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Forming the model of professional readiness of future specialists in vocational education (Transport, Occupational Safety and Health)

Abstract. The study on forming the model of professional readiness of future specialists in transport and occupational safety and health is relevant due to the constant transport technologies development and growing requirements for workplace safety. Accordingly, it is necessary to develop training approaches that meet the current challenges and needs of the industry, providing future professionals with not only technical knowledge but also risk management competencies and the ability to work in conditions of constant change. The purpose of the study was to search an effective model of professional readiness that would facilitate the training of competent, highly skilled and innovation-oriented future specialists in vocational (professional) education. The use of theoretical methods (analysis, synthesis, systematization and generalization, modeling, and comparison) has helped the authors to solve several tasks. The results of the study include the block analysis of the model of professional readiness of future specialists in vocational education, and a brief description of the modeling tasks (optimizing the structure of the educational material, improving the educational process planning, managing cognitive activity, managing the educational and cognitive process; diagnostics, forecasting and design of training). The author's model of the formation of professional readiness of future specialists in vocational education (Transport. Occupational Safety and Health) has been developed, which has the property of integrity, since all its components are interconnected and should work for the final result - the achievement of a high level of professional readiness for the future type of activity by future specialists, the tasks of professional training of future specialists in vocational education (Transport. Occupational Safety and Health) have also been formed. The author focused on the main contradictions and “problematic” properties of the modelling method. The main components of the proposed model are highlighted, such as: social order, purpose, tasks, interactive technologies, methods, forms, means, criteria and levels of formation, and interconnection, which make the process of forming professional competencies more effective. The practical significance of the study is the development of pedagogical conditions and the model of forming the future vocational education specialists' readiness, its implementation in the practical training at the Hryhorii Skovoroda University in Pereiaslav

Keywords: European standard; blocks; professional competence of modeling; program outcomes; educational process; pedagogical research

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INTRODUCTION

Reforming and ensuring a high level quality education in Ukraine are becoming critical to its national sustainability and future success. In particular, this is important for the modernization of vocational education and training (hereinafter – VET) system, especially in the field of transport and occupational safety and health. Forming an effective model of future specialists' professional readiness is becoming an urgent task in the context of the rapid development of technologies in transport and increased requirements for occupational safety and health. This approach can help to improve the professional training quality and provide students with the necessary competencies for a successful career under the requirements of the modern labor market.

An analysis of recent research and publications on the topic under study has made it possible to define that there is a modern science tendency to move from descriptive to modeling and forecasting its results. Prominent Ukrainian scientists have studied theoretical and applied aspects of modeling (Korniichuk, 2019; Kubrak, 2019; Krishtanovych *et al.*, 2021). However, the most important studies for this paper are those that addressed the issues of modeling, particularly in VET. A significant number of issues related to the development of the modeling process in VET have been revealed by Ukrainian scientists. The quality of training future vocational education specialists must meet the high requirements of the European educational space. It is these requirements for the VET system that encourage scientists as practitioners to focus their efforts on creating an effective model of the content of education not just for a specialist, but for a professional of a new formation, following the general patterns of formation and self-development of a person capable of transforming, modeling and correcting the professional space (Radkevych *et al.*, 2021).

Following the leading modern educational sphere trends the system of vocational training of highly qualified specialists (Transport. Occupational Safety and Health) needs improving its content and changing the pedagogical paradigm in the systematic justification, developing and creating the effective model of the educational process. There are different definitions of the concepts of "model" and "modeling" in the scientific literature. From a philosophical point of view, a model is an imaginary, represented, materially realized system that can reflect or reproduce the object of study, and replace it so that the study of it gives us new information about this object (Conceptual and technological model of..., 2022). At the same time, the Ukrainian researcher L. Tkach (2019) emphasizes that modeling as "a universal process of cognition can be used in research and contribute to the transformation of phenomena in any field of activity", since its purpose is to create a model of the real object under study, the object of modeling in the authors' study should be considered a part of pedagogical reality, namely a practical training, development the model which is the purpose of pedagogical modeling. Thus, the subject of modeling (in this case, practical training) is the part of the object of modeling (professional training of future vocational education specialists (Transport. Occupational Safety and Health)). That is why Ukrainian scientists consider the professional training of future vocational education specialists, as an object of modeling, to be an opportunity to implement scientifically based models, in particular, of different levels of compliance, completeness and systematic reflection, etc. (Modeling of the pedagogical process..., 2023).

