

TECHNOLOGICAL FEATURES OF IMPLEMENTING INNOVATIONS IN INSTITUTIONS OF HIGHER EDUCATION

CARACTERÍSTICAS TECNOLÓGICAS DA IMPLEMENTAÇÃO DE INOVAÇÕES EM INSTITUIÇÕES DE ENSINO SUPERIOR

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ABSTRACT

The article, based on the international experience and the experience of innovative activity of Ukrainian universities, analyzes not only the conceptual foundations and general innovative trends of domestic higher education, but also the peculiarities and problems of development and implementation of innovations in educational activities technologies in the process of professionalization. This approach largely determined the structure of the book, in which the chapters devoted to educational innovation strategies are correlated with the practice of implementing educational innovations in the system of professional training of future specialists.

Keywords: Innovative activity. Education. Educational process. Professional training.

RESUMO

O artigo, com base na experiência internacional e na experiência de atividade inovadora das universidades ucranianas, analisa não apenas os fundamentos conceituais e as tendências inovadoras gerais do ensino superior nacional, mas também as peculiaridades e problemas de desenvolvimento e implementação de inovações em atividades educacionais tecnologias no processo de profissionalização. Essa abordagem determinou em grande parte a estrutura do livro, em que os capítulos dedicados às estratégias de inovação educacional são correlacionados com a prática de implementação de inovações educacionais no sistema de formação profissional de futuros especialistas.

Palavras-chave: Atividade inovadora. Educação. Processo educacional. Formação profissional.

Introduction

Increasing the competitiveness of any country in the modern world involves a transition from the extensive use of human resources with a low level of basic professional training to the intensive use of a highly qualified workforce adapted to the conditions of a socially oriented, innovative economy. The construction of such an economy requires the formation in the country of an integral system of effective transformation of modern knowledge into new technologies, products and services that find their real consumers on national or global markets, that is, it requires the development of an effective national innovation system. Today, Ukraine has developed a corresponding Concept for the development of the national innovation system, which provides for a set of legislative, structural and functional institutions involved in process of creation and application of scientific knowledge and technologies and determine legal, economic, organizational and social conditions to ensure the innovation process. Its purpose is to create conditions for increasing labor productivity and competitiveness of domestic producers through technological modernization of the national economy, increasing the level of their innovative activity, production of innovative products, application of advanced technologies, methods of organization and management of economic activity to improve human well-being and ensure the stability of economic growth. The realization of this goal involves the effective functioning and harmonious

development of several main subsystems (state regulation, knowledge generation, innovation infrastructure, production) that determine the effectiveness of the national innovation system. One of the most important subsystems of the national innovation system is the subsystem of higher education, the main purpose of which is the formation of a competitive, highly qualified specialist with professional and life competencies that meet the needs of the modern development of the national economy.

In this regard, the higher school faces the task of creating conditions for the training of innovatively oriented specialists who would be able to ensure in the future the accelerated development of high-tech industries with high export potential, which will allow maintaining a high pace development of the national economy. The importance and urgent need to solve these problems forces higher educational institutions to actively search effective forms and methods of training modern specialists. This process is not easy, because it requires new forms of organization and functioning of higher educational institutions, increasing their institutional flexibility, strengthening the adaptive potential of educational programs, teaching methods, deepening the scientific component in the educational process. In the organizational context, all of this leads to a change in the "formulations of traditional disciplines in response to the emergence of new fields of science and new technologies, a departure from classical approaches based on specific disciplines and a transition to problem-oriented methods of knowledge formation, as well as the blurring of the distinction between fundamental and applied research.

Unfortunately, today in Ukraine, the innovativeness of higher education has not yet achieved a sufficient level of efficiency, which is the result of a certain inconsistency and low efficiency of the state educational, scientific and innovative policy.

