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METHODS FOR FORMING OF THE INDIVIDUAL EDUCATIONAL TRAJECTORY FOR FUTURE BACHELORS IN PROFESSIONAL EDUCATION

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Abstract

Relevance. The article examines the concepts of «individual educational trajectory» and «individual educational route» as a conscious way to the formation of professional competence by future bachelors in professional education.

The purpose of the article is to develop a methodology for the formation of an individual educational trajectory of future bachelors in professional education and to present ways of its implementation under modern educational conditions.

Methods: analysis, synthesis, abstraction, generalization – for studying normative educational documents and scientific literature; structural and functional analysis – to determine the components of professional competence of future bachelors in vocational education; modeling – to present the stages of the methodology for developing the individual educational trajectory of future bachelors in professional education; structural and logical analysis – to identify the conceptual foundations of the formation of the educational program; generalization – for laying down research conclusions.

The results: the components of the professional competence of future bachelors in vocational education (motivational, substantive, activity, volitional, evaluative) have been determined; it was found that the formation of the individual educational trajectory of future bachelors in professional education is implemented through the design of individual educational routes – personal programs for the formation of professional competence, based on the educational and professional programs of their training.

Conclusions: a method of forming an individual educational trajectory of future bachelors in professional education has been developed, which consists of three stages (diagnostic-target, subject-activity and assessment-resultative) and involves the joint activity of teachers and students of education, which contributes to the creation of a student-oriented educational ambiance.

Keywords: individual educational trajectory, individual educational route, method of forming an individual educational trajectory, future bachelors in professional education, professional competence, educational and professional program.
**Introduction.** Ukraine's higher education is consistently moving towards the European space and strives to meet the main trends of the world. Unfortunately, today Ukraine is going through difficult times and difficult challenges related to the full-scale invasion of the aggressor country, but even during the war there are special educational initiatives that make it possible to continue the educational process according to educational standards and programs. Systematic massive rocket attacks on the civilian population and civilian infrastructure objects of Ukraine lead to the destruction of its economic entities, loss of jobs and unemployment. In addition, the forced displacement of a large number of our citizens both within the country and outside its borders, the need for them to support their own families exacerbates the issue of employment for student youth. This, in turn, necessitates a change in the paradigm of modern education, namely: the possibility of building individual educational trajectories (hereinafter referred to as «IET») in accordance with the regulatory framework of the education system, in particular the Law of Ukraine «On Education» (Pro osvitu, 2017). The formation of IET should be based on the principles of professional flexibility, which involves the ability of future specialists to quickly join team projects and learn independently in a certain specialty.

The importance of IET is determined by socio-cultural, economic and political factors influencing the current state of Ukraine, and its necessity is enshrined in normative documents that approve the standards of higher education and determine the directions of the country's integration into the European educational space.

Therefore, the institution of higher education (HEI) that seeks to train competitive specialists should focus not on a template approach, but on innovative models of professional training, according to which students of education are considered as subjects of the educational process, who consciously build their own future, professional and life way.

It is worth noting that traditional methods of educational activity do not sufficiently solve the problem of personal development and improving the quality of education, since in most cases they are oriented on past experience, at a time when modern pedagogical practice has gained significant experience in solving the personal needs, motives and aspirations of education seekers.

Currently, work is ongoing on the search for innovative technologies for providing education seekers with opportunities to receive quality education, taking into account study conditions and individual personal requests. One of these solutions turned out to be the formation of an individual educational trajectory – a personal way of realizing the personal potential of education seekers, which is formed taking into account their abilities, interests, needs, motivation, opportunities and experience, based on the choice of education seekers of the types, forms and pace of education, sub-objects of educational activity and educational programs proposed by them, educational disciplines and their level of complexity, methods and means of education (Pro osvitu, 2017).

Our analysis of the specified problem proved the need for a systematic approach to the development of a methodology for the formation of an individual educational trajectory and realization of the personal potential of future bachelors in professional education.

