INNOVATIVE COMPETENCE OF HIGHER EDUCATION STUDENTS AS A PRIORITY COMPONENT OF FUTURE PROFESSIONAL MANAGEMENT ACTIVITIES

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Summary

In the study, the authors revealed the importance of developing innovative competence in higher education students as an important component of future professional management activities. They examined the definition of innovative competence in various literary sources and identified the main scientific approaches to determining the content and structure of this phenomenon. Innovative competence is considered a key professional competence of a modern specialist, and it is noted that its absence significantly reduces the effectiveness of professional activity, especially in conditions of turbulence and constant modernisation of social and technological processes. Innovative competence reflects an individual's readiness and ability to adapt, generate and implement changes, which is a prerequisite for successful and sustainable functionality in a dynamic professional environment.

The relevance of the study is confirmed by rapid technological progress and the need to overcome the identified gap between the high theoretical knowledge of students and their insufficient psychological readiness for innovative risk and practical entrepreneurial implementation of ideas, which was established through empirical surveys. To achieve the research objective, systematic and comprehensive analyses of scientific and pedagogical literature on the essence and structure of innovative competence were used.

Summarising the results of the analysis, the authors concluded that the teaching staff actively uses modern pedagogical technologies, and the knowledge control system motivates students to be creative and original, rather than just reproducing information.

Key words: innovative competence, higher education institutions, pedagogical conditions, project-based learning, entrepreneurship, planning.

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1. Introduction

The development of innovative competence is an important component of future professional management activities. As the authors of the study *(Smyrnova, Akimov, 2021)* note: 'For effective management of changes in various spheres of public life, employees must have a

special level of training that allows them to master new knowledge, skills, abilities and issues of quality education.' The educational environment should be one where students not only acquire knowledge, but also develop the ability to generate new ideas, think critically, solve atypical problems and successfully implement innovations in professional practice. This requires higher education institutions to modernise their curricula by integrating interdisciplinary projects, problem-based learning and practical interaction with business and innovation ecosystems. Thus, the development of this competence is a key lever for transforming higher education institutions (hereinafter referred to as HEIs) into active centres of innovation that prepare leaders of change capable of overcoming the challenges of rapid technological progress and ensuring the sustainable development of society.

An analysis of scientific research *(Mashkina, 2018)* leads to the conclusion that in the process of obtaining higher education in today's conditions, it is important to develop a system of management skills and analytical competence in future specialists. This involves acquiring the ability to correctly diagnose and deeply analyse complex practical problems. In particular, applicants must master the methodology of strategic thinking, which allows them not only to identify the causes of problems, but also to develop, justify and effectively implement optimal strategies for solving them in a dynamic professional environment. This process directly contributes to increasing their professional subjectivity and competitiveness in the labour market.

An analysis of scientific approaches to identifying the factors that shape innovative competence demonstrates their complexity, covering organisational and environmental as well as individual and personal levels. In particular, in her study, O. Yevdokimova focuses on external conditions and the managerial readiness of the institution (availability of resources, atmosphere of support for change, leadership position of the manager, structural readiness). In contrast, L Burchak focuses on internal factors (individual readiness, motivational and value attitudes, adaptability, experience and self-reflection skills) *(Burchak, 2023).* In summary, it can be argued that the effective formation of innovative competence requires a synthesis of managerial support and the creation of a favourable environment with the active development of internal motivation and reflective skills of the subject.

The aim of our study is to examine the pedagogical conditions under which the development of innovative competence of higher education applicants becomes effective as an important component of future professional management activities.

2. Principles of forming innovative competence of applicants in higher education institutions

The key principles for developing innovative competence in higher education students are fundamental, strategic guidelines that determine the overall course and methodology of the educational process and professional training. They guide the activities of higher education institutions towards effectively developing students' capacity for innovation.

An analysis of scientific research *(Kononenko, Smyrnova, 2021; Mashkina, 2018)* allows us to conclude that the principles of developing the innovative competence of HEIs students are a system of basic, defining ideas and rules that serve as strategic guidelines and a tactical basis for organising the educational process, aimed at creating a favourable innovative educational environment, ensuring high-quality professional training of students, and effectively developing their readiness and ability to generate, implement, and commercialise new ideas, technologies, and solutions in their future professional activities.

