



APPLICATION OF CASE TECHNOLOGY FOR THE DEVELOPMENT OF PROFESSIONAL COMPETENCE OF PEDAGOGICAL STAFF OF PROFESSIONAL COLLEGES

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Abstract

Relevance of the study is conditioned by the strategic need to modernize the system of professional development of pedagogical staff of professional colleges amidst transformational societal, social, and military challenges. This determines the necessity of purposefully forming professional flexibility, adaptability, and the ability to make substantiated, non-standard decisions in lecturers by implementing innovative interactive pedagogical technologies, particularly case technology.

Objective: to substantiate the theoretical and methodological foundations of applying case technology for the purposeful and complex formation of key components of the professional competence of pedagogical staff of professional colleges.

Methods: systemic analysis and synthesis of scientific sources – to substantiate theoretical provisions; the method of pedagogical modeling – to construct a mechanism of the synergistic influence of case technology on the structure of professional competence; as well as generalization and systematization – to determine and sequentially describe the steps of creating a high-quality educational case.

Results: it has been proven that case technology ensures a holistic synergistic influence on five mutually conditioned components of lecturers' professional competence: motivational-value, cognitive-informational, behavioral-activity, personal-reflective, and emotional-volitional. Five steps of the algorithm for developing an educational case, which ensure its didactic effectiveness, have been refined and structured (defining the goal, collecting material, formulating the problem, developing analytical questions, designing the assessment procedure), and the use of a methodological map as a tool for effective management of group dynamics at key stages of work on the case has been substantiated.

Conclusions: it has been determined that the systemic application of case technology is one of the most effective tools for developing the professional competence of lecturers of professional colleges; it has been proven that its effectiveness is based on the simulation modeling of real, multi-factor situations; a holistic and complex influence of case technology on the five-component structure of competence has been established; the creation of educational cases through a clear algorithm has been methodologically substantiated; it has been clarified that successful implementation depends on the quality of content and the effective organization of group work managed by a lecturer-moderator using a methodological map.

Keywords: *case technology, professional competence, college lecturers, case creation algorithm, methodological map of case work, professional development.*

Introduction. The development of the system of professional pre-higher education in Ukraine, amidst transformations and acute social and military challenges, requires the constant modernization of approaches to the professional development of pedagogical staff. This necessitates forming in the lecturer the ability for rapid adaptation, operative analysis of complex situations, critical thinking, and the adoption of non-standard yet effective decisions. Consequently, the professional competence of an educator extends beyond the sum of knowledge and skills, integrating into a quality that determines their readiness for effective activity in a volatile professional environment. The solution to this strategic task lies in the purposeful implementation of innovative interactive pedagogical technologies into the system of professional development for lecturers. One of the most effective technologies in this context is recognized to be case-study technology, which involves the use of educational situations (cases) for deep, multi-aspect analysis and the development of practical solutions.

Sources. The extent to which the problem of applying case technology in education has been studied is significant, yet it contains a number of unresolved aspects that necessitate further scientific research. The methodological foundations and substantiation of the case method for developing critical thinking and decision-making abilities are elucidated in the works of P. Luzan, N. Hordiienko, T. Pashchenko, and others. Researchers emphasize that the case method ensures an effective combination of theoretical knowledge with practical skills. The role of case technology as an interactive tool in the modernization of professional training is revealed by M. Artiushyna, L. Romanov, H. Romanova, and others. The particular relevance of the method under conditions of crisis challenges (pandemic, military) is argued in the monograph by O. Titova and a collective of authors (2023), who view it as a means of forming the resilience of educators.

Despite the significant body of work, insufficient attention has been paid to the systematic description of the synergistic mechanism of case technology's influence on the structure of professional competence of professional college lecturers; furthermore, there is no unified, detailed methodology for developing educational cases integrated directly

into the qualification enhancement process. The identification of these unresolved parts of the general problem determines the aim of this article.

The purpose of the article: to substantiate the theoretical and methodological foundations of applying case technology for the formation of professional competence of pedagogical staff of professional colleges.

Methods. In the process of the study, a complex of methods was employed to ensure the achievement of the set goal. Systemic analysis of scientific sources allowed for the theoretical substantiation of the role of case technology in the development of components of professional competence of professional college lecturers. The method of pedagogical modeling was applied to construct the mechanism of case technology's influence on each component of competence. Generalization and systematization were used to determine and sequentially describe the steps for creating a high-quality educational case that ensures its didactic effectiveness, as well as to develop a template for a methodological map for working on a case.