**Sources.** The search for modern models of professional training of future bachelors in professional education forms a wide field of discussion. A significant place in these discussions is devoted to the issue of IET design, which was reflected in the works of researchers: S. Alekseeva, H. Bakhtiyarova, I. Kankovsky, T. Korostianets, I. Krasnoshehok, L. Nemets, S. Sharov, T. Sharova and others. The issue of providing individual approach in the educational process of higher education, as well as the peculiarities of personality development within the limits of this approach, are addressed in the scientific works of such authors as S. Sharov and T. Sharov (Sharov S. & Sharova T., 2017). The role of individual educational trajectories in ensuring the quality of higher education was studied by: H. Bakhtiyarova, T. Korostianets, I. Krasnoshehok (Bakhtiyarova, 2022; Korostianets, 2019; Krasnoshehok, 2018). L. Nemets, N. Guseva and O. Suptelo (2019) studied the international experience of studying students using individual educational trajectories. S. Alekseeva (2021) highlights the importance of a subjective approach to the construction of IET. I. Krasnoshehok (2018) states that the structure of individual educational activity of students should include: personal activity goals, motivation, career plans and actions for their implementation, educational product as a result of student activity and its presentation, as well as reflection on educational achievements. I. Kankovsky has proposed an algorithm of actions that ensures the implementation of the process of training specialists for IET (Kankovsky, 2013, p. 64). It is impossible to imagine the planning and implementation of IET without students' developed knowledge, skills and project activity skills, which are described in the works by N. Kulalaieva (2018).

It is worth noting that some foreign authors understand personal development planning as a...
structured and supported process carried out by a person to reflect on his own learning, productivity and/or achievements, as well as to plan his personal and educational goals and career development (The Quality Assurance Agency for Higher Education, 2009).

However, despite numerous studies of the features of designing and implementing IET in the educational process, the method of forming an individual educational trajectory of future bachelors in professional education remains outside the attention of scientists.

The purpose of the article is to develop a methodology for the formation of an individual educational trajectory of future bachelors in professional education and to present the ways of its implementation under modern educational conditions.

Methods: analysis, synthesis, abstraction, generalization – for studying normative educational documents and scientific literature; structural and functional analysis - to determine the components of professional competence of future bachelors in vocational education; modeling – to present the stages of the methodology for developing the individual educational trajectory of future bachelors in professional education; structural and logical analysis - to identify the conceptual foundations of the formation of the educational program; generalization – for laying down research conclusions.

Results and discussion. A big deal of new inside and outside challenges that the education had already confronted due to COVID-19 have significantly deepened with the beginning of the invasion of the Russian Federation in the territory of Ukraine. This affected the organization and conduct of classes, because not all students had the opportunity to participate in studies due to military actions, restrictions on access to Internet resources, remoteness of educational institutions, family and personal problems, etc. That is why the interest in the individualization of the educational process has increased on the part of student youth. Under such conditions, the search for ways to implement IET becomes an important area of activity for domestic universities, because the selection, construction and implementation of IET enable students to develop professional competence. In this connection, the issue of designing individual educational routes – personal programs for the formation of professional competence by students that correspond to their age and abilities, interests, motivation, psychodynamic characteristics and are based on educational and professional training programs for specialists (Kankovsky, 2013, p. 63).

Opportunities for the construction of IET are also created for those who study in the specialty 015 «Professional Education» at the National Transport University, specializing in «Transport» and at the Kyiv National University of Economics named after Vadym Hetman, specializing in «Economics». To ensure their individual educational needs, the content of educational and professional programs ("Vocational Education (Transport)" (NTU) and "Economic and Business Education" (KNEU)) provides a variety of educational offers within individual disciplines, as well as a wide range of selective discipline (Educational and professional training program for students of higher education at the first bachelor's level “Economic and business education”, 2020; Educational and professional program “Vocational education (Transport)”, 2020).

As noted by I. Kankovskyi, "the task of a higher education teacher in the implementation of an individual educational trajectory in education is to ensure the individual zone of creative development of each student and the application of heuristic learning technology" (Kankovsky, 2013, p. 64). In addition, it is worth emphasizing that all conditions are in place for the development of the creative potential of future bachelors in professional education of the above-mentioned higher education institutions.

