secondary education.
 - *Long term perspective:* identification of an institution that will be responsible for career guidance at the national level; development of a strategy for career guidance at the national level (advocacy); carrying out activities at the national level for children of pre-school and school age. Vocational guidance should assess the child's interests, but also take into account the needs of the economy.

- promoting the skills development of the vulnerable groups of the population through the development and popularization of short-term vocational training programs. Spreading inclusive workplace practices
 - *Short term perspective:* stimulate of the employers to the organization and carrying of the short-term training for the vulnerable groups of the population (with inclusion of the institutions of formal and non-formal education).
 - *Long term perspective:* promoting the legal and infrastructural development of the vocational training and retraining of war veterans, internally displaced persons, persons with disabilities (in the formal and non-formal segments)

- promoting the development of digital competences of VET pedagogical staff, stimulating the development of digital skills, introducing innovative technologies and spreading the practice of educational online platforms using for obtaining non-formal education
 - *Short term perspective:* organization of trainings for the teachers on the electronic educational materials and artificial intelligence' using.
 - *Long term perspective:* organization and implementation of courses, practical seminars, trainings for teachers on the development of digital skills; conducting training for teachers on the use of digital tools for the development of online courses for certain occupations or individual competencies. The best teacher's online courses can be placed on the «Vocational Education Online» platform.

- ensuring the systematic serving and upgrading of the distance learning platform «Vocational Education Online» and/or «Diia. Digital education»
 - *Short term perspective:* search and analysis of educational materials posted on the various platforms. Adaptation and transferring selected courses to the platform (with copyright protection). It is necessary to define the most popular and actual courses based on the results of users' tracking.
 - *Long term perspective:* development of various types of electronic educational materials: online courses, short-term courses, master classes for the «Vocational Education Online» platform and/or «Diia. Digital education», development of courses for the development of soft skills or individual competencies; piloting online courses at the level of various stakeholders; supporting the transfer of online content to the platform and providing open access to users.

7. GLOSSARY

Dual form of obtaining vocational education - a method of obtaining vocational education, which involves the combination of training of persons (hereinafter referred to as education seekers) in educational institutions with on-the-job in enterprises, institutions and organizations (hereinafter referred to as business entities) in order to acquire the appropriate qualification on the basis of the contract on obtaining vocational education in a dual form [9]

Qualification centers - these are subjects authorized to evaluate and recognize the results of training of individuals (in particular, those obtained through non-formal or informal education), assignment/confirmation of relevant complete and partial professional qualifications, recognition in Ukraine of professional qualifications obtained in other countries [7]. The qualification center is accredited by the National Qualifications Agency for one or more professional qualifications defined by professional standards and subject to compliance with such accreditation criteria.

Non-formal vocational training is the acquisition of professional knowledge, skills and abilities by employees, which is not regulated by the place of acquisition, term and form of training.

All persons who worked at the enterprise and mastered certain professional skills, but did not have documentary confirmation, can confirm their competence and receive a document of the established model.

Educational qualification is recognized by an educational institution or other authorized subject of educational activity and certified by a relevant educational document as a set of education standards and learning results (competencies) obtained by a person [7].

The procedure for assigning / confirming professional qualifications is a system of measures and requirements determined by the qualification center in accordance with this Procedure regarding the terms and procedures for the preparation and submission of documents by the applicant, their verification and assessment procedures by the qualification center, and registration of the results of the measures [18].

Professional qualification (complete professional qualification) is a standardized set of competences and/or training results acquired by a person, recognized or assigned/confirmed by an entity authorized to do so by legislation, and certified by a relevant document, which enables the performance of all labour functions defined by the relevant professional standard [7].

Formal vocational training of employees – acquisition of professional knowledge, skills and abilities by employees in an educational institution or directly at the employer in accordance with the requirements of state education standards, based on the results of which a document on education of the established model is issued. Based on the results of formal vocational training, the employee is issued a document on education of the established model [14]

A partial professional qualification is a standardized set of competences and/or training results acquired by a person, recognized or assigned / confirmed by an entity authorized to do so by legislation, and certified by a relevant document, which enables the performance of part of the labour functions defined by the relevant professional standard [7].