Thus, there is no unambiguous interpretation of the concept of "model" in scientific sources. From the above definitions, it follows that modeling is the artificial creation of a system that is fully or partially capable of reproducing the essence and quality of the original (Kolesnyk, 2019). The need to develop a model of professional readiness for future VET specialists is conditioned by the modern society's needs to form competent specialists, and the development of interest in teaching can be an essential factor in improving the quality and effectiveness of training future teachers of vocational and technical education institutions (hereinafter – VTEIs) for such an important process as the formation of teachers' professional readiness for the future profession (Borodiyenko *et al.*, 2023). The purpose of the article was to form a model of professional readiness of future specialists in vocational education (Transport. Occupational Safety and Health). To achieve this goal the following tasks are defined: 1) based on the study of the state of the problem in pedagogical theory, to substantiate the structure of professional readiness of future specialists in vocational education (Transport. Occupational Health and Safety); 2) to determine the methodological principles of forming the model of professional readiness of future specialists in vocational education (Transport. Occupational Safety and Health); 3) to theoretically develop a model of professional readiness of future specialists in vocational education (Transport. Occupational Safety and Health). The scientific novelty of the study is that the essence of the concept of "professional readiness of future specialists in vocational education", "model", "modeling" and components of readiness (motivational and value, cognitive and intellectual, normative and operational, personal and communicative) is clarified; the principles of formation of future specialists' professional readiness are determined; the theoretical and functional model of formation of professional readiness of future specialists in vocational education (Transport. Occupational Safety and Health) is developed.

MATERIALS AND METHODS

Following the purpose and defined tasks, the authors have used several scientific methods that contributed to solving the issues raised in the course of the study. To achieve the goal general scientific research methods have been used to a greater extent, which include empirical research methods, analysis, synthesis, systematization, and generalization. Theoretical analysis and synthesis have made it possible to analyze scientific works in the field of vocational pedagogy and methods of VET experience in educational activities of

teaching staff; modern pedagogical concepts; scientists' different views on the problem under study, and identification of research areas. The methods of systematization and generalization has helped to focus on pedagogical models of future specialists' readiness for professional activity by Ukrainian scientists, namely: to systematize the proposed models according to the specifics of the specialty (future teachers, future psychologists of the operational rescue service, heads of VTEIs, future rescuers, bachelors of computer technology, computer science teachers, future border guard officers); to summarize the pedagogical components of the proposed models (target, theoretical and methodological, organizational and content, evaluative and effective, conceptual, functional, technological, regulatory and targeted). The content analysis has helped to clarify and specify the conceptual and categorical apparatus for the formation of professional competence of future specialists in vocational education. Comparison, as a method of cognition belonging to many empirical research methods, has allowed the authors to consider the object under study separately and indicate the features by which it can be compared. Thanks to this method, the authors have made a comparative analysis of the modeling process in VET by specialization and identified common and distinctive features of pedagogical models of future specialists' professional readiness. The authors have also applied "modeling" as the universal method of scientific cognition. Thanks to it, the pedagogical model of the readiness of future vocational education specialists (Transport. Occupational Safety and Health) has been developed. This model is used by the authors of the article in the educational process. Due to the successful combination and use of the considered research methods, the defined tasks have been realized.

The research is based on and fully complied with the principles of the dimensional approach. At the first stage it has allowed the authors to study a whole array of information in order to prepare the theoretical basis of the work. The principles of this approach have been also applied to the subsequent stages of the research. The use of the dimensional approach has significantly enriched the understanding of the complex phenomena studied in this paper, as it allows understanding their multifaceted nature and the interrelationships between different aspects. A graphical method has also been used in the study to visually present the relationships between different components of professional readiness, such as theoretical knowledge, practical skills, personal qualities, and the ability to respond to unforeseen situations. It has helped the authors to display the structure of the model in the form of a diagram, where each component is presented as a separate block, and their interconnections are represented as arrows indicating the interaction between them. This has contributed to a better understanding of how different aspects of professional readiness are interconnected and how they affect the overall effectiveness of training. The graphical method made it possible to identify key entry and exit points in the process of professional readiness formation, which further have helped to identify priority areas for improving the educational process. This approach has allowed the authors not only to visualize the theoretical model but also to plan practical steps for its implementation, as well as to predict potential challenges and ways to overcome them.