As a result, the socio-economic development of the state takes place without proper intellectual support. Ukrainian higher education is increasingly leaning towards training users, rather than generators of new knowledge, new technologies,

specialists to meet the needs of innovative development state. The quality of domestic education, educational standards and norms do not always meet the needs, the existing world standards, which are put forward for the content of education, for the training of pedagogical personnel, and their educational and methodological support. Innovative work of specialists, offering certain progressive changes in the education system, often do not find implementation due to lack of funds, inconsistency of actions of management structures, a rational system of selection, testing and implementation of innovations in the educational field, proper monitoring of the obtained results, etc. An alarming indicator of the state of Ukrainian education is the fact that none of the Ukrainian universities is included in the ranking of the five hundred best higher educational institutions in the world. The old landscape of higher education remains unchanged, which does not correspond to the general program of innovative transformations and requires immediate diversification of the higher education system.

Dependence in obtaining knowledge from the teacher inhibits the development of subconscious thinking skills of a higher order of intercognitive skills, which are valued in the conditions of the modern economy. Students do not actively interact with the learning content and, thus, do not participate in the processes of selection, assessment, control and formulation of problematic tasks. They do not have much opportunity to learn by trial and error. Such dependence in obtaining knowledge from the teacher inhibits the development of problem-solving skills, suppresses initiative and disrupts the self-education skills necessary for solving various problems and tasks. In modern times, approaches to the theory and practice of education and upbringing are changing noticeably under the influence of the processes of globalization, integration, computerization, the introduction and use of the Internet, media, distance, student-centered learning. All this leads to the use of innovative educational technologies. Thus, the relevance of the chosen topic is justified.

The Ukrainian education system has already come close to introducing innovative technologies and methods into the educational process on a large scale,

one of which is the case method. It seems that the contradictions between the urgent need to introduce innovative methods, one of which is the case method, into the educational process at the university and the lack of theoretical work on the use of this method in relation to the humanitarian sphere in general and the economy in particular, as well as the lack of theoretical justification and description of the process of creating an educational and methodological case, a component of which is its algorithm, which integrates the content side of this process and its psychological and pedagogical aspect within the framework of a personality-oriented approach. The above contradictions led to the formulation of the problem, the essence of which lies in the need for theoretical substantiation and practical integration of innovative technologies, in particular the case method, into the educational process.

Literature review

The problem of using personally oriented learning innovative technologies in higher education is reflected in these works: (POLAT, 2021), (DERKACH, 2010), (HARRIS, S., SUTTON, R., 1986), (DOBBINS, M., KNILL, C., 2017), (BORDAS-BELTRÁN, J. L., ARRAS-VOTA A. M., 2018).

A group of modern domestic scientists focus on the following real processes of implementing innovative technologies approach in practice: (BROLPITO, A, 2018), (KHUANWANGA, W., LAWTHONGA N., SUWANMONKHA S., 2016), (KOLODZIEJCZAK, B., ROSZAK M., 2017), (LIMBERG, L., OLOF S., SANNA T., 2012).

Therefore, the basis of the introduction of a personally oriented approach into modern educational practice is the use of modern personally oriented technologies. The indicated learning innovative technologies consist of personally oriented situations in which a person must find a way out, adapt them to his interests, choose a certain activity strategy. To solve such personally oriented tasks, creative searches and an active life position are necessary.

Theoretical: analysis of pedagogical, philosophical, sociological, economic literature, legal acts of the European Union related to the research topic; analysis of the management system for the organization of additional education, modeling of the pedagogical strategy for managing social innovations in the network interaction of educational organizations.

Empirical: reconstruction and analysis of pedagogical experience, pedagogical experiment, observation, survey methods (questionnaire, conversation). Methods of statistical processing of the results of experimental work.

Materials

In the process of performing this work, the following research methods were used: analysis of philosophical, psychological, methodological literature and works on the problem of distance learning. In recent years, a method of active learning - a case study - has become widespread for improving skills and gaining experience, which consists in accumulating and mastering knowledge during the transition from passive to active, from simple to complex situations, from individual to integrated.

