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RESEARCH INTO THE FEATURES OF TRAINING SCIENTIFIC AND PEDAGOGICAL STAFF FOR ACADEMIC ENTREPRENEURSHIP: PRINCIPLES AND METHODOLOGICAL APPROACHES

ДОСЛІДЖЕННЯ ОСОБЛИВОСТЕЙ ПІДГОТОВКИ НАУКОВО-ПЕДАГОГІЧНИХ ПРАЦІВНИКІВ ДО АКАДЕМІЧНОГО ПІДПРИЄМНИЦТВА: ПРИНЦИПИ ТА МЕТОДОЛОГІЧНІ ПІДХОДИ

The evolving international educational landscape, shaped by globalisation and advancements in information technologies, drives research to analyse factors and model the future of higher education. Modern science seeks to discover the laws governing nature and society, relying on logical and abstract thinking. It fulfils various roles, including social memory, epistemological analysis, communication, and education, all aimed at developing knowledge systems that support societal progress. Contemporary research emphasises the organisation, theory, and methodology of pedagogical science, vital for its development. In the article, the analysis of relevant scientific and pedagogical literature has been performed. The article aims to highlight the principles and methodological approaches that form the basis for research into the problem of training scientific and pedagogical staff for academic entrepreneurship. Taking into account the problems of the theory and practice of higher education, the achievements of researchers in the field of pedagogical science methodology, the conclusion is made about the expediency of basing the study of the problem of training scientific and pedagogical staff for academic entrepreneurship on several principles and methodological approaches. The principles of objectivity, evidence, holistic study of the training of scientific and pedagogical staff for academic entrepreneurship, essential analysis, unity of historical and logical, continuity, systematicity, and personally oriented learning are substantiated. The pragmatism of using terminological, systemic, structural-functional, synergetic, and personality and activity oriented approaches in the study of the problem of training scientific and pedagogical staff for academic entrepreneurship is proven.

Key words: scientific and pedagogical research, scientific principles, methodological approaches, university, scientific and pedagogical staff, training of scientific and pedagogical staff, academic entrepreneurship.

Міжнародний освітній простір, що розвивається, сформований глобалізацією та розвитком інформаційних технологій, спонукає дослідження до аналізу факторів та моделювання майбутнього вищої освіти. Сучасна наука прагне розкрити закони, що керують природою та суспільством, спираючись на логічне та абстрактне мислення. Вона виконує різні ролі, включаючи соціальну пам'ять, епістемологічний аналіз, комунікацію та освіту, і всі вони спрямовані на розробку систем знань, що підтримують суспільний прогрес. Сучасні дослідження зосереджуються на організації, теорії та методології педагогічної науки, життєво важливих для її розвитку. У статті виконано аналіз відповідної науково-педагогічної літератури. Метою статті є висвітлення принципів та методологічних підходів, що складають основу дослідження проблеми підготовки науково-педагогічних працівників до академічного підприємництва. Враховуючи проблеми теорії та практики вищої освіти, досягнення дослідників у галузі методології педагогічної науки, зроблено висновок про доцільність базування дослідження проблеми підготовки науково-педагогічних працівників до академічного підприємництва на кількох принципах та методологічних підходах. Обґрунтовано принципи об'єктивності, доказовості, цілісного вивчення підготовки науково-педагогічних працівників до академічного підприємництва, сутнісного аналізу, єдності історичного та логічного, наступності, системності та особистісно-діяльнісного навчання. Доведено прагматизм застосування термінологічного, системного, структурно-функціонального, синергетичного та особистісно-орієнтованого

підходів у дослідженні проблеми підготовки науково-педагогічних працівників до академічного підприємства.

Ключові слова: науково-педагогічне дослідження, наукові принципи, методологічні підходи, університет, науково-педагогічні працівники, підготовка науково-педагогічних працівників, академічне підприємництво.

Problem statement. The trends of international educational space, their impact on the development of national educational systems, globalisation processes and intensive use of information and communication technologies for scientific knowledge dissemination encourage scientific research to analyse various factors, predict and model the further development of higher education. As O. Dubaseniuk rightly notes, “the goal of modern science is to learn the laws of the development of nature and society, their impact on objects and phenomena, their properties and relationships, which is carried out using logical and abstract thinking” [5, p. 14]. According to the author, modern science performs several functions, which include the functions of “social memory, epistemological, normative communicative, axiological, creative, educational” [5, p. 14]. Further, the researcher emphasises that “the set of functions of science form its main function – knowledge of the objective world, development of a system of knowledge that contributes to the creation of rational social relations and the use of productive forces in the interests of all members of society. Science is created to identify the essential aspects of all phenomena of nature, society and thinking” [5, p. 13].