At the last stage of the study, a generalization method was used to analyze, systematize, and integrate various studies, theoretical approaches, and practical examples related to the training of specialists in the fields of transport and occupational safety and health. Using the method of generalization the authors have been able to define the main components of professional readiness, identify proven and effective training practices, and highlight the necessary competencies that future specialists should develop. The application of this method has included studying scientific literature, the analysis of regulatory documents, studying courses and training programs used in VET. The method of generalization has been used to formulate conclusions and recommendations regarding the research topic.

RESULTS AND DISCUSSION

As Ukraine fights daily for its right to independence, language, culture, and full-fledged existence, the educational community has intensified the search for effective approaches to training specialists in VET. This study focuses on such specializations as "Transport" and "Occupational Health and Safety", which are important for the development of the Ukrainian economy, statehood, and the educational level of citizens. The effectiveness of changes aimed at achieving stability in Ukraine is measured by the availability of well-trained specialists in demand in the domestic labor market. Therefore, it is important that future specialists in VET could receive high-quality and relevant knowledge that they can apply in their future professional activities.

It should be noted that, under the social and economic changes taking place at the present stage of VET development, there are new requirements for a future vocational education specialists, characterized by their readiness for a high degree of physiological, psychophysical, and emotional tension. Hence, the system of training future specialists for professional activity should be increasingly aimed at developing their readiness for real professional activity, where, along with its features mentioned above, the formation and development of their personal and conditioned qualities is carried out. The "professional readiness of future specialists in vocational education" should be understood as a system-forming factor of professional activity, the purpose and result of training vocational teachers in the context of the introduction of a new educational paradigm, taking into account the current socio-economic requirements for the development of the vocational education system (Kholodnyi *et al.*, 2021). According to S.V. Kolesnyk (2022), a readiness, as an integrative quality, should be considered as a set of complex personal formations, which should include professional and moral orientation views and beliefs,

professional orientation of mental processes, professional knowledge, skills, attitude to pedagogical work, desire to overcome difficulties, self-esteem of this work results, the need for professional self-improvement.

To effectively design the model of readiness for future specialists in vocational education (Transport. Occupational Safety and Health) it is necessary to consider the concept of "model" in pedagogical science. In the Encyclopedia of Education, a model is defined as an imaginary system that should reflect or reproduce the object of study; a sign system that can reproduce the didactic process, show the structure in its integrity; functioning and preserving integrity at all stages of the study (Pedagogical academy of..., 2008). Pedagogical modeling consists of the study of pedagogical objects (phenomena), and this process should take place in coordination and a complex of conceptual, procedural, structural and content, conceptual characteristics and individual "sides" of the educational process within a certain socio-cultural space at the general education, vocational or other levels. What is the main advantage of modeling as a method of pedagogical research? It lies in the possibility of covering the system holistically and, as a result, improving the planning of the educational process, optimizing the structure of educational material, increasing the effectiveness of the educational process, building and interpreting a new theory, testing the hypothesis of pedagogical research (Mykhailov, 2021).

Modeling in pedagogy is used to solve the following problems: 1) optimizing the structure of educational material; 2) improving the planning of the educational process; 3) managing cognitive activity; 4) managing the educational and cognitive process; 5) diagnostics, forecasting, and designing learning (Korniichuk, 2019). It is important to realize that pedagogical modeling involves the use of abstraction and idealization procedures since the subject of modeling is a complex system that is reflected in interconnected models that complement each other. The need to develop the model of forming professional readiness of future vocational education specialists (Transport. Occupational Safety and Health) is conditioned by the needs of society in the competent specialists formation. Moreover the development of interest in professional activity can be an essential factor in improving the quality and efficiency of teachers training, forming their professional readiness for the future profession (Kurysh, 2022).