Besides, a feature of the educational process in specialty 015 "Vocational education (by specialization (Transport/Economics)" is the integrative process of acquiring knowledge, skills, abilities and competencies, and the process of designing individual educational routes is based on a combination of professional (engineering / economic) and psychological – pedagogical knowledge. At the same time, it is necessary to carefully calculate the provision of a parity ratio of professional and psychological-pedagogical disciplines in order to form both "soft" and "hard" (professional) skills in future teachers of professional education (Bakhtiyarova, 2022).

In addition, during the design of individual educational routes (IER) for future bachelors in professional education, special attention is paid to the following measures:

• diagnosis of the levels of their initial knowledge, goal setting and motivation for educational and cognitive activities;

• content filling of individual educational trajectories taking into account age characteristics, abilities, interests, psychodynamic characteristics, as well as future specialization on the basis of diagnostic and evaluation procedures;

• informatization of methodical support and management of educational activities of applicants, which makes it possible to carry out training and
pedagogical support at any time, in any place, from any device within Internet;
• applying the capabilities of remote learning information systems and services (i.e. Moodle) to build training courses, counseling, diagnosis and control of learning success;
• formation of research skills of applicants, development of metaactivity skills (beyond knowledge and skills) and ability to reflect.

Since the practical component is of great importance for the future bachelor of professional education, during the entire period of study, the following are constantly checked and, if necessary, adjusted:
• knowledge acquired during based (theoretical) training;
• the ability to apply in practice previously acquired theoretical knowledge according to a given algorithm;
• the ability to a certain level of reflective processes and the ability to creatively apply specific practical tasks taking into account integrative knowledge from various topical subject areas;
• the necessary minimum skills in the field of profiling of the future teacher of professional engineering/economic disciplines, which determines his professional independence;
• necessary general and special competences at the stage of internship (production practices).

The activities above are implemented within the framework of an individual curriculum, which is drawn up on the basis of the relevant of educational and professional programs (EPP), which is based on the Standard of higher education in specialty 015 "Professional education (by specializations)" for the first (bachelor's) level of higher education (On the approval of the standard of higher education in specialty 015 "Professional education (by specializations)" for the first (bachelor's) level of higher education, 2019).

According to the list of special (professional) competences, as well as the learning outcomes given in this Standard, the components of professional competence of future bachelors in vocational education include the following: incentive/motivative (positive attitude towards the teaching profession; interest in it; striving to master the skills of stimulating cognitive interest, motivation to study, professional self-determination and self-development of education seekers); substantive (awareness of the basics of psychology, pedagogy, as well as fundamental and applied sciences (according to specialization); understanding of the peculiarities of professional communication; understanding of the peculiarities and conditions of professional activity); operative (possession of psychological and pedagogical tools for organizing the educational process, the ability to design and implement educational/developmental projects; the ability to apply modern didactic and methodical principles of teaching educational disciplines in professional activities, to choose appropriate technologies and methods in the educational process); moral (self-control, the ability to manage oneself during the performance of work duties; the ability to analyze and assess risks and problems in professional activity, choose effective ways to solve them and independently plan and organize one's own professional activity); evaluative (self-assessment of one's own professional preparation and compliance with optimal professional requirements; mastery of planning, control and reporting skills; compliance with professional ethics standards).

In addition, the practical component of the educational program shall clearly correlate with general, special (professional) competencies in accordance with the professional functions of the future bachelor of vocational education and, most importantly, with the expectations of employers in vocational (vocational-technical) education institutions. We would like to note that the content of the EPP is updated annually thanks to the proposals and wishes of stakeholders (education seekers, employers, training instructors, etc.).

The content of the EPP provides for offering education seekers the opportunity to model their own educational trajectory under the guidance of leading training instructors. Already in the first year, during the course of studying the discipline "Psychology", students have the opportunity to draw up a psychological self-portrait, learn more about themselves, focus on their own educational interests, find out tendencies, abilities and psychodynamic characteristics, determine the channels of receiving educational information, learning styles and professional preferences.