8. ANNEXES

Annex 1. Results of experts' meetings

The study's methodology also provided for an expert survey of the key stakeholders in the field of vocational education and training, labour market, business, and the qualifications. To implement the purpose of the qualitative analysis of the non-formal skills development on Ukraine, 14 expert interviews were conducted. Participants in the survey were representatives of the Ministry of Education and Science of Ukraine, the Federation of Employers of Ukraine, the National Qualifications Agency, the State Employment Center, the Institute of Professional Qualifications, educational and methodological centers of vocational training, VET schools, in particular those working in the system State employment centers, experts on corporate training were interviewed. The obtained information provide more complex approach to the definition of the prospects for the Ukrainian non-formal skills development.

EMPLOYERS

General assessment of the situation on the labour market

Experts note that the labour market currently has a need for employees of various levels: from managerial to executive positions. A full-scale war exacerbated the already existing need for skilled workers. Mobilization, internal and external migration, the inability to relocate production from areas that are at the epicenter of war events are all factors that contribute to structural changes in the market. Separately, experts highlight the problem of mobilizing employees who have unique experience and professional expertise, can act as mentors and help newcomers adapt to the workplace. This, in particular, affects the ability of employers to take students for practice, to carry out training under a dual form of education.

The experts characterized the current state of the Ukrainian labour market according to 4 indicators:

1. labour market mismatch
2. external migration of human capital
3. internal migration, as a result of which there was an oversaturation of personnel resources that do not meet the needs of the labour market of a particular region
4. decrease in the number of unemployed people of working age (physical labour shortage).

Big business is expected to be the most capable of investing in human capital. While a significant part of enterprises, especially in the segments of small and micro-enterprises, do not have the opportunity to implement investment projects. Some experts also express the opinion that the motivation of small-scale and medium-scale businesses largely depends on the urgency of the need for personnel. If they manage to "stay afloat" with the resources they have, they probably won't make any significant investments until the end of a full-scale war.

A large-scale business that needs workers with vocational education has many tools to encourage employment: it offers free retraining, additional training or advanced training in its own training centers. If a person does not have the required education, but intends to work, as a rule, he is enrolled in the company's staff and sent to study. For this period, a "student salary" is paid - it is lower than the rate at the main place of work, but payments are made throughout the entire period of study. In addition, they can offer "lifting" payments, help with food packages, support in finding housing, providing, if necessary, medical or psychological help.

The acute need for personnel has led to changes in the employment of vulnerable segments of the population. It is about employment of IDPs, veterans, persons with disabilities, persons of retirement and pre-retirement age. There is also a tendency for women to be employed in professions that are traditionally considered "masculine" (welding, turning, electrical installation, driving heavy equipment, etc.). Experts note that despite the need to strengthen the economy through employment of the population, inclusiveness of the labour market, the legislation should take into account the peculiarities of industrial enterprises and difficult working conditions at them, which means assessing the reality of admitting people with disabilities and demobilized military personnel to such workplaces.

According to experts, approximately 80% of enterprises use innovative, modern approaches in production, which also affects the requirements of employers for qualified workers.

Evaluation of the VET system, in particular in the context of cooperation with employers

According to experts, the VET system is quite open to cooperation with employers. In recent years, the system has undergone positive transformations, among which were named: funding from the state budget of educational and practical centers, significant growth of international partnerships and projects, organization of the educational process on a modular-competency basis, introduction of modern technologies into the educational process.

All experts express the opinion that the success of the VET schools largely depends on the head: his vision of strategic development, management of the work process, the ability to motivate teachers, attention to career guidance work and communication about the institution. The majority of experts positively evaluates the idea of giving the business, which is part of the Supervisory Board of the VET schools, real powers of influence on the director and the institution. After all, now the employer mostly performs the function of a philanthropist - hands over equipment, consumables, helps with the repair of educational buildings or dormitories, etc.