In the psychological and pedagogical literature, professional readiness is considered to be a state of the individual that is characterized by the availability of professional knowledge and skills, motivation to implement them in activities, and the ability to overcome difficulties in professional tasks realization (Sirokha, 2019). In this case, the essence of the future specialist's readiness for professional activity should be assessed on the basis of his/her professional, social and psychological, and physical readiness for future activities. In this study, the main aspect is aimed at creating the authors' pedagogical model to be applied in practice (Hryhorii Skovoroda University in Pereiaslav, Faculty of Technological and Mathematical Education, Department of Theory and Methods of Vocational Training), that will help to achieve the goal – to prepare future vocational education teachers (Transport. Occupational Safety and Health) for the implementation of professional skills in VTEIs. Vocational education teachers are responsible for teaching professional disciplines in VTEIs. They are called upon to provide quality knowledge to future vocational workers. At the bachelor's and master's levels of education, students acquire the necessary professional competencies and program outcomes that are successfully applied in the course of professional activities (Stynska, 2020). It is the peculiarities of master's programs that allow applicants to choose the educational components that will be needed in their future professional activities and skills (Novak *et al.*, 2019). The realization that an effective educational process in VTEIs depends on the introduction of a modern and effective pedagogical model will allow the future teacher to find a model that meets European standards of vocational education (Vitvytska, 2019).

Author V. Mykhailov (2021) analyzes different models of the future vocational education specialists' professional readiness by Ukrainian scientists. In particular, O. Yaroshynska's pedagogical model of future primary school teachers training for professional activity (having the following its components: methodological and target, content and procedural, diagnostic and effective; V. Fritsyuk's structural and functional model of the system of training future teachers for professional self-development (components: target, theoretical and methodological, organizational and content, evaluation and result); R. Sirko's structural and functional model of professional training of future psychologists of the operational-rescue service (components: conceptual, functional, technological, evaluative and effective); O. Samoilenko's model of advanced training for heads of VTEIs at the stage of managed independent work using distance learning technologies (components: target, content and organizational, operational, effective); I. Koval's structural and functional model of forming the future rescuers' professional readiness for activities in extreme conditions (components: conceptual and strategic, procedural and technological, control and evaluation); I. Sigetius's model of developing teachers' readiness for information and management activities in the system of postgraduate education (components: theoretical, content, and effective); O. Sazhienko's experimental model of forming the professional competence of bachelors in the field of computer technology in the process of professional training (components: target, content, operational and effective); O. Zyahar's model of developing the computer science teachers' information and communication competence (components: normative and target, content, organizational, methodological, diagnostic); O. Lemeshko's model of formation of the future border guard officers' professional readiness to localize non-standard situations at border crossing points (components: conceptual, organizational and methodological, performance and evaluation).

Thus, each model is individual and specific to a particular specialization, but there is an interesting trend that lies in the common blocks of all models: conceptual, content, organizational, evaluative, and effective. These components (blocks) are relevant to the authors' model of determining the future vocational education specialists' readiness for professional activity, so it is worth applying them in a scientific study. The model of forming the professional readiness of future specialists in vocational education (Transport. Occupational Safety and Health) developed in the study has the characteristic of integrity, since all its components are interconnected and should work for the final result, that is the achievement of a high level of future specialists' professional readiness for the future activities. The authors have formed the model blocks to combine important components for the successful implementation of the assigned task. The importance of each of these blocks is detailed. The *conceptual and target block* consists of the scientific substantiation of the problems; it can reflect the planned learning outcome (through the goal and objectives) and the methodological basis of the study. Also it should include scientific approaches and principles that contribute to the training of future VET specialists (Transport. Occupational Safety and Health) for future professional activities. Based on the purpose of the study, the objectives of professional training of future vocational education specialists (Transport. Occupational Safety and Health) have been stated:

- to form a motivational and value-based attitude of future specialists to their professional duties;
- to develop skills and abilities to carry out professional activity aimed at improving of its quality;
- to form the necessary personal qualities that determine the professional readiness of future vocational education specialists to implement their job responsibilities.

The theoretical and methodological basis of the model involves the use of acmeological, axiological, activity-based, competency-based, personality-oriented, professional-personal, reflective, and systemic approaches (Pohrebniak, 2019). According to S.V. Kolesnyk (2022), the principles for functioning of the model of forming the future VET specialists' professional readiness include the following: continuity, humanization, integration, openness and dynamism, scientificity, interdisciplinarity, individualization, problematicity, innovativeness, creativity, independence, reflexivity, and focus on professional activity.

