Adapting professional development to the digital transformation of today's job market

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Abstract The article focuses on the issues of professional training systems for future specialists during the digitalization of the labor market and the educational process itself. The relevance of the current study lies in the fact that the dynamics of the traditional methodological approach towards the educational process, given the global world trends, determines the priority of focusing on the competence approach. This article aims to determine the peculiarities of professional training of future specialists and its structure in the context of digital changes in the modern labor market. During the study, the following general research methods were applied: synthesis, analysis, specification, generalization, comparison, systematization, and abstraction. The author has substantiated the structure of professional training of future specialists, which combines professional and personal components. Also, there were identified vectors for improving the educational process aimed at forming future specialists' information, digital, communication, and intercultural competence as essential components of their overall professionalism. The author has established that the need to improve the process of professional training at the current stage of development is stipulated by specific requirements for professionally significant qualities resulting from the particular content and focus of professional activities in line with digital changes in the labor market. The study has found that one of the promising areas of the educational process today involves the formation of personal qualities of future specialists, including their digital literacy, logical thinking, and international communication skills. In addition, the author has outlined the basic principles of implementing and developing the interdisciplinary integration of the professional training process to meet the requirements of the digitalized labor market.

Keywords: professional training, integration processes, digitalization, professional competence, educational process, professional development

1. Introduction

The professional training of a future specialist is viewed as a pedagogical process, the expected result of which is the achievement of professional competence. Professional competence is an essential aspect of professional activity that synthesizes integrative abilities, competencies, and personal qualities.

Recently, in the national sphere of vocational training, much attention has been paid to the formation of sectoral competence of future specialists in the context of a multifactorial approach and digitalization of the modern labor market. At the same time, the need to form foreign language business communication is actualized. The level of existing competencies in oral and written professional business communication determines such a need. In this regard, the concept of professional competence in the digital transformation era is positioned as a complex integrative feature. The latter means a system of knowledge, skills, abilities, values, and personal qualities of specialists, based on which they form the goals of their activities and the ability to perform professional and social functions.

It should be noted that the issue of identifying the functionality of the structural components of professional training in the context of labor market digitalization has received very little attention to date. Most developed world countries prioritize the democratization and informatization of society, which contributes to the formation of qualitatively new approaches to vocational training. Future professionals should be able to work effectively in an integrated, globalized environment. For this reason, educational activities in professional training should be based on competence-based principles (Klochan et al., 2021). The results of the scientific analysis of the sociological, pedagogical, and economic vectors of modern research indicate scientists' significant interest in improving the vocational training system and its adaptation to digital transformation processes. This issue has become particularly relevant during the socio-economic transformation in Ukraine. From different scientific perspectives, the studied issue and its particular aspects have been reflected in multiple scientific studies.
Specifically, certain modern studies cover the following aspects:

- Highlight the structural elements of professional training in the aspects of labor market digitalization (Nesterenko, & Musiuk, 2020; Khutko, & Pidleoian, 2023; Popov et al., 2021; Gurieiev et al., 2020);
- Examine specific types of professional competence (Lisnichenko, Plynkos, & Halan, 2023);
- Examine sociocultural competence (Gurevych et al., 2021; Bessarab et al., 2022);
- Analyze the process of forming professional qualities of future managers (Bessarab et al., 2022; Berveno & Bronytskyi, 2022; Akimov et al., 2021);
- Investigate the culture of professional communication and communication of future specialists in the financial-economic field (Koval, 2021).

At the same time, some scholars have generalized the issues of forming the structure of the professional training system (Herliand & Lypska, 2021).

Based on the aforementioned, most contemporary scholars interpret the modern vocational training system as the value basis for the professional activity of a future specialist. At the same time, the issues of functional features of the structural components of the vocational training system, as well as the analysis of the features of the structural and functional model of this process, are mostly ignored by the research findings of modern scientists or are poorly investigated. This fact actualizes the need for an in-depth study of the research subject.