The case-study method or the method of specific situations (from the English case - case, situation) is a method of active problem-situational analysis based on learning by solving specific problems - situations (solving cases). The method of concrete situations refers to non-play simulation active learning methods. Case technology is based on a combination of the following didactic principles:

An individual approach to each student, taking into account the peculiarities of cognitive styles and needs, in the process of discussion and reflection, everyone will use their own capabilities, complement and develop group judgment.

Variability, this method assumes the ability to rely on a variety of material and ways of processing it, which provides freedom in learning and the ability to choose.

Providing students with a wide range of visual materials that relate to the tasks solved in cases, this becomes very important due to the insufficient amount of

materials, or with a large amount of information about the subject of study, but the inability to use and analyze and draw conclusions.

Pragmatism in teaching, because the large theoretical material provided for teaching is not always well logically structured and thereby complicates its assimilation, moreover, the important relationship between the existing information for assimilation and the so-called "water" is not always observed, and the student can rarely independently isolate the main thing (LIMBERG, L., OLOF S., SANNA T., 2012). When working with cases, the student's perception is primarily aimed at finding information that will solve the problem, answer questions.

The immediate goal of the case-study method is to analyze the situation - a case arising in a specific state of affairs - through the joint efforts of a group of students and to develop a practical solution; the end of the process - the evaluation of the proposed algorithms and the selection of the best one in the context of the problem posed. There are a wide variety of cases, but they all contribute to the following:

- activate the attention of students, since they turn from a passive listener to a lecture into active participants in solving the problems, tasks, questions;
- increase the independent activity of students, because when preparing for a lecture, they use additional literature in addition to the synopsis;
- instill the skills of scientific discussion, or rather argumentation, beliefs;
- increase interest in the topic being studied.

The case-study method is most widely used in teaching economics and business sciences. It was first applied in the educational process at Harvard Law School in 1870; the introduction of this method at Harvard Business School began in 1920. The first case studies were published in 1925 in Harvard University Business Reports. Currently, two classic case-study schools coexist - Harvard (American) and Manchester (European). Within the framework of the first school, the purpose of the method is to teach the search for the only correct solution, the second presupposes a multivariate solution to the problem. American cases are

larger in volume (20-25 pages of text, plus 8-10 pages of illustrations), European cases are 1.5-2 times shorter.

The leader in the collection and distribution of cases is The Case Clearing House of Great Britain and Ireland, created in 1973 at the initiative of 22 higher educational institutions; since 1991 it has been called the European Case Clearing House (ECCH). ECCH is a non-profit organization that is associated with organizations providing and using case studies located in various countries of the world. ECCH currently includes about 340 organizations, including The Harvard Business School Publishing, the Institute for Management Development (IMB) in Lausanne, Switzerland, INSEAD, in Fontainebleau in France, IESE in Barcelona in Spain, London Business School in England as well as the Cranfield School of Management. Each of these organizations has its own collection of cases, which ECCH has the right to distribute.

Today, the case-study method has won leading positions in teaching, is actively used in foreign business education practice and is considered one of the most effective ways of teaching students the skills of solving typical problems. Thus, the Harvard Business School devotes almost 90% of the study time to the analysis of specific cases, keeping the priority value of the case-study method in teaching business. Harvard Situational Learning is an intensive training course using video, computer and software.

The average student at Harvard or any other business school "works through" hundreds of cases during his studies. Each year, Harvard publishes hundreds of new case studies, teaching aids, and additions to the case collection. One of the well-known universities in North America, the University of Western Ontario (Canada), also relies on the use of situational learning. In recent years, in connection with the course towards the modernization of Russian education in the system of higher education, there has been a search for new effective teaching methods. The problem of introducing the case-study method into the practice of higher professional education is currently very relevant, due to two trends:

- the first stems from the general direction of the development of education, its orientation not so much to obtaining specific knowledge, but to the formation of professional competence, skills and abilities of mental activity, the development of personality abilities, among which special attention is paid to the ability to learn, changing the paradigm of thinking, the ability to process huge amounts information;
- the second follows from the development of requirements for the quality of a specialist who, in addition to meeting the requirements of the first trend, must also have the ability to behave optimally in various situations, be systematic and effective in a crisis.