Due to the rapid development of the informal education system, experts note that it is a serious competitor to formal education. Institutions of formal education partially lose to providers of informal education due to the fact that they are too focused on the formalization of the process, considering the main goal of education to be obtaining a document of the state standard. While external providers are more creative in working with the client, take care of the quality of content and service, otherwise they will quickly lose competitiveness. Along with this, formal education remains dominant for professions that are subject to serious legislative regulation, in particular in the field of occupational health and safety. For example, in occupations in the industrial sector (welders, electricians, turners, millers, machinists, crane operators, slingers), employers tend to trust formal training, while in the service sector (manicurists, hairdressers, make-up artists, waiters) informal education inspires more trust.

Some experts critically assess the state policy on management and financing of higher and vocational education. Despite the fact that the state is the main source of funding for training in higher education institutions, the directions of state procurement do not meet the needs of the labour market, in particular for the work of state enterprises, institutions, and organizations. Experts see a problem in the principles by which the state order in higher education is formed, where the educational institution, and not the employer, depends on who and in what specialty will be trained for the labour market. As for vocational education, it is determined that the state tends to prioritize the wrong sectors that are key for its economy. There is also a serious gap in career guidance. First, there is currently no institution that would be responsible for conducting

systematic career guidance. Secondly, the elements of vocational guidance are used in the upper grades of the school, while according to experts, this process should start at least from the 5th grade of the school. Vocational guidance should assess the child's strengths and interests, but also take into account the needs of the economy.

Among the other weaknesses of the Ukrainian VET system, the non-optimized network of institutions and their understaffing were named.

The opinions of experts from the labour market and the education sector differ in the assessment of the readiness of the VET system for adult education. Business experts believe that the VET system in its current state is not ready for mass training of adults, in particular for partial professional qualifications. While education experts positively evaluate such a perspective and point out that working with adults motivates teachers of VET to prepare educational materials more seriously, to be ready for substantive, professional questions from listeners.

Some experts also note that the Ukrainian VET system lacks legislative image changes. It is about the outdated name of professions, types of institutions such as VET, the outdated name of the educational and qualification level of graduates ("skilled worker") and other negative social stamps associated with vocational education.

Corporate training

The prerequisites for starting corporate training are the need for systematic, quick and high-quality training of a significant number of personnel. Currently, corporate training centers use various tools: they combine face-to-face and distance learning, offer courses on the record, have ready-made modular programs or are able to quickly develop a program at the request of a business. Some businesses see corporate training as a mechanism to motivate employees to professional development and move along a career path.

Experts - business representatives noted that the business would like to outsource the issue of employee training to educational institutions, but they are not ready to respond to this challenge. First of all, due to the fact that the formal education system does not realize the scale of the needs of corporate training. For example, if the turnover of students for a teacher of a formal education institution is 800 people per year, then about 70 thousand people per year are trained through the trainer of the training center of the enterprise.

Teachers of corporate training centers, as a rule, are employees of the enterprise and perform a specific function within the production process. Trainers have the following requirements: professional expertise, knowledge of the internal processes of a particular enterprise, digital skills, the ability to work with people and convey information. Experts note that in the choice of "professional trainer" and "worker who knows his business well", they prefer the latter. In practice, it is easier to train such persons in coaching, preserving the quality transfer of knowledge.

All interviewed business representatives confirmed that enterprises engage external providers for staff training. For this, they turn to both Ukrainian and foreign providers of formal and informal education. Experts note that there are many offers of educational services for business on the foreign market. However, it is necessary to choose a provider carefully, otherwise the quality of the service may not meet the stated expectations.

Digital technologies

Even before the start of the COVID-19 pandemic, large businesses were implementing online training, and in some places were engaged in the development of their own distance learning platforms, since it is expensive and difficult to cover the need for personnel training with human resources.

Within the framework of corporate training, VR technologies and automated devices are actively used. There is also training in modern systems, according to which the internal interaction of employees takes place, as well as the collection and analysis of information about the company's products. Typically, if an employee lacks digital skills, training takes place in the workplace.