This article aims to analyze the functional features and conditions for forming the structural components of the vocational training system following the digital changes in the modern labor market.

2. Literature Review

In some recent studies, the paradigm of this phenomenon has been positioned as a priority for optimizing the professional training system in the context of personal maturity and the involvement of interdisciplinary integration functionality (Volianyk & Veikru, 2023). The conceptual horizons of the issues studied are expanding in the studies by Kopniak, K. (2020) and Chernenko, N. I. (2021). The authors devote significant attention to the development of an individualized model of professional competence formation based on the principles of intercultural and informative-operational communication.

Among the scientific developments in the field, it is advisable to highlight the research by Reis, D. A., Fleury, A. L., & Carvalho, M. M. (2021) and Sinambela, E. A., Mardikaningsih, R., Arifin, S., & Ayu, H. D. (2020). The authors consider the continuous self-development of professional competence as the basis of professional training today.

Dzwigol, H., Dzwigol-Barosz, M., Miśkiewicz, R., & Kwilinski, A. (2020) carry out a detailed analysis of the studied phenomena. The scholars assess the competence of a manager in the context of Industry 4.0. A significant contribution has also been made by Bratianu, C., Hadad, S., & Bejinaru, R. (2020) and Nikolova, M., & Cnossen, F. (2020). The authors promote a competency-based approach to paradigm transformation in business education and highlight the main aspects of professional training.

3. Methods

The author employed a couple of general scientific research methods, including analysis, synthesis, abstraction, induction and deduction, specification, and formalization, as well as comparison. The research was carried out based on the principles of complexity and systematicity of scientific research. Such an approach allowed for analyzing the research object as a holistic system with interrelationships and interdependencies.

The methods of analysis and synthesis were employed to identify the main factors shaping the set of structural components of the professional training system in the conditions of labor market digitization. The abstraction method was applied to highlight theoretical generalizations and identify key categories and concepts while drawing conclusions regarding the priority vectors of developing the process of forming pedagogical tolerance.

Compared to traditional approaches, the comparison method was used to identify the specific features of the modern innovative paradigm in the professional training algorithm formation sector in the context of digital changes. The formalization method was employed to identify priority vectors for optimizing professional training, as well as for structuring priorities and principles of the research object.

4. Results

One of the current challenges in shaping demand and supply in the labor market and, consequently, professional training is the process of active digitalization. The development and implementation of cutting-edge digital capabilities create conditions for a global transformation of demands and requirements for professionals, reshape the content of professional duties, and significantly influence the formation of competencies (Bratianu, Hadad, & Bejinaru, 2020; Nikolova & Cnossen, 2020). This includes the active involvement of cloud computing and artificial intelligence technologies. However, inadequate communication between the labor market and the professional training system leads to the formation of a cluster of
The multifactorial process of developing the structure of the vocational training system has led to the existence of unemployed workers with outdated professional orientations and competencies. This situation emphasizes the necessity of theoretical and empirical scientific research regarding the adaptation of professional training to digital transformation. In this case, information society becomes a priority.

In general understanding, proper professional training involves a type of work in which the professional activity is carried out at a sufficiently high level. It is characterized by tangible work results and the realization of personal potential. Special attention is paid to the competency of specialists. Such competency is determined by the balance between specialists’ professional skills and professional-psychological qualities, adaptability, and orientation towards continuous self-improvement. The essence of professional training lies in ensuring the proper level of conformity between the objective standard of professional activity enshrined in the regulatory field and the subjective capabilities of the professional's personality.

It is necessary to note that in times of digital changes in the labor market, specific structural-functional components of competence significantly influence the level of professional readiness. They largely determine the competitiveness of the modern professional (Gurevych et al., 2021). Basic professional functionality and a combination of personal qualities were updated with the following requirements:

- proficiency in working with digitized resources and systems;
- the ability to engage in continuous learning;
- activity optimization.