The essence of the *organizational and content block* reflects the structure, content, functions, and pedagogical conditions of professional training of future vocational education specialists (Transport. Occupational Safety and Health). The principle of interdisciplinary integration of general theoretical, profession-oriented disciplines and special courses on the subject of the study has been used in the development of the content of the training. So, this block not only reflects the structure, content, functions and pedagogical conditions of professional training of specialists in VET but also includes a system of their knowledge, skills, and abilities in the disciplines and special courses of the specialization. The functions of the process of professional training of future vocational education specialists are cognitive, educational, developing, communicative, adaptive, active, and integrated one (Kovalchuk, 2021). The *procedural and activity block* involves the development of professional skills of future teachers of VET (Transport. Occupational Safety and Health) through a complex and long process that takes place over several stages. The first stage of vocational teachers' development is ensured through their participation in various activities of methodological work in VTEIs, the application of innovative pedagogical and industrial experience. Improvement and expansion of knowledge and skills in technology and methods of applying them in practice take place at the first stage of the development of the professional culture of VET teachers. The second stage ensures the individual development of future VET teachers in a continuous process of self-education, self-improvement, and self-development (Krishtanovych *et al.*, 2021).

The reflective and evaluative block involves the development and implementation of methods for diagnosing individual indicators of readiness of future vocational education specialists in the specialty disciplines of the studied profile. To ensure a higher level of professional training for future VET specialists the following conditions must be met: to strengthen the applied and professional orientation of training, changing the ratio of theoretical and practical training; to increase a significant share of elective courses for future VET specialists to better acquaint them with the peculiarities of future professional activities; to increase the share of independent extracurricular work, and use modern methods and means of its control; to apply modern pedagogical and information and communication technologies, psychological and didactic concepts that will make it possible to bring learning activities closer to the professional idea of contextual learning; to design new professionally relevant courses and their teaching and methodological support, an integral component of which should be electronic dictionaries and encyclopedias, e-textbooks and e-manuals, electronic health diaries, educational portals; to modernize methodological teaching systems for basic professionally relevant courses based on a competency-based approach (Sabatovska & Bobokalo, 2019). Only such approaches to teaching should ensure an increase in the prestige of Ukrainian VET and bring it closer to European standards (Radkevych *et al.*, 2020).

The process of developing the model for the development of professional competencies of future specialists in vocational education (Transport. Occupational Safety and Health) provides a competency-based framework that should improve the future specialist' qualifications for a purposeful process of professional training in the interests of society and the state. The model should meet the requirements of the VET regulatory framework and be perceived as a reference process according to which the program learning outcomes should be achieved.

It is worth characterizing the main difficulties of the modeling method concerning pedagogical research (pedagogical modeling), namely:

1. Pedagogical modeling is abstract, unlike other types of modeling (technical, medical, etc.).

2. Pedagogical modeling depends on many subjective factors, including those directly related to the student and the teacher, etc.

3. Pedagogical modeling is not material (the model cannot be felt by the senses as seeing, hearing, feeling, etc.).

4. Pedagogical modeling is of a delayed temporal nature (the model effectiveness is tested over a sufficiently long period as months, years, etc.).

5. Pedagogical modeling doesn't have objective control methods (the model implementation effectiveness doesn't have precise objective criteria expressed in accurate and specific digital equivalents that are verified and confirmed by objective control methods) (Tsymbal-Slatvinska, 2019).

The study presents only the main "problematic" properties of pedagogical modeling. As can be seen, modeling is a very complex and ambiguous process, which is especially clearly understood and acutely felt when it is widely used in educational and methodological, scientific and practical, professional and applied activities. The authors of this study consider that the main difficulty and ambiguity of pedagogical modeling lies in its subjectivity and delayed effectiveness (there is too much dependence of the result on the individual, time, and often simultaneously on the individual and time). This is important when conducting pedagogical experiments and observations that last for years. During this long time, the personality itself (a student and sometimes a teacher; a test person and a tester) changes in many ways, which makes the results of the study not always correct and accurate. It should be noted that such complexities and ambiguities are inherent not only in pedagogical modeling but also in pedagogy in general (especially in the substantiation, development, creation, and use of pedagogical concepts, systems, etc.), as well as other types of modeling (psychological, philosophical, sociological, cultural, etc.) and the sciences that produce and actively use them (psychology, philosophy, sociology, cultural studies, etc.) (Kubrak, 2019). From all of the above, we can state that the method of pedagogical modeling is not quite perfect and ideal (like a number of the above-mentioned modeling), so, when using and analyzing it, this fact should be firmly known and always taken into account, together with appropriate corrections should be made, and the results should be interpreted under all of the considered circumstances.