Results and discussion. Modern conditions (martial law, the post-war recovery period of Ukraine) and the continuity of changes in the sphere of education impose heightened demands on the professional training of an educator oriented towards innovative activity. It has been proven that in the structure of professional competence of pedagogical staff of a professional pre-higher education institution, it is worth considering five mutually conditioned components (Titova et al., 2023, p. 69): motivational-value, cognitive-informational, behavioral-activity, personal-reflective, and emotional-volitional. Furthermore, based on the results of structural-functional analysis of lecturers' professional activity, it is proposed to design content and select methods, forms, and technologies for the development of the researched personality trait in the context of educators performing educational, upbringing, methodological, subject-specific, information-digital, ecological, inclusive, research, and other activities.

Let us examine the key components of the structure. The motivational-value component encompasses the system of professional motives, value orientations, and a stable need for self-improvement and the achievement of high results in pedagogical activity. The cognitive-informational component includes specialized, psychological-

pedagogical, and methodological knowledge, as well as the ability to work with information resources necessary for the effective solution of professional tasks. The behavioral-activity component reflects the capacity for the practical implementation of pedagogical tasks: planning, organizing the educational process, utilizing educational technologies, and effective interaction. The personal-reflective component determines the ability for self-analysis, critical evaluation of one's own activity, correction of pedagogical actions, and planning of professional self-development. The emotional-

volitional component includes the capacity for self-control, emotional stability, stress management, and volitional efforts to achieve set goals.

Case technology is an interactive tool focused on the analysis of real or simulated professional situations. Due to its simulation nature and integrative character, case technology ensures a powerful synergistic influence on the development of all five aforementioned components of professional competence simultaneously, and also allows for the implementation of the andragogical approach in the system of continuing professional education (Table 1).

Table 1

Influence of Case Technology on the Development of Professional Competence of Professional College Lecturers

Competence Component	Essence of Influence
Motivational-value	Solving real professional problems stimulates interest in self-development, increases the significance of professional activity, and forms stable professional values and motivation to search for innovative solutions.
Cognitive-informational	Case analysis requires updating, searching for, systematizing, and practically applying knowledge from several subject areas, transforming them into an actionable information base for decision-making.
Behavioral-activity	The process of developing solution options, substantiating the choice of the optimal scenario, and planning its implementation directly forms design skills and the technological flexibility necessary for practical activity.
Personal-reflective	The mandatory stage of discussing case results stimulates self-criticism and strategy analysis. Case technology develops flexibility and dialecticity of thinking, increasing the level of awareness of educational problems.
Emotional-volitional	Working under conditions of uncertainty, searching for a solution, and defending it in a group trains emotional stability, self-control, and volitional qualities necessary for overcoming professional difficulties and managing conflicts.

Source: created by the author

Primarily, working with cases influences the **motivational-value** component of professional competence, as the lecturer realizes the social and ethical responsibility for the decisions made and immerses themselves in creative activity that requires non-standard, creative approaches.

Simultaneously, a powerful effect is exerted on the cognitive-informational component. Working with a case is paramount for the development of critical thinking and analytical skills. It requires the lecturer to independently process a large array of unordered information, determine its relevance, and conduct a multifaceted analysis of the situation (situational, problem-based, causal). Successfully solving a case requires the updating and integration of knowledge from related fields (pedagogy, psychology, regulatory framework), which

transforms theoretical knowledge into an operative tool of thinking.

The application of case technology is inextricably linked to the development of the behavioral-activity component of the educator's competence. The culmination of work on a case is the development of an optimal action plan, which corresponds to the essence of pedagogical design. Lecturers acquire the skills to model several alternative strategies, forecast their short-term and long-term consequences, taking into account the college's resources and students' needs. Furthermore, cases modeled on crisis situations train the adaptability of pedagogical design and the ability to develop flexible solutions. Each successfully resolved case becomes a ready-made behavioral scenario – a factual technological map for a similar

real-life situation. The implementation of case technology in group work also develops the ability to substantiate one's position (argumentation) and make a joint consensus decision, which is an important component of the activity.

The influence on the personal-reflective component of competence is significant. Work on a case always concludes with a cycle of reflection, where the educator compares their proposed solution with the decisions of colleagues and professional standards. This forms a habit of constant critical self-analysis and increases professional responsibility for consequences. In their study, W. Y. Liu and P. Chen (2019) state that the use of case technology in education is key for forming reflective skills, helping to bridge the gap between educational theory and practice.