In addition, they analyze their own professional expectations, define personal and career goals, and formulate the tasks that must be completed to achieve them. Using this information, future bachelors in professional education consciously choose for themselves the most convenient forms, methods and means of learning, suitable educational technologies, as well as the most interesting topics for performing various tasks, projects, cases, speeches, reports, etc. during the study of mandatory disciplines. Besides, they get involved in extracurricular activities that contribute to their socialization and development of soft skills.
In the future, students continue to form an individual educational trajectory, which will contribute to the deepening of knowledge in certain areas of professional activity of the chosen field of training, as well as obtaining additional qualifications, thanks to the opportunity to choose optional disciplines from the content of the EPP. Thus, future bachelors in professional education, studying under the EPP "Economic and Business Education", thanks to the study of relevant selective disciplines, can deepen their professional competence in the areas of: communication and leadership in education; coaching and coaching in education; self-education and research activities; applied psychology; personnel management (Educational and professional training program for students of higher education at the first bachelor's level "Economic and business education", 2020).

In this regard, we note that the results of the analysis of the topics of the qualification papers of recent years of higher education applicants of the first (bachelor's) level, who are studying at the EPP "Economic and Business Education" testify that the most interesting educational direction for them is the formation and development of soft skills (soft skills) of vocational education students, namely: communication skills, creative and economic thinking, leadership skills, professional motivation in conditions of mixed education, etc.

It is worth noting that the chosen individual educational routes can be adjusted, changed or reformatted by students based on the results of the relevant practices (educational, industrial and pedagogical). Thanks to these practices, they experience a professional atmosphere, real production conditions, and communicate with experienced specialists.

Future bachelors in vocational education, studying under the EPP "Professional Education (Transport)" also have the opportunity to choose from a wide range of selective disciplines various areas of professional direction, namely: car repair and maintenance, materials science in the motor vehicle industry, transport ecology, electrical and thermal engineering, organizational psychology, modern trends in the development of professional education, etc. (Educational and professional program "Vocational education (Transport)", 2020).

Proceeding from the above, the conceptual foundations of the formation of the educational program "Professional education" (Transport / Economy) include:

• the implementation of an individual educational trajectory through the choice of periods and the depth of assimilation of individual components of the EPP, in particular disciplines that form universal competencies (soft skills);
• mastering of professional competencies assigned to specialization (Transport/Economy) or several specialties and areas of training at the corresponding levels of professional education or to aggregated groups of specialties and areas of training other than pedagogical, including digital literacy, educational management, business projects;
• gaining knowledge from additional education programs for the development of not only basic professional skills, but also competencies demanded by employers, including soft & hard skills (soft and professional skills) and to anticipate inclusion in future skills educational programs, which act within the scope of professional activity;
• free selection of optional disciplines, which are updated annually depending on the interests of applicants and the needs of employers, broadens one's outlook and professional erudition.

Thus, the presented approach to the formation of the IET of the future bachelor of professional education involves the following degrees of freedom of academic mobility:

• choice of the direction of training;
• choice of focus (profile) of training;
• the choice of in-depth formation of professional competences within one profile;
• the choice of formation of professional competences of other branches of professional activity and (or) areas of professional activity in order to obtain several qualifications;
• selection of the period and depth of assimilation of individual components of the EPP or blocks (choice modules) of disciplines.

Taking into account the above, the method of forming the individual educational trajectory of future bachelors in professional education for the specialty 015 "Professional education (Transport/Economics)" consists of three stages: diagnostic-target, subject-operative, and evaluation-resultative (Fig. 1).
The proposed method involves the joint activity of teachers and students of education, which is based on trust and mutual understanding and promotes student-centered learning. At the same time, future bachelors in professional education act as responsible subjects of the educational process, which takes into account their needs and interests.

**Conclusions.** Based on the analysis of the Standard of Higher Education in specialty 015 "Professional Education (by specializations)" for the first (bachelor's) level of higher education and the educational and professional programs developed on its basis "Professional Education (Transport)" (National Transport University) and "Economic and business education" (Kyiv National University of Economics named after Vadym Hetman) identified the components of professional competence of future bachelors in professional education: motivative, substantive, operative, moral, and evaluative.