The rapid development of the digitalization of the labor market demands speed of reaction, decision-making ability, and feeling free in a competitive environment.

It is worth noting that vocational training is inextricably linked to the definitions of interaction and communication, as well as the organization of joint activities. All of this necessitates the development of relevant skills in future professionals. Obviously, the structure of the vocational training system is a dynamic phenomenon. It depends on the vector and speed of socio-economic development and the labor market (Herliand & Lypska, 2021).

Overall, the essential functions of the professional training system include the formation of certain areas of competence, in particular, information, communication, operational, and intercultural.

The level of digitalization technologies mastery identifies information competence. Today, the ability to effectively process informative data through innovative digitalization capabilities is seen as an integral part of the professional competence of a future economist. After all, the comprehensiveness of information, the specificity, and the sequence of its transmission form an indicator of management decision quality and the effectiveness of economic activity.

Communicative competence, as a component of general professional competence, implies the following:

- possession of effective multilingual communication technologies;
- skills in differentiating communication situations and selecting the necessary effective forms of interaction;
- the ways to solve communication problems (Lisnichenko, Plynokos, Halan, 2023).

It is necessary to emphasize that mastering foreign language fluency skills during the professional training of specialists during digital changes in the labor market is one of the educational process priorities. Given the trend of global digitalization, the skills of prompt and effective perception and interpretation of foreign language content are now fundamental factors in making the right management decisions.

Thus, the functionality of a specialist's communicative competence is inextricably linked to intercultural competence. Intercultural communication is a process of direct professional interaction between business cultures. For this reason, the system of professional training within the era of digital changes in the labor market should ensure the mastery of contact skills, focusing on the specifics of communicative interaction (Gurevych et al., 2021). At the same time, a prerequisite for successful intercultural competence is overcoming the problem of understanding. This problem is considered in the context of the perception of the communication partner both at the sociocultural and linguistic levels (Bratianu, Hadad, Bejinaru, 2020; Nikolova & Cnossen, 2020).

The operational component of professional competence is identified as mastery of the subject area of professional activity, as well as readiness to implement narrow-profile tasks (Bratianu, Hadad, Bejinaru, 2020; Nikolova & Cnossen, 2020). In particular, training an economic and financial specialist involves mastering professional skills, knowledge, and abilities in the subject area. In Ukraine, the requirements for the professional competence of specialists are enshrined in the relevant standards of higher education: educational qualification characteristics and educational and professional programs.

It is necessary to consider the research findings of scientists on key competencies to achieve the effectiveness of the study of the structural components of professional competence, which forms the basis of professional training. It should be noted that the multifactorial process of developing the structure of the vocational training system has led to the existence of differences in approaches to the formation of its structure.

The structural and functional model of the vocational training system in the context of the digitalization of the labor market today should ensure the development of the qualities of competitiveness, initiative, social adaptability, and creativity. Global trends in the transformation of the vocational training process position the modern specialist as a personality open to continuous professional growth and self-development focused on improving professional activities and adapting them to the
dynamics of demand from society. Such a specialist is able to independently master professional and related innovations involving innovative technologies in the work process.

Among the main prerequisites for the formation of an effective professional training system are the following (Reis, Fleury, Carvalho, 2021; Sinambela et al., 2020):

- implementation of interdisciplinary integration tools by creating an interdisciplinary educational environment;
- integration of professional and general areas of professional training per the current requirements of the labor market;
- involvement of innovative technologies for organizing professional training activities for modeling interdisciplinary professional cases;
- implementation of integrative formal, informal and non-formal forms of vocational training to form compliance and adaptability to the modern labor market.