It is worth noting that special attention in modern scientific and pedagogical research is paid to highlighting the specifics of their organisation, theoretical foundations and methodological approaches, which is significant for further development of the theory and methodology of pedagogical science.

Analysis of recent research and publications. Regarding scientific and pedagogical research, scientists interpret it as “the process and result of scientific activity aimed at obtaining new knowledge about the regularities of the process of learning, upbringing and development of personality, about the structure, theory, methodology and technology of organising the educational process, its content, principles, organisational methods and techniques” [2, p. 23]; “the process of forming new pedagogical knowledge, one of the types of cognitive activity aimed at revealing the objective laws of teaching, upbringing and development” [7, p. 40]; “a special form of the process of knowing pedagogical reality, a systematic purposeful study of its phenomena and processes, which uses the means and methods of science and which ends with the formulation of knowledge about the object under study. The main goal of pedagogical research is the

discovery of objective laws of teaching, upbringing and development of personality, the conscious and purposeful application of already known laws in the practice of educational work” [5, p. 21]; “a specially organised scientific process of knowing the pedagogical environment, pedagogical phenomena, facts, subjects and objects of pedagogical interaction in the conditions of activity, as well as the connections and relations between them” [6, p. 5]. N. Chaichenko, O. Semenog, L. Artiushkina and O. Rud note that “in pedagogical research, facts and phenomena that exist in the educational environment are generally explained and predicted, and are aimed at studying the subjective, personally oriented activity of a person as the main source of his social formation and upbringing; internal contradictions of pedagogical phenomena that are being studied are revealed, ways or means of overcoming them are found and justified” [8, p. 7].

The aim of the article. The aim of the article is as follows: to highlight the principles and methodological approaches that form the basis for research into the problem of training scientific and pedagogical staff for academic entrepreneurship.

Presentation of the main material. The organisation of scientific and pedagogical research involves the development of a research program and justification of the methodology for its implementation, a research plan following the specified tasks, and the implementation of which ensures the achievement of the goal. In this context, it is worth referring to the results of scientific research on the methodology of pedagogy, which are highlighted in the scientific and scientific-methodical works of domestic and foreign researchers [1–5; 7–14].

In scientific works, we find a characteristic of scientific and pedagogical research. Thus, scientific and pedagogical research is interpreted as “a cyclical and repetitive process, where one stage forms the basis for the next stage. As in any research project, new information and learning at each stage affect the previous and subsequent steps, which can lead to changes in the formulation of the research question and the research plan” [13, p. 1]. We agree with O. Bashkir that “the scientific methodology of any science, including pedagogy, is revealed through specific independent methodological principles” [1, p. 26]. The author argues that the principle “is the main starting point, which underlies the requirements for the content of the methodology. The basic rules of any pedagogical

research are also reflected in several principles, that is, the main rationales determining both the approach to the problem and the methodology for obtaining facts and their analysis" [1, p. 26].

As scientists note, scientific and pedagogical research should be considered a formal, systematic application of scientific methods to study problems characterising the educational field. The main task of scientific and pedagogical research is to obtain reliable pedagogical information [14]. According to the methodology of pedagogical science, scientific and pedagogical research is based on principles substantiated by modern researchers [1; 2; 5; 6; 7].

The justification of the feasibility of conducting a study on the training of scientific and pedagogical staff for academic entrepreneurship is based on the results of the analysis of the problem in the theory and practice of higher education, as well as the identified contradictions between the regulatory declaration of the need for the development of academic entrepreneurship and the imperfection of the development of conceptual principles for the training of scientific and pedagogical staff for academic entrepreneurship in the university's professional development system; the need to improve the system of professional development of scientific and pedagogical staff and the insufficient level of substantiation of its methodological principles; the objective need of scientific and pedagogical staff to form a system of knowledge, develop and improve the skills and abilities of academic entrepreneurship and the lack of appropriate pedagogical conditions for forming their readiness to implement academic entrepreneurship; the need to ensure appropriate pedagogical conditions for forming the readiness of scientific and pedagogical staff to implement academic entrepreneurship and the insufficiency of their development, substantiation and implementation.