We interpret innovative competence as an integral characteristic of personality that encompasses a set of key competencies, including research, strategic, creative, communicative, informational, economic, and legal competencies. Successful innovative activity requires an individual not only to effectively search for and analyse information using various methods of cognition, but also to have a deep understanding of the structure of the activity and the ability to organise it rationally. In addition, it is essential to predict the impact of the results of innovative work on both the environment and the individual as a whole.

Based on the analysis of scientific sources and pedagogical observations, we have established that, in addition to general principles, the application of a number of specific principles that determine the quality and direction of the educational process is important for the successful formation of innovative competence:

The principle of creativity and exploration, which requires a focus on developing applicants' creative thinking, initiative, and critical analysis. It involves constantly encouraging applicants to generate unconventional solutions and be prepared to take constructive risks in search of new ideas and approaches.

The principle of interdisciplinarity. Modern innovations rarely arise within a single discipline. The principle of interdisciplinarity consists in integrating knowledge from various fields (technical, economic, humanities, design) to form a systematic vision of problems, understanding of context, and identification of hidden innovative opportunities in applicants.

The principle of practical orientation. Competence can be developed only through action. This principle requires the learning process to be as close as possible to real production, scientific and market tasks. This is achieved through project-based learning, practical case studies, internships and close cooperation with business and innovation ecosystems.

The principle of subjectivity and self-development. Students should not be objects of learning, but its active subjects. This principle implies that students independently plan the trajectory of their innovative development, take responsibility for their learning outcomes, and teachers act as mentors and facilitators.

5. The principle of consistency and integrity ensures the coherence of all components of professional training: the content of educational programmes, forms and methods of teaching, and assessment criteria. Everything must be subordinated to a single goal — the holistic formation of innovative competence as a unity of knowledge, skills and personal qualities.

6. The principle of entrepreneurship development. Innovation has value when it can be implemented. The principle of entrepreneurship is aimed at developing the ability of students to turn ideas into action (commercialise them). It includes an understanding of business processes, the basics of finance, marketing, and the ability to assess the commercial value of innovative projects.

3. Pedagogical conditions for the effective development of innovative competence among higher education applicants

An analysis of scientific literature confirms that the issues of pedagogical conditions for the organisation and implementation of the educational process have been thoroughly explored in the works of such leading scholars as V. Bespal'ko, O. Bespal'ko, G. Golubova, S. Goncharenko, O. Dubasenyuk, V. Manko, O. Pechota, and others. Special attention should be paid to research on the pedagogical conditions for preparing future specialists for innovative activity, which is reflected in the scientific works of I. Gavrysh, I. Dychkivska, S. Zagorodniy, I. Konovalchuk, L. Kozak, G. Syrotenko, and others. Over the past year, Ukrainian science has

produced a number of works related to the innovativeness of future specialists, including dissertation research by V. P. Chudakova, Yu. O. Lukomska, N. P. Tubaltseva, O. M. Kovalchuk, V. V. Yagodnikova and others. Despite the significant theoretical basis and high value of these studies, it is worth noting the lack of a unified approach to the systematisation of pedagogical conditions for the development of innovative competence as a component of the future managerial activities of applicants. Researchers consider competencies through the prism of various categories, in particular the potential of the educational process; the target aspects of didactic activity; the availability of a purposefully created educational environment (as a necessary prerequisite); and a set of factors of an organisational, pedagogical or methodological nature.

Such terminological variability necessitates further scientific research to clarify the essence and structure of pedagogical conditions adequate for the formation of innovative competence.

Analysis of scientific research and our own pedagogical experience has allowed us to identify the pedagogical conditions for the effective development of innovative competence in higher education institutions:

1. Creation of an innovation-oriented educational environment. This involves creating an atmosphere of creative freedom, cooperation, stimulating research and readiness for constructive mistakes. The educational environment should encourage risk-taking, critical thinking, and open dialogue between students, teachers, and business representatives.

2. Ensuring interdisciplinary and project-based learning. This involves integrating knowledge from different fields and actively using project-based activities (e.g. start-up projects, case studies, hackathons). This allows students to solve real-world complex problems, turning ideas into practical solutions.