Finally, the analysis of crisis and conflict cases directly develops the emotional-volitional component. Situations requiring decision-making under conditions of high uncertainty and subsequent substantiation contribute to the development of emotional stability and the capacity for self-control, which are critically important for effective functioning in stressful conditions and successful conflict management.

The effectiveness of this complex influence directly depends on the quality of the developed educational material. The algorithm for creating an effective educational case is a holistic methodological process that requires adherence to clear logic, reflected in the five key steps presented in Table 2.

Table 2

Algorithm for Developing an Effective Educational Case

No.	Steps	Developer's Activity	Key Requirements
1	Defining the goal and expected results	Clear definition of knowledge, skills, and specific competencies to be formed. Setting an operational goal.	The goal must be operational (e.g., "ability to develop a system of criteria for assessing a student's soft skills"). This requires a high level of synthesis and trains pedagogical design from goals to the final result.
2	Collecting material and structuring	Ensuring the reliability and realism of the material. Collecting facts, documents, and emotional context.	Reliability and realism of material gathered from actual practice. The case should contain not only dry facts but also the context of the situation: emotional dynamics, participants' positions.
3	Formulating the problem	Isolating an open, realistic, and inciting problem that lies at the core of the situation's contradiction.	The problem must be open (having no obvious answer), realistic, and inciting. This requires pedagogical modeling skills to reveal the true contradiction of the situation.
4	Developing analytical questions	Constructing a logical trajectory of thinking for analysis, development, and substantiation of the solution.	Questions build the lecturer's thinking trajectory: from understanding the situational context and analyzing causal links to developing and substantiating the optimal solution, serving as a "roadmap" for reflection.
5	Designing the assessment procedure	Determining transparent criteria for assessing both the final decision and the process of achieving it.	Assessment criteria must be transparent and cover not only the final decision (design result) but also the process of achieving it: depth of analysis (gnostic), logic of argumentation (communicative), and capacity for self-assessment (reflective).

Source: created by the author

The successful implementation of case technology is determined by two key factors: the quality of the content of the educational case itself and the effective organization of group work, in which the lecturer-moderator plays a vital role. Their functional purpose lies not in transmitting ready-

made knowledge, but in managing the educational process, stimulating critical discussion, and directing participants toward independently formulating conclusions. Optimal effectiveness of work on a case is achieved provided that the four key stages presented in Table 3 are strictly observed.

Template of the Methodological Map for Case Work

Case Solution Stages	Moderator's Activity	Education Learners' Activity
I. Introductory (Organizational)	Introduces the case, clearly formulates the learning task, rules of work, and assessment criteria. Creates an atmosphere of immersion in the problem.	Immerse themselves in the context of the situation, carefully study the input information and materials, and clarify organizational points.
II. Analytical (Group Work)	Organizes work in small groups (15–40 min.). Observes, provides assistance in case of an "impasse." Asks clarifying questions.	Discuss the case, analyze information (gnostic component), identify key problems, search for alternative solutions (design component), and develop a joint position.
III. Presentation (Public Defense)	Ensures the schedule of speeches. Organizes a Q&A session, encourages constructive criticism and discussion.	Publicly present their solution variant, argue for the chosen strategy (communicative-organizational component), answer audience questions, and oppose other groups.
IV. Final (Reflective)	Generalizes conclusions, summarizes the discussion. Provides feedback, reveals "author's" solutions. Helps to realize acquired competencies.	Compare their own solution with colleagues' decisions and the "author's" variant. Conduct self-analysis (reflective component): assess the effectiveness of their work and personal contribution.

Source: created by the author

The role of the lecturer-moderator is key and regulatory at all stages. At the introductory stage, they create the necessary emotional and organizational context so that participants feel part of the described situation. The longest part of the work is the analytical stage, where the moderator manages group dynamics without giving ready-made solutions, but using clarifying questions to stimulate critical thinking and joint searching. At the presentation stage, the moderator ensures the constructiveness of the discussion and adherence to the time limit. Finally, the concluding stage is key for reflection: the moderator generalizes conclusions, helps identify the strengths and weaknesses of approaches, and provides feedback, allowing participants to realize the acquired competencies and integrate the experience into professional practice.

Conclusions. The application of case technology is one of the most effective tools for developing the professional competence of professional college lecturers. Its effectiveness is based on the simulation modeling of real, multi-factor situations, allowing educators to gain experience in making substantiated decisions without the risk of negative consequences in the real educational process.