In the practical part of the study, the model of professional readiness of future VET specialists for further pedagogical activities has been formed, which could contribute to the formation of the necessary professional competencies and, as a result, the acquisition of program outcomes. To effectively ensure the assessment of the level of professional readiness of future vocational education specialists for professional activity, according to L.I. Korotkova (2019), the following conditions should be met: to accurately determine the structural components of the model; to unambiguously define the parameters of the proposed model; to substantiate the structure of its indicators. Within the framework of the study, the proposed model is understood as a holistic pedagogical process that should combine the approaches, methods and techniques of teaching, directing them to the students' acquisition of knowledge, skills, techniques and experience of pedagogical activity, as well as to the development of the future specialist personality as a highly professional subject of professional activity. The structure of the proposed model is represented by the following interrelated blocks: conceptual and target, organizational and content, procedural and activity, and reflective and evaluative. Their main components are social order, purpose, objectives, interactive technologies, methods, forms, tools, criteria and levels of formation, and interconnection, which makes the process of forming professional competencies more effective. Figure 1 shows the developed model of professional readiness of future specialists in vocational education (Transport. Occupational Health and Safety).

The proposed model of forming the professional readiness of future specialists in vocational education has characteristic features of flexibility and variability, allows to take into account the changes taking place in society, to respond to the requirements for the level of VET specialists training, to provide VET students with the opportunity to form the necessary professional competencies in the learning process (Fig. 1). To develop the model of forming the professional readiness of future specialists in vocational education (Transport. Occupational Safety and Health) the authors analyzed the source base, which allowed to effectively adjust and summarize the important components of the modeling process in VET. The process of modeling the pedagogical system of professional training of future service professionals, which is part of VET, has been analyzed in the article by L. Korotkova (2019). The Ukrainian researcher L. Sirokha (2019) competently substantiates the professional readiness of the individual for future activities and emphasizes the importance of successful professional activity as an integral part of the future specialist. An important study for the development of VET should be considered the work by V. Mykhailov (2021) on the important components of pedagogical modeling of the development of civilian security specialists' professional competence. For our study the mentioned work is particularly interesting, since the modeling process has been considered in the context of studying the educational component "Civil Security", which is thoroughly studied in the educational program 015 Vocational Education (Transport. Occupational Safety and Health). The issues of modeling VET in the conditions of the master's degree are the subject of works by researchers I. Sabatovska & S. Bobokalo (2019). In the scientists' opinion, the master's level of training of future specialists requires a high level of