3. Introduction of active and interactive teaching methods (problem-oriented approach). Use of methods that require students to independently search for information, formulate hypotheses and evaluate decisions (e.g., simulations, business games, training sessions, design thinking). This transforms the learner from a passive consumer of information into a co-author of the learning process.

4. Organisation of reflective and evaluative activities. Inclusion of mechanisms for self-analysis, self-assessment and feedback on innovative activities. Students should constantly evaluate the effectiveness of their approaches, be aware of the strengths and weaknesses of their innovative ideas, and adjust their own development trajectory.

5. Ensuring the integration of the educational process with innovative infrastructure (business and science). Establishing close cooperation between higher education institutions and enterprises, science parks, incubators and accelerators. This gives students the opportunity to test their innovative ideas in real conditions, receive mentoring support and develop entrepreneurial skills.

The authors surveyed 98 students in their second and third years of the first (basic) level of full higher education to determine how higher education students view the development of their innovative competence within HEIs.

The first question asked them to assess their own innovative competence and its development during the learning process. They had to rate the categories on a Likert scale: 1 – Strongly disagree to 5 – Strongly agree. The average results of the survey are presented below:

– I have sufficient knowledge of innovative processes and technologies in my field – 4.5.

– I feel that I have the skills to generate new ideas and critically analyse them – 3.85.

– I am ready to participate in risky but potentially groundbreaking educational or professional projects – 3.25.

– Studying at a higher education institution stimulates my creativity and search for non-standard solutions – 4.15.

– I am able to work in interdisciplinary teams to develop innovations – 4.25.

– I understand how to turn an innovative idea into a commercially successful project (entrepreneurial competence) – 4.0.

The average survey results (on a 5-point scale) demonstrate a high overall level of undergraduates of applicants' innovative competence, but reveal a significant imbalance between theoretical training, team skills and risk-taking/entrepreneurial implementation. In particular, the category 'Knowledge of innovative processes' stands out. It has the highest score, which indicates that students rate their theoretical knowledge very highly. This may be the result of high-quality teaching of theoretical courses related to innovation and technology. The following categories, 'Learning at HEIs stimulates creativity' and 'Interdisciplinary work,' have high ratings, indicating that the educational process truly encourages creative exploration and effectively develops teamwork skills, which are important for modern innovation activities.

The next stage of the study was aimed at assessing the management of the process of forming innovative competence. Students were asked to assign scores from 1 – Strongly disagree to 5 – Strongly agree. The results of the average scores are shown below:

The curricula of my speciality are clearly focused on developing innovative competence – 4.0.

The higher education institution has created a favourable environment (laboratories, access to technologies) for innovative activity – 4.15.

Teachers encourage the use of active and project-based learning methods – 4.0.

The management of the higher education institution ensures effective cooperation with innovative enterprises and start-ups – 3.85.

The knowledge assessment system takes into account the innovative approach and originality of the proposed solutions – 4.0.

I feel that the HEI administration considers innovative competence to be a priority learning goal – 3.85.

The average values of the survey results (on a 5-point scale) show that higher education students generally evaluate the efforts of higher education institutions positively, especially in terms of teaching and assessment methods. These indicators also show that at the administrative level, the formation of innovative competence is quite effective: teachers encourage active/project-based methods (4.0) and the assessment system takes into account an innovative approach (4.0). In other words, the teaching staff actively uses modern pedagogical technologies, and the knowledge assessment system motivates students to be creative and original, rather than just reproducing information.

4. Conclusions

Developing innovative competence in higher education students is a relevant and priority goal in the modern educational process. This competence is an important factor in the competitiveness of graduates and a driving force for the country's economic development. It is important to consider the systematic integration of innovative elements at all levels: from revising curricula to creating a favourable innovative environment. The key pedagogical conditions are project-oriented learning, interdisciplinarity, and close cooperation between higher education institutions and stakeholders. It has been established that only a comprehensive approach combining theoretical training with practical risk-taking and entrepreneurship will

ensure the training of specialists capable of generating and implementing breakthrough ideas. We see prospects for further research in the substantiation of specific management mechanisms for integrating the innovation component into educational programmes and increasing the effectiveness of external cooperation.

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