Experts mostly positively assess the digital skills of young people. The launch of the “Vocational Education Online” platform had a positive impact, but it did not close all the needs for distance and blended learning in the field of VET. Yes, the pandemic forced teachers of vocational education to quickly master digital platforms to ensure the educational process, but it is still too early to talk about the high level of their digital competences. Experts believe that teachers of higher and vocational education have low motivation, sometimes they do not understand the advantages of digital technologies, in particular based on artificial intelligence. There is also a problem regarding the effective use of gadgets, platforms for creating digital educational content, searching for information, etc.

Recognition of partial and complete professional qualifications. Qualification centers.

Business representatives positively evaluate the launch of the system of recognition of the results of informal education through independent Qualification Centers. The positive effect is strengthened by the fact that their creation took place simultaneously with changes to the Labour Code. This gave the "green light" to employment based on partial professional qualifications.

Opinions of experts regarding the mandatory formalization of workers' knowledge differed somewhat. On the one hand, the most significant thing for the employer is the worker's actual knowledge and skills, his ability to learn quickly, master new technologies. Having a diploma or certificate is secondary. On the other hand, for export-oriented industries, for admission to work with increased danger, the presence of a document confirming education (qualification) is necessary. However, all experts agree that the Qualification Center provides additional opportunities both for participants of informal education and for businesses.

Currently, the business is an active participant in the process of creating Qualification Centers, in particular according to the declarative principle. It is noteworthy that all players of the labour market are interested in the creation of the Qualification Center - large, medium and small businesses.

One of the theses that united the experts was the assessment of the knowledge of graduates of vocational and tertiary education institutions. According to experts, the administrations of institutions of tertiary and vocational education have a conflict of interest in the issue of evaluating graduates, because they are the ones who carry out their training. Independent assessment through the Qualification Centers would provide an objective assessment of the graduate's qualifications. At the same time, due to the large number of occupations and specialties for which training is carried out, it currently does not seem realistic to quickly create a network of Qualification Centers for each direction. Implementation of this idea will require a resource, in particular a temporary one. Another caveat expressed by some experts is the active creation of

Qualification Centers on the basis of interested structures - educational institutions. It is likely that this could lead to a formalization of the graduate evaluation procedure. As a way to solve the situation, it is proposed to increase the transparency of the procedure, to carry out continuous recording of theoretical and practical evaluation by responsible institutions.

Vocational education

Experts in the field of education noted that the current challenges of the Ukrainian VET system are:

1. extensive and, as a result of the full-scale war, non-uniform network of VET institutions. In conditions of limited funding, institutions can provide only basic needs such as the payment of scholarships, salaries and payment of utilities;
2. the absence or limitation of the budget for the development of VET institutions, which leads to the impossibility of qualitative renewal of the material and technical base;
3. low prestige of working professions, including due to the unmodern educational space of VET institutions; uncomfortable conditions in student dormitories;
4. difficulty in attracting additional funds, in particular regarding the using of a special fund. As a result, directors of institutions are demotivated and stop growing, do not care about effective team building, do not look for new opportunities, do not use additional development tools;
5. the need for systematic development of pedagogical personnel. Currently, a lot of attention is paid to the development of teaching staff through various training programs. But the level of digital skills and new knowledge in the field of technology need constant improvement.

At the same time, one more challenge is the large-scale social stereotype about VET in Ukraine – its lack of prestige and backwardness. To overcome this and popularize VET, the Ministry of Education and Science of Ukraine, together with development partners, implemented several communication campaigns. This gave some positive effect. However, in order to maintain such positive indicators, it is necessary to strengthen the system of career guidance starting from early preschool and school age, gradually integrating the individual into the world of professions. Career guidance requires continuous comprehensive improvement.

Due to COVID-19, and then the full-scale invasion of Russia on the territory of Ukraine, the VET system underwent a transition to the use of new digital technologies in education. At the end of 2022, the MoES launched the distance learning platform «Vocational Education Online», which hosts more than 100 online courses: for individual professions, subjects, short master classes, short-term online courses for the development of pedagogical skills and development of professional competencies, acquisition of soft skills. The platform also provides opportunities for the development of non-formal and LLL.