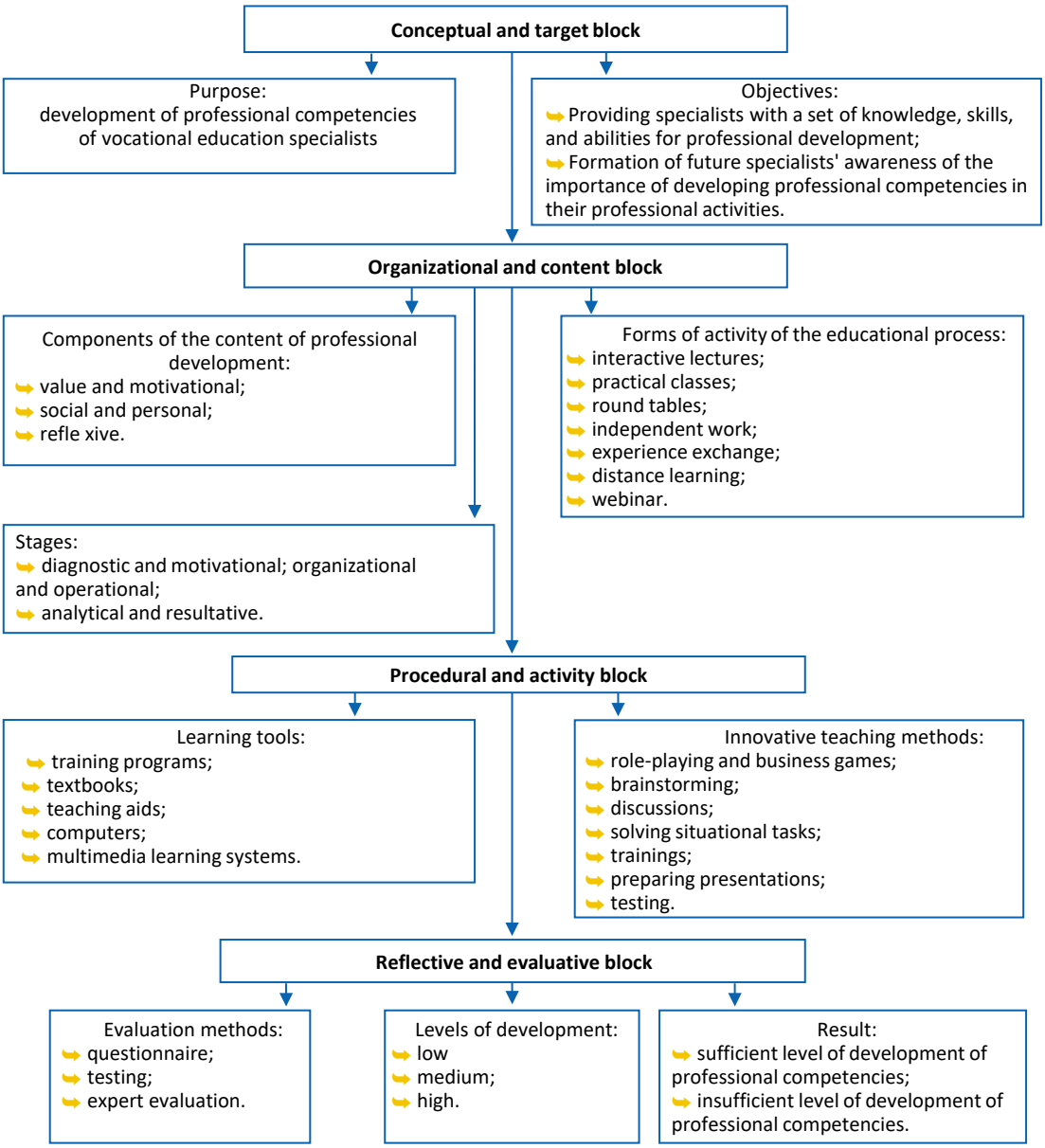

Figure 1. Model of forming the professional readiness of future specialists in vocational education (Transport. Occupational Safety and Health)

Source: the scheme was developed by the authors based on their own experience, which is being implemented at the Department of Theory and Methods of Professional Training at Hryhorii Skovoroda University in Pereiaslav

readiness for professional activity, that is why the process of pedagogical modeling has positive properties for the formation of professional competencies.

An essential vector for writing this article is sectoral (industry) modeling, which has been covered in the works of Ukrainian scholars. We have analyzed studies that highlighted the issue of the readiness of future vocational education specialists for professional activities in various fields. For example, L. Tkach (2019) focuses on an important aspect in the practical training of future specialists in the field of "Bakery, confectionery and pasta products, production of food concentrates". The researcher has found out that the structural and functional model affects the quality organization of practical training of future specialists, and proposed the model consisting of such components as target and methodological, content, subject-subject, activity, and resultative one. D. Pogrebnyak (2019) proposes his own definition of the terms "model" and "pedagogical modeling", and also the model for the development of professional competence of physical education and sports managers, using a schematic representation of it and revealing the content of all its components (goals and objectives, organizational and pedagogical conditions, content, methods, forms of organization of educational activities, criteria and indicators for diagnosing learning outcomes).

The authors of the article emphasize the importance of creating integrated models of professional training that meet the current needs of the labor market and society. The role of reflexive analysis and evaluation is important, because they make it possible to track the effectiveness of training programs and make adjustments to optimize them. The main challenges associated with pedagogical modeling include the abstract nature of the method, dependence on subjective factors, and the lack of unambiguous objective criteria for evaluating effectiveness. Despite these difficulties, modeling is a key tool in the training of future professionals, providing a flexible response to dynamic changes in the professional and socio-economic environment. This proves that pedagogical modeling is fundamental for the development and implementation of effective educational strategies aimed at training highly qualified specialists capable of meeting modern requirements and challenges.