Currently, active teaching methods, including the case-study method, are widely used in the training of economic personnel in a number of leading economic universities in Ukraine. The use of the case-study method in teaching students of economic specialties allows to increase the cognitive interest in the studied disciplines, to improve the understanding of economic laws, and contributes to the development of research, communication and creative decision-making skills. In order for the educational process based on case technologies to be effective, two conditions are necessary: a good case and a certain methodology for using it in the educational process. In the course of analyzing situations, students learn to act in a "team", analyze and make management decisions. The ideas of the case-study method are quite simple:

The method is designed to gain knowledge in disciplines in which the truth is pluralistic, i.e. there is no unambiguous answer to the question posed, but there are several answers that can compete in the degree of truth; the task of teaching at the same time immediately deviates from the classical scheme and is focused on obtaining not the only one, but many truths and orientation in their problem field.

The emphasis of teaching is shifted not to the mastery of ready-made knowledge, but to its development, to the co-creation of a student and a teacher; hence the fundamental difference between the case-study method and traditional methods - democracy in the process of acquiring knowledge when the student is

essentially equal with other students and the teacher in the process of discussing the problem.

The result of applying the method is not only knowledge, but also professional skills.

The technology of the method is as follows: according to certain rules, a model of a specific situation that has occurred in real life is developed, and the complex of knowledge and practical skills that students need to acquire is reflected; in this case, the teacher acts as a moderator, generating questions, fixing the answers, supporting the discussion, i.e. as a manager of the co-creation process. The undoubted advantage of the situational analysis method is not only the acquisition of knowledge and the formation of practical skills, but also the development of a system of students' values, professional positions, attitudes, a kind of professional attitude and world transformation.

The case-study method overcomes the classic defect of traditional teaching associated with "dryness", unemotionality of presentation of material - emotions, creative competition and even struggle in this method so much that a well-organized case discussion resembles a theatrical performance.

The case-study method is a tool that allows you to apply theoretical knowledge to solving practical problems. The method contributes to the development of students' independent thinking, the ability to listen and take into account an alternative point of view, to express their own reasonably. With the help of this method, students have the opportunity to show and improve analytical and evaluative skills, learn to work in a team, and find the most rational solution to the problem posed.

As an interactive teaching method, the case-study method wins a positive attitude from students, ensuring the development of theoretical positions and mastering the practical use of the material; it influences the professionalization of students, promotes their maturation, forms interest and positive motivation in relation to learning. At the same time, the case-study method also acts as a teacher's

way of thinking, his special paradigm, which allows him to think and act in a different way, to renew his creative potential.

Case - an example taken from real business, is not just a truthful description of events, but a single information complex that allows you to understand the situation. It is assumed that there are no unambiguously correct decisions in business. The essence of case-study learning is that everyone offers options based on their knowledge, practical experience and intuition. For example, for someone, the change in the marital status of the head of the company is not an important detail, while another student may, based on his own experience, consider this fact extremely important (BOGOMOLOV, 2007). The case-study method has its own characteristics and technological features that make it possible to distinguish it from other teaching methods. Features of the case-study method:

- The presence of a model of a socio-economic system, the state of which is considered at a certain discrete moment in time.
- Collaborative decision making.
- Multiple choice of solutions; fundamental absence of a single solution.
- One goal when making decisions.
- The presence of a system of group assessment of activities.
- The presence of controlled emotional stress of trainees.
- Technological features of the case-study method:
- The method is a specific type of research analytical technology, i.e. includes operations of the research process, analytical procedures.
- The case-study method acts as a collective learning technology, the most important components of which are work in a group (or subgroups) and mutual exchange of information.
- The case-study method in teaching can be viewed as a synergistic technology, the essence of which is to prepare procedures for immersing a group in a situation, forming the effects of multiplying knowledge, insightful insight, sharing discoveries, etc.