Ukraine is characterized by a significant imbalance between supply and demand in the labor market, with supply far exceeding demand for financial and banking professionals, accountants, and auditors. This situation is exacerbated by the general multidisciplinary trend of employers selecting highly qualified specialists and analysts who are fluent in innovative approaches to accumulating and processing incoming information, can use digital tools, and ensure a level of performance that meets internal and external regulations. In addition, specialists in the financial and economic field today must have the skills to approximate accounting and business standards and be able to effectively present business values to stakeholders (Nesterenko & Musiuk, 2020; Khutko & Pidleoian, 2023).

Obviously, the high requirements for specialists are due to the economic transformation and reorientation phenomena. Nevertheless, employers are still looking for the most effective specialists who can adapt to the labor market’s dynamics. This trend actualizes the importance of ensuring adequate professional training and an effective process of forming modern competencies in the outlined directions.

In the current conditions of digital transformation of most spheres of social life, the dynamics of the sectoral structure of professional employment in terms of adaptability and the level of mastery of the digitalization potential is a priority trend in the development of the labor market. The format of employer-employee relations is also undergoing significant changes. The overall structure is increasing the component of flexible forms of employment, and the role of intellectual labor is growing significantly (Makhyenia et al., 2021).

The active introduction of artificial intelligence capabilities and the use of cloud technologies is leading to a decrease in demand for certain professional functions, including:

- the collection, accumulation, and structuring of information for further analysis of economic processes and the effectiveness of financial and economic activities;
- the control over tax payments and currency transactions;
- implementation of routine calculations and preparation of standardized reports;
- the control of market transactions with own shares and bonds;
- formation and completion of standard contracts;
- consulting on some standard issues and many others.

The active implementation of blockchain technology and the use of "smart contacts” tools in everyday professional practice in many labor market segments are driving the dynamics of the competency portfolio. The standard requirements are supplemented by proficiency in the advanced business reporting language, the ability to work with blockchain program code, and other specific requirements (Yermachenko et al., 2023).

The phenomenon of a visible imbalance applies not only to the positioning of particular jobs in the labor market under digital optimization but also to the general skills required. In the global context, the development of the vocational training system is considered a priority interdisciplinary vector of optimization. International experience shows that employers face particular obstacles not only because employees lack hard skills but also because their "soft skills" analogs that reflect a specific attitude to labor duties (Reis, Fleury, Carvalho, 2021; Sinambela et al., 2020).

A modern, successful labor market participant must acquire key skills in certain areas, including the ability to operate autonomously. Such skills include independent planning, time management, and argumentation of their own achievements, as well as participation in heterogeneous communication groups, where cooperation in conflict management is essential. In addition, the ability to apply the functionality of information and communication technologies as communication tools in practice is necessary. At the same time, the basic professional competencies include the following:

- ways of interaction (collaboration and communication);
- tools for work (digital literacy);
- ways of thinking (critical, creative);
- personal qualities (intercultural competence, personal responsibility) (Dzwigol et al., 2020).

The essential aspect of effective multidisciplinary professional training in economics is the ability to accumulate and analyze information to develop professional judgment based on the processing of significant informative data sets using I.T.
programs (Bratianu, Hadad, Bejinaru, 2020; Nikolova & Cnossen, 2020; Bessarab et al., 2022). Such skills are seen as necessary when preparing a budgeting system, implementing effective risk, resource, communication, financial and performance management, preparing internal and external reporting on financial and non-financial indicators, and in many other professional situations. For this reason, specialists in the financial and economic sphere of activity should have an understanding of the principles of I.T. processes. Meanwhile, they should remain professional analysts who form the accounting and analytical foundation for making multi-vector management decisions (Nesterenko & Musiuk, 2020; Khutko & Pidleolian, 2023).

For solving the problem of the poor quality of vocational training and its lack of adaptation to the digital dynamics of the labor market, it is necessary to develop and implement a vocational training strategy. This strategy should take into account the specifics of a particular educational institution, aimed at improving the quality of education and its ability to ensure the competitiveness of future specialists. The personnel strategy of an educational institution should emphasize the promotion of innovation and experimentation with new teaching methods, focus on the development and use of competencies, and ensure the process of continuous professional development of participants in the training system (Shevchenko et al., 2021).