CONCLUSIONS

Thus, the pedagogical model should be considered as consistent purposeful and coordinated actions by participants of the educational process in order to solve specific educational tasks in pedagogical situations (proposed by the teacher), which ought to be consistently variable and subordinated to the final result – the forming professional readiness of future specialists in VET (Transport. Occupational Safety and Health) for effective professional activity. The authors have been found that the specialist' professional readiness is formed in the course of a dynamic, developing process of curricular and extracurricular activities, therefore, a readiness as an integrative quality of personality is a dynamic phenomenon. Its formation is possible only in complex of all the components, only in this case, we can talk about the completeness of the process of forming readiness following the model of vocational education (Transport. Occupational Safety and Health). This approach will help to solve the problems that occur during the adaptation and professionalization of young specialists. For the successful formation of professional readiness of a future vocational education specialist, it is necessary to resolve the main contradiction between the achieved level of readiness (development) of the student and the requirements that are imposed on him/her due to the specifics of professional and pedagogical activity. A condition for resolving this contradiction and turning it into a driving force for the self-realization of the student's personality is a high level of formed readiness components.

So, the model of forming the professional readiness of future specialists in vocational education has been proposed for implementation and practical realization, scientifically and theoretically substantiated, structurally and substantively developed, conceptually and categorically formulated with the help of conceptual and target, organizational and content, procedural and activity, reflective and evaluative blocks, and aimed at training highly qualified future specialists in vocational education (Transport. Occupational Safety and Health). To determine the effectiveness of vocational training it is important to use criteria, indicators and levels of the formation of future specialists' professional readiness for future activity in VET. The authors state that it is impossible to study, analyze and present all aspects of the problem under study in one scientific work, even the most detailed one. The further work is planned to be devoted to the study and analysis of other aspects of the formation of professional readiness of future vocational education specialists. In particular, the subject of further research will be the diagnosis of the future specialists' professional readiness, together with the study of the structure and content, methods, and forms of professional training. The proposals and prospects for modernizing the professional training of future specialists for professional activities are planned to be formulated.

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CONFLICT OF INTEREST

None.

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Формування моделі професійної готовності майбутніх фахівців професійної освіти (Транспорт. Охорона праці)

Анотація. Дослідження щодо формування моделі професійної готовності майбутніх фахівців з транспорту та охорони праці є актуальним у зв'язку з постійним розвитком транспортних технологій та зростаючими вимогами до безпеки на робочому місці. Відповідно до цього, необхідно розробляти підходи до навчання, які враховують сучасні виклики та потреби галузі, забезпечуючи майбутнім фахівцям не лише технічні знання, але й компетенції з управління ризиками та вміння працювати в умовах постійних змін. Мета дослідження полягала в пошуку ефективної моделі професійної готовності, яка б сприяла підготовці компетентних, високопрофесійних, іноваційно-орієнтованих майбутніх фахівців професійної освіти. Використання методів теоретичного рівня (аналіз, синтез, систематизація та узагальнення, моделювання, порівняння) допомогли авторам вирішити низку поставлених завдань. Результати дослідження містять аналіз блоків моделі професійної готовності майбутніх фахівців професійної освіти, короткій характеристиці завдань моделювання, які полягають в оптимізації структури навчального матеріалу, покращенні планування навчального процесу, управлінні пізнавальною діяльністю, управлінні навчально-пізнавальним процесом; діагностиці, прогнозуванні, проектуванні навчання. Розроблено авторську модель формування професійної готовності майбутніх фахівців професійної освіти (Транспорт, Охорона праці), яка має властивість цілісності, оскільки всі її компоненти взаємозв'язані між собою та мають працювати на кінцевий результат – досягнення майбутніми фахівцями високого рівня професійної готовності до майбутнього виду діяльності, були також сформовані задачі професійної підготовки майбутніх фахівців професійної освіти (Транспорт. Охорона праці). Закцентовано увагу на основних суперечностях і «проблемних» властивостях методу моделювання. Виділено основні компоненти запропонованої моделі, а саме: соціальне замовлення, мета, завдання, інтерактивні технології, методи, форми, засоби, критерії та рівні сформованості, взаємозв'язок, які роблять процес формування фахових компетентностей більш ефективним. Практичне значення дослідження полягає у запровадженні педагогічних умов та моделі формування готовності майбутніх фахівців професійної освіти, реалізації зазначеної моделі у практичній підготовці фахівців в Університеті Григорія Сковороди в Переяславі

Ключові слова: європейський стандарт; блоки; фахова компетентність моделювання; програмні результати; освітній процес; педагогічне дослідження