Regarding dual education, experts noted that in Ukraine it has its own characteristics and is not a reflection of «classical dual training» such as in Germany, Switzerland or Austria. In Ukrainian conditions, the educational institution together with the employer organizes educational events for students at the employer's work-base. After the adoption of the Regulation on the dual form of education (2019), positive trends were observed regarding the recruitment of students to the programs of the dual form of education. Enterprises in the service sector provided the most effective dual training. However, in 2020, when restrictive quarantine measures began in Ukraine, the indicators worsened. Currently, this form of education is used less due to security issues at the enterprises due to the full-scale war in the country.

Annex 2. Case studies

VET schools

1. In order to implement measures to expand opportunities and provide support to the vulnerable groups of the population by conducting training for obtaining partial qualifications for the development of skills in priority sectors of the economy and ensuring access to the labour market, the **state-owned VET school «[Regional Center for Vocational Education of Innovative Technologies of Construction and Industry](#)»** participated in the project "Vocational training on energy efficiency in Ukraine", within which it started training adults in the occupation of "Electrical fitter for lighting and lighting networks" using energy-efficient technologies. Training in one of the most developed areas of the short-term courses: "Installation of solar photovoltaic plants" has been started. The course is aimed at acquiring skills in the installation and connection of solar station equipment (photo modules, inverters, controllers, batteries, protective devices and devices). In total, 13 programs with partial qualifications have been developed.

Currently, preparations are being made for the implementation of the "Do it yourself master" project for women with the aim of acquiring skills in the repair of household appliances and construction work. VET school systematically work on cooperation with former graduates, who have their own business, regarding internship opportunities and future job placement of the students. Appropriate documentation is being prepared for accreditation of the institution as a qualification center (for certain occupations), informing about the possibility of assigning / confirming professional qualifications at the qualification center to graduates who have received partial qualifications.

2. Since 2014, **Brovary Vocational Lyceum** has been participating in the Ukrainian-Swiss project "Public-Private Partnership for the Improvement of Plumbing Education in Ukraine", which is implemented with the financial support of the Swiss Agency for Development and Cooperation, together with «Geberit Trading» LLC, and is implemented by the Swiss Foundation technical cooperation on the development of «Swisscontact», with the support of the Ministry of Education and Science of Ukraine. Thanks to the project, a new educational and practical center for plumbers was created at the lyceum.

In 2022, the Trade Union of Builders of Ukraine collaborated with the lyceum on [training courses](#) for two occupations: "Installer of sanitary-technical systems and equipment" and "Tiler". The Trade Union still interested in cooperation because the full-scale invasion exacerbated the shortage of skilled workers for the construction sector. The educational institution offered a short-term training plan for various modules. Due to the financial support of the Trade Union, the lyceum purchased consumables and reimbursed the working hours of teachers. The duration of the course was 10 days. Training is free of charge for all persons. The target audience of the courses were IDPs, the unemployed and other people interested in plumbing.

VET schools of the SES

VET schools of the SES developed educational programs according to qualifications and skills relevant in the labour market. In particular, in 2022, the following were developed and implemented: a program for controlling unmanned aerial vehicles, programs within the framework of the "Farming School 2.0" project, programs for acquiring IT skills.

To improve the quality of educational services, VET schools of the SES actively introduced elements of distance learning technology into the organization of vocational training for the

unemployed and developed online courses in various directions and partial qualifications that are relevant on the labour market. In 2022, 20,000 people completed vocational training with elements of distance learning. Within the framework of cooperation with the social partner, the German Society for International Cooperation GIZ GmbH and 7 VET schools of the SES received modern teaching aids, such as: HTC VIVE COSMOS virtual reality system, digital video camera HERO10 Black with CD for creating content in virtual reality; Virtual Welding simulators with glasses; TrartsSteel 2700c SET welding machines; air plasma cutting device Powermax 30 AIR; mobile extraction device AKROMOBIL DOUBLE ARM; metallographic microscopes for inspection of Bresser welds; TransTig 170 EF welding machines included; electric fork lift truck UHL/ HC (for licensing the profession of forklift driver, which is in demand among enterprises); MAVIC 2 ENTERPRISE ADVANCED quadrocopters for the organization of training in the direction of UAV control [27].