The research results and the analysis of scientific approaches convincingly show that the vocational training system in the context of digital changes in the modern labor market should be viewed as a multifunctional hub that ensures the formation of the professional competence of a specialist in an innovative format. The priority should be given to ensuring an integrated approach to the issues of digitalization and its harmonious implementation in social processes, in particular, in optimizing the labor market. The proposed approach to the formation of the structure of the professional training system guarantees an adequate prognostic level of competitiveness for future specialists.

5. Discussion

The discourse of vocational training methodology in the scientific literature during the digital transformation of the labor market represents a variety of substantive meanings of this concept. It also shows the need for a common conceptual approach to its definition.

The analysis of scientific developments on the research topic has created the basis for the formation of the belief that the modern idea of professional training is based on applying the functionality of contemporary software to activate and stimulate the process of resource transformation and increase performance. For instance, some scholars (Gorski et al., 2023; Baird & Parayitam, 2019; Ortina et al., 2023) addressed the issue of professional competence as a prerequisite for professional fulfillment. They emphasize that the phenomenon of digital awareness is directly related to positioning in the field of communication.

On the other hand, representatives of other scientific schools (Cebrián, Junyent, Mulá, 2020; Eizaguirre, García-Feijoo, Laka, 2019) note that the functionality of professional competence has been formed over time. Therefore, this phenomenon has different semantic loads and a range of representativeness of the main functions.

The basic elements of the implementation and realization of the professional training paradigm are reflected in some relevant academic papers (Skakovska & Kotyk, 2020; Abad-Segura & González-Zamar, 2021; Dembitskaya, Kobylansky, Pugach, 2021; Bielova et al., 2022). In addition, researchers have conducted a series of studies that provide a basis for adapting the tools of interdisciplinary integration to the realities of the educational process (Hernandez-de-Mendez, Morales-Mendez, Escobar, 2020).

The definition of the professional training of future specialists regarding compliance with the requirements of digital changes in the modern labor market is most acceptably formulated in the studies by Markova, S. M., Tsyplakova, S. A., Sedykh, C. P., Khizhnaya, A. V., & Filatova, O. N. (2020). The authors interpret the phenomenon of professional training as a sociocultural basis for socio-economic development. It is worth supporting the scientific opinion of scholars (Banit, 2019) who believe that the gradual interconnected study of psychological, cultural, ethical, and deontological areas of study in the vocational training system is the basis for the effective use of interdisciplinary integration tools during the formation of professional competence.

6. Conclusions

In this study, the author defines the essence of the professional training system and substantiates its structure and vectors for improving the educational process. These vectors aim to form future specialists’ information, digital, communication, and intercultural competencies as essential components of their overall professionalism.

The article establishes that the need to improve the professional training process at the current stage of development is driven by specific requirements for professionally relevant qualities. The exact content and specific focus of professional activities in line with digital changes in the modern labor market define such attributes. The study revealed that today, one of the promising areas of the educational process is the formation of personal qualities of future specialists, in particular, their digital literacy, logical thinking, and international communication skills.

Further research is needed to identify and substantiate the psychological and pedagogical conditions for implementing a model for the formation of professional training in terms of educational process digitalization and promising placement in
the modern labor market. The article also describes the basic principles of implementing and developing interdisciplinary integration of the professional training process to meet the requirements of the digitalized labor market. During the study, the author has formed the conviction that the priority areas of policy for the development of professional training towards the formation of professional competence include the formation of communicative, intercultural, informational, and digital competencies, taking into account the trend of integration of the educational space into the European community.

It has been found that the professional training of future specialists is considered to be an essential feature of activity and the leading integrative quality. It results from the synthesis of professional competencies and personal vocationally crucial attributes.

Ethical considerations
Not applicable.

Conflict of Interest
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