It has been ascertained that the formation of the individual educational trajectory of future bachelors in professional education is implemented through the design of individual educational routes - personal programs for the formation of professional competence, based on the educational and professional programs of their training. Individual educational trajectories fully meet the tasks of modern higher education, the requests and needs of student youth, as they determine not only the content, activity and organizational aspects, but also the selection of pedagogical tools for each student, depending on the goals, motives and conditions of study. The method of forming individual educational trajectories for future bachelors in professional education has been developed, which consists of three stages (diagnostic-target, subject-active and evaluation-resultative) and involves the joint activity of training instructors and students of education. Such an activity is sealed by mutual understanding and trust and contributes to the creation of a student-oriented educational environment, which enables the creative development of each student of education, the formation of his preparedness for self-development and personal self-determination.

In further studies, it is planned to investigate the dynamics of the development of professional

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**Fig. 1. The method of forming the individual educational trajectory of future bachelors in professional education**

- Diagnosis of channels information perception channels, of learning styles and professional (pedagogical) orientation, professionally important qualities;
- determination of available knowledge, abilities and skills necessary for studying relevant disciplines at higher education institutions;
- identification of interests and preferences related to the future specialty;
- finding out the most comfortable forms, methods and technologies of education for those seeking education;
- awareness of education seekers of their own "educational self-portrait" and determination of personal needs, educational and career goals.

- Getting education seekers familiarized with goals, tasks, and learning outcomes of compulsory and optional subjects, with the content of their educational substance;
- getting education seekers involved into extracurricular activities that contribute to their socialization and soft skills development;
- support in the selection of appropriate and comfortable formats, methods, techniques technologies and teaching aids;
- presentation of various topical proposals for education seekers within tasks, projects, cases, presentations etc., which correlate to the extent possible with their age, skills, interests, incentives, and psychodynamic performances;
- approval of selective subjects (disciplines) by education seekers based on their IETs.

- Systematic self-assessment of educational achievements and outcomes;
- correction or reformattting of IET chosen by education seekers following their internship (educational, practical, and pedagogical training);
- generalization of competences acquired in the educational process during the preparation and defense of undergraduate (bachelor’s) thesis (manifestation of acquired theoretical and practical knowledge, of skills and abilities, production of graphic and calculation paperwork (references) etc.);
- evaluation of work performed, comparison of initial goals and obtained results, prospects to extend training or correction of already existing plans.
compeptences of education seekers during the implementation of an individual educational trajectory in the conditions of continuous pedagogical practice; to analyze the degree of their satisfaction with the organization of the practical training process and the compliance of practice base enterprises during the implementation of an individual educational trajectory.

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МЕТОДИКА ФОРМУВАННЯ ІНДІВІДУАЛЬНОЇ ОСВІТНЬОЇ ТРАЄКТОРІЇ МАЙБУТНІХ БАКАЛАВРІВ З ПРОФЕСІЙНОЇ ОСВІТИ

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Реферат

Актуальність. У статті розглянуто поняття «індивідуальна освітня траєкторія» та «індивідуальний освітній маршрут» як усвідомлений шлях до формування професійної компетентності майбутніми бакалаврами з професійної освіти.

Мета статті полягає у розробленні методики формування індивідуальної освітній траєкторії майбутніх бакалаврів з професійної освіти та представленні шляхів її реалізації за сучасних освітніх умов.


Результати й обговорення. Визначено складники професійної компетентності майбутніх бакалаврів з професійної освіти (мотиваційний, змістовий, діяльнісний, вольовий, оцінний). З'ясовано, що формування індивідуальної освітньої траекторії майбутніх бакалаврів з професійної освіти реалізується через проєктування індивідуальних освітніх маршрутів – персональних програм формування професійної компетентності, що ґрунтуються на освітньо-професійних програмах іхньої підготовки.

Висновки. Розроблено методику формування індивідуальної освітньої траекторії майбутніх бакалаврів з професійної освіти, що складається з трьох етапів (діагностувально-цільового, суб’єктно-діяльнісного та оцінно-результативного) та передбачає спільну діяльність педагогів і здобувачів освіти, що сприяє створенню студенто-орієнтованого освітнього середовища.

Ключові слова: індивідуальна освітня траєкторія, індивідуальний освітній маршрут, методика формування індивідуальної освітньої траекторії, майбутні бакалаври з професійної освіти, професійна компетентність, освітньо-професійна програма.

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