Case study of DTEK Academy

DTEK is an energy company of Ukraine that produces electricity at solar, wind and thermal power plants, extracts coal and natural gas, and carries out trading of energy products, distributes electricity and has a network of charging stations.

In 2010, the DTEK Academy was established within the company to implement the strategic goal of selecting and developing future leaders of the DTEK company, who will fill 80% of internal managerial vacancies. In 2013, 11 branches of the DTEK Academy were established on the basis of enterprise training centers, which pay attention to the training of employees of working occupations. In essence, the DTEK Academy has become the next educational business direction of the DTEK company. Training is carried out at all levels: Top and middle management, qualified workers.

Since 2014, DTEK Academy entered the business education market. Ukrainian and international companies such as First Ukrainian International Bank, Kyivstar, VISA, Kernel, Farmak, Myronivski bread product and others became clients and partners of the Academy.

DTEK training centers provide formal training in certain occupations (under licensed programs), information about which is displayed in the Unified State Electronic Basis on the Educational Issues (EDEBO). DTEK academies also carry out informal training to improve the qualifications of employees, conduct special training on labour protection, targeted courses (for example, working with new equipment from the manufacturer).

The Academy has a stationary team of trainers, however, at the same time, there are partner programs in which external Ukrainian and international experts are involved. If the customer (business) has a specific request, for example, the organization of a study tour, the Academy looks for a provider and establishes a new partnership.

More than 10 VR-simulators are used to organize training, many processes are carried out using digital platforms. As of December 2023, DTEK, together with the Aspichi company, is preparing a pilot project on the return to work of the demobilized employees: based on the use of VR technologies, psychological practices will be implemented.

Thanks to the establishment of a system of independent recognition of professional qualifications and the introduction of changes in labour legislation, the company successfully creates conditions for training and further employment of vulnerable groups of the population: IDPs, people of retirement and pre-retirement age, young people without work experience, attracting women to work in traditionally "male" occupations.

Case Study of Corporate University "Nova Poshta"

Nova Poshta is a Ukrainian logistics company established in 2001. Since 2014, Nova Poshta entered the foreign market. Today, the company has branches in Moldova, Poland, the Czech Republic, Germany, Romania, and Lithuania. In 2021, the company founded the Supernova Airlines to guarantee fast delivery from any foreign country.

In 2015, the company founded the Corporate University (CU) Nova Poshta, the activity of which is aimed at providing educational support for business, development of new technologies, development models and career growth of personnel. Currently, the company has more than 3,000 unique users of the Corporate University services.

In this way, employees of all levels are trained: top managers of Nova Poshta group companies, middle managers (heads of departments, territorial managers, heads of terminals), line managers (heads of departments).

In the structure of the company "Nova Poshta - Ukraine" there is a Department of Evaluation, Training and Development of Personnel, which supervises the School of Primary Training to the standards of Nova Poshta. Basic staff training takes place here, in particular: packing and issuing parcels, filling out documents for sending and receiving cargo, working with cargo at terminals, etc.



The form of study at the Corporate University is usually full-time. The exclusion occurred only during the quarantine period. First of all, these are short-term programs (training lasts about six months). For example, the program for middle managers on the topic "Personnel Management"

consists of 5 modules and lasts an average of 88 hours. The next stage of the program is a one-month break, after which the graduate of the program prepares a certification work. An employee who has not passed the certification work remains in his/her position but does not receive a promotion.

Corporate training is a component of the overall employee evaluation system. The quality and effectiveness of corporate training is monitored by the ratings of operational units on various indicators. Graduates of the Corporate University have higher ratings compared to those employees who have not yet completed training. In addition, they, as a rule, get career growth faster.