It has been established that case technology ensures a holistic and complex influence on the five-component structure of a lecturer's professional

competence, specifically stimulating the development of: the motivational-value component (through increasing the significance of the activity and its attractiveness); the cognitive-informational component (through critical analysis of multi-factor information); the behavioral-activity component (through the formation of design skills and modeling of alternative strategies); the personal-reflective component (through self-analysis and awareness of professional responsibility); and the emotional-volitional component (through training stability and self-control under conditions of uncertainty).

The methodologically substantiated creation of educational cases implies a clear algorithm of five key steps (defining the goal, collecting material, formulating the problem, developing analytical questions, designing the assessment procedure), each of which is a necessary condition for ensuring the high quality of the simulation and the maximum educational effect.

Successful implementation of case technology is determined by two key factors: the quality of the content of the educational case itself and the effective organization of group work, in which the key role belongs to the lecturer-moderator. Their functional purpose lies in managing the educational process, stimulating critical discussion, and directing participants toward independently formulating conclusions. Optimal work effectiveness

is achieved provided that the main stages presented in the methodological map are strictly observed, which ensures the full sequence of passing through all phases, from introductory familiarization and analytical research to public defense and final reflection, and guarantees high-quality management of group dynamics and maximum use of simulation modeling to transform educators' theoretical knowledge into practical, flexible skills.

Thus, the systemic implementation of case technology in the continuous professional

development system is strategically important for ensuring the resilience, mobility, and adaptability of pedagogical staff of professional pre-higher education amidst modern challenges.

Prospects for further scientific research are seen in the development of a typology of cases adapted to the needs of various specialties of professional colleges (technical, economic, humanitarian) and to the needs of the post-war recovery of the educational system.

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ЗАСТОСУВАННЯ КЕЙС-ТЕХНОЛОГІЇ ДЛЯ РОЗВИТКУ ПРОФЕСІЙНОЇ КОМПЕТЕНТНОСТІ ПЕДАГОГІЧНИХ ПРАЦІВНИКІВ ФАХОВИХ КОЛЕДЖІВ

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Реферат:

Актуальність дослідження зумовлена стратегічною потребою модернізації системи професійного розвитку педагогічних працівників фахових коледжів в умовах трансформаційних суспільних, соціальних та військових викликів. Це визначає необхідність цілеспрямованого формування у викладачів професійної гнучкості, адаптивності та здатності до прийняття обґрунтованих, нестандартних рішень шляхом впровадження інноваційних інтерактивних педагогічних технологій, зокрема кейс-технології.

Мета: обґрунтувати теоретико-методичні засади застосування кейс-технології для цілеспрямованого та комплексного формування ключових компонентів професійної компетентності педагогічних працівників фахових коледжів.

Методи: системний аналіз і синтез наукових джерел – для обґрунтування теоретичних положень; метод педагогічного моделювання – для побудови механізму синергетичного впливу кейс-технології на структуру професійної компетентності; а також узагальнення та систематизація – для визначення й послідовного опису кроків створення якісного навчального кейсу.

Результати: доведено, що кейс-технологія забезпечує цілісний синергетичний вплив на п'ять взаємозумовлених компонентів професійної компетентності викладачів: мотиваційно-ціннісний, когнітивно-інформаційний, поведінково-діяльнісний, особистісно-рефлексивний та емоційно-вольовий. Уточнено й структуровано п'ять кроків алгоритму розроблення навчального кейсу, що забезпечують його дидактичну результативність (визначення мети, збирання матеріалу, формулювання проблеми, розроблення аналітичних запитань, проектування процедури оцінювання), а також обґрунтовано використання методичної карти як інструменту ефективного управління груповою динамікою на ключових етапах роботи над кейсом.

Висновки: визначено, що системне застосування кейс-технології є одним з найбільш ефективних інструментів для розвитку професійної компетентності викладачів фахових коледжів; доведено, що її ефективність базується на імітаційному моделюванні реальних, багатофакторних ситуацій; встановлено цілісний і комплексний вплив кейс-технології на п'ятикомпонентну структуру компетентності; методично обґрунтовано створення навчальних кейсів через чіткий алгоритм; з'ясовано, що успішна реалізація залежить від якості змістового наповнення та ефективної організації групової роботи, керованої викладачем-модератором за допомогою методичної карти.

Ключові слова: кейс-технологія, професійна компетентність, викладачі коледжів, алгоритм створення кейсів, методична карта роботи над кейсом, професійний розвиток.

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