The study of scientific, pedagogical and methodological literature provides grounds for identifying several principles on which to base research on the training of scientific and pedagogical staff for academic entrepreneurship:

- the principle of objectivity forms the basis for taking into account the entire set of factors that have formed the demand for the training of scientific and pedagogical staff for academic entrepreneurship; establishes the need to implement appropriate pedagogical conditions for the formation of the readiness of scientific and pedagogical staff for academic entrepreneurship; and also determines the expediency of using appropriate methodological approaches, scientific methods for obtaining new scientific knowledge;

- the principle of evidence provides for the search for information, its processing and analysis, the identification of possible, alternative ways and methods of solving a scientific problem, their evaluation, comparison and verification to find and choose the most optimal one;

- the principle of holistic study of the training of scientific and pedagogical staff for academic entrepreneurship provides for the consideration of this problem in the context of the professional development system of a modern university, the possibilities of introducing changes to this system and managing them, its internal characteristics and external factors that influence its functioning and development; taking into account the relationship between training and the specifics of the personal and professional development of teachers; determining the specifics of the training of scientific and pedagogical staff for academic entrepreneurship, its place and role, content, functions, etc.;

- the principle of essential analysis outlines the specifics of constructing a study of the training of scientific and pedagogical staff for academic entrepreneurship based on the correlation and comparison of the general, special and individual, which allows the researcher not only to describe and explain the essence of the training of scientific and pedagogical staff for academic entrepreneurship, but also to predict opportunities for its further development;

- the principle of unity of the historical and logical justifies the need to take into account the genesis of both higher education in general, the professional development of scientific and pedagogical staff, the problem of academic entrepreneurship and the training of scientific and pedagogical staff for its implementation, which forms general understanding of the research problem;

- the principle of continuity outlines the need to substantiate the study of the training of scientific and pedagogical staff for academic entrepreneurship based on the achievements of the theory and practice of higher education;

- the principle of systematicity and its use in research allow us to consider the training of scientific and pedagogical staff for academic entrepreneurship through the prism of a set of its components, their essence and characteristic features, as well as the established connections between them and their functions;

- the principle of personality oriented learning encourages the training of scientific and pedagogical staff for academic entrepreneurship which is

considered through the prism of the interests, preferences, needs of the teacher's personality; the influence that the environment of the higher education institution has on him/her and the influence that he/she has on this environment, which results in continuous personal and professional development.

In methodological works, the description of various methodological approaches used by researchers in the field of pedagogy and education is provided [1; 2; 3; 4; 5; 7; 8]. The analysis of methodological approaches and their results indicates that the study of the training of scientific and pedagogical staff or academic entrepreneurship should be considered from the perspective of several methodological approaches. Firstly, we note that in our scientific research, we treat the methodological approach as a starting point that justifies the direction of scientific and pedagogical research [9]. Therefore, we consider it appropriate to use the following methodological approaches to the study of the training of scientific and pedagogical staff for academic entrepreneurship:

- the terminological approach, which involves revealing the content of the training of scientific and pedagogical staff of modern universities for academic entrepreneurship through the prism of determination, development and clarification of the essence of the conceptual and categorical apparatus of the study;

- the systemic approach, according to which the training of scientific and pedagogical staff of modern universities for academic entrepreneurship is considered as “a set of interconnected elements united by a commonality of functions and goals, unity of management and functioning” [5; p. 73], and also in the course of the study it is envisaged to build a system that “allows us to distinguish various essential functions, elements, components, their connections and relations, system-forming factors and leading conditions for functioning” of the corresponding system in “static and dynamic aspects” [5, p. 73–74];

- the structural-functional, which involves determining the essence and structure of the readiness of scientific and pedagogical staff of modern universities for academic entrepreneurship, determining its components, their functional purpose, that is, “the division of a complex object into

components, in studying the connections between them and determining the place and role of all components in the functioning of the object as a whole, provided that it preserves its integrity in interaction with the external environment” [4, p. 192];

- the synergetic approach, according to which the training of scientific and pedagogical staff of modern universities for academic entrepreneurship is considered as a system characterised by development, openness, and subordination to the laws of self-organisation, because as scientists claim, synergy “is an interdisciplinary field and is engaged in the study of the processes of self-organisation and the emergence, maintenance of stability and collapse of systems of various natures. It encounters phenomena and processes that result in the system having properties that none of its parts possess” [9, p. 43];

- the personality and activity oriented approach, according to which the training of scientific and pedagogical staff of modern universities for academic entrepreneurship is studied through the prism of the teacher's activity as a subject, his “needs, objects and means of influence, technologies and conditions of activity, result” [3, p. 90].

Conclusions. Thus, taking into account the problems of the theory and practice of higher education, the achievements of researchers in the field of pedagogical science methodology, the conclusion is made about the expediency of basing the study of the problem of training scientific and pedagogical staff for academic entrepreneurship on several principles and methodological approaches. The principles of objectivity, evidence, holistic study of the training of scientific and pedagogical staff for academic entrepreneurship, essential analysis, unity of historical and logical, continuity, systematicity, and personally oriented learning are substantiated. The pragmatism of using terminological, systemic, structural-functional, synergetic, and personality and activity oriented approaches in the study of the problem of training scientific and pedagogical staff for academic entrepreneurship is proven.

Prospects for further research include the development of the program of research into the training of scientific and pedagogical workers for academic entrepreneurship.

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