Nova Poshta Corporate University engages external providers for highly specialized courses such as IT, accounting, law, etc. Providers of educational services are also engaged in conducting certification courses, for example, in occupational health and safety. External providers play a supporting role, but the lion's share of training at the Corporate University is provided by internal trainers. External providers are not involved for the initial training of Nova Poshta standards.

Case Study (Federation of Employers of Ukraine)

In 2002, the Federation of Employers of Ukraine was formed in Ukraine. As of 2023, the FEU represents the interests of about 8,000 enterprises, which collectively generate 70% of the country's GDP and employ about 3 million people. The FEU Directorate constantly holds meetings with business to monitor current problems and requests, protects the interests of employers at the national and international levels.

One of the requests of the business in 2023 was training to improve the security competencies of the staff. FEU in partnership with the State Labour Service of Ukraine organized free of charge trainings with simulation of real actions in the workplace. Companies were offered such training topics as:

- working in a confined space
- working in operating electrical installations with a voltage of more than 1000 V
- work at height (in particular, with the skills of industrial mountaineering)
- loading and unloading operations using machines and mechanisms
- gas-hazardous works
- forestry works.

The training consisted of a lecture part by a professional trainer and a representative of the State Labour Service and a practical part, which was organized at the company's location, where real skills were practiced.

The trainings are aimed at managers, executors and other workers related to the work, depending on the chosen topic. In general, the presented successful practices testify to sufficiently favorable prospects for the development of non-formal education in Ukraine and the development of corporate training systems.

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Annex 3. Regional distribution of the educational institutions, educational centers, VET schools (by criteria of license availability) EDEBO

	Region	The number of educational institutions, educational centers, VET schools all forms of ownership	The number of educational institutions, educational centers, VET schools of the private form of ownership		
			Total	Licensed	Non-licensed
1.	Vinnytsya	63	17	9	8
2.	Volyn	24	1	1	-
3.	Dnipropetrovsk	132	46	27	19
4.	Donetsk	64	16	3	13
5.	Zhytomyr	35	3	3	-
6.	Zakarpattia	34	7	3	4
7.	Zaporizhzhya	55	8	3	5
8.	Ivano-Frankivsk	40	7	7	-
9.	City of Kyiv	79	38	22	16
10.	Kyiv	42	7	1	6
11.	Kirovohrad	45	1		1
12.	Luhansk	27	3	1	2
13.	Lviv	88	18	16	2
14.	Mikolayiv	53	17	8	9
15.	Odesa	61	24	18	6
16.	Poltava	82	30	24	6
17.	Rivne	51	11	11	-
18.	Sumy	56	16	6	10
19.	Ternopil	38	2	1	1
20.	Kharkiv	68	20	7	13
21.	Kherson	38	8	2	6
22.	Khmelnyskiy	46	10	7	3
23.	Cherkasy	36	10	7	3
24.	Chernihiv	23	1	1	-
25.	Chernivtsi	32	8	8	-
Total		1312	329	196	133

Annex 4. Piloting of short-term online courses for the recovery of Ukraine

Title of the course	Registered users	Completed training and received certificates
1 stage		
First aid first aid	6121 persons	2242 people
Work at the construction site	1324 people	767 people
System of physical protection of information resources	764 people	757 people
Services for ensuring the operation of information networks	765 people	719 people
Working with children in crisis situations	2672 people	1621 people
Promoting the welfare and social protection of the family	1337 people	962 people
2 stage		
The basics of construction drawing and the rules for applying conventional graphic markings	241 people	170 people
Development of business ideas	453 persons	497 people
21st century skills for the development of entrepreneurship and improving the quality of working life	508 people	467 people
IT support	406 people	376 people
Mastering digital competence for successful work: creating digital content	1141 people	780 people
3 stage		
Business design: from idea to business	266 people	162 people
Public catering hygiene	860 people	586 people
Identification of risk factors and prevention of their occurrence during work processes in the field of food services	438 people	439 people
Mastering digital competence for successful work: digital data and security	587 people	487 people

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