- The case-study method integrates the technologies of developing education, including the procedures for individual, group and collective development, the formation of diverse personal qualities of students (HARRIS, S., SUTTON, R., 1986).
- The case-study method acts as a specific type of design technology. In the usual educational project technology, the process of solving the existing problem through the joint activities of students is taking place, while in the case-study method, the problem is formed and ways to solve it based on the case, which acts simultaneously as a technical task and a source of information for understanding options for effective actions.
- The case-study method concentrates in itself significant achievements of the technology of "creating success". It provides for activities to activate students, stimulate their success, emphasize the achievements of students. It is the achievement of success that is one of the main driving forces of the method, the formation of stable positive motivation, and the increase in cognitive activity (POLAT, 2021).

The main function of the case-study method is to teach students to solve complex unstructured problems that cannot be solved in an analytical way. The case activates students, develops analytical and communication skills, leaving students face to face with real situations (KHUANWANGA, W., LAWTHONGA N., SUWANMONKHA S., 2016). The use of the case-study method has clear advantages over the simple presentation of the material, which is widely used in traditional higher education pedagogy.

Cases differ from the tasks used in seminars and practical classes, since the goals of using tasks and cases in training are different. Problems provide material that enables students to explore and apply specific theories, methods, principles. Case Study helps students acquire a wide variety of skills. As a rule, problems have one solution and one path leading to this solution. Cases have many solutions and many alternative paths leading to it (BORDAS-BELTRÁN, J. L. , ARRAS-VOTA A. M., 2018). An important feature of the case study method is its effective compatibility

with various teaching methods. The case method can be presented in a methodological context as a complex system into which other, simpler methods of cognition are integrated. It includes modeling, systems analysis, problem method, thought experiment, methods of description, classification, game methods, which perform their roles in the case method.

The advantages of the case-study method include:

- using the principles of problem-based learning - obtaining skills in solving real problems, the ability to work a group on a single problem field, while the learning process, in fact, imitates the decision-making mechanism in life, it is more adequate to the life situation than memorizing terms with subsequent retelling, since it requires not only knowledge and understanding of terms, but also the ability to operate with them, building logical schemes for solving a problem, argue your opinion;
- obtaining teamwork skills (Team Job Skills);
- developing the skills of the simplest generalizations;
- obtaining presentation skills;
- getting the skills of a press conference, the ability to formulate a question, argue the answer.

By analyzing the case, students actually get a ready-made solution in their hands that can be applied in similar circumstances. The increase in the student's "baggage" of analyzed cases, increases the likelihood of using a ready-made scheme of solutions to the current situation, forms the skills of solving more serious problems. The case-study method requires students to be prepared, they have the skills of independent work; unpreparedness of students, underdevelopment of their motivation can lead to a superficial discussion of the case (DERKACH, 2010).

It is possible to formulate strategic principles for the development of the case-study method and its implementation in educational programs:

- The case-study method should be introduced as soon as possible into training programs for specialists in modern market specialties, in which

situational knowledge and situational activities dominate, such as management, economics, sociology, marketing, etc.

- To intensify the use of the case-study method in the system of additional professional education, especially in the implementation of professional retraining programs.
- The case-study method must be used in an organic unity with other teaching methods, including traditional ones, which provide students with mandatory normative knowledge.
- The application of the case-study method must be methodologically justified and ensured. This is necessary both at the level of the organization of the educational process for the educational program as a whole, and at the level of planning it by an individual teacher. An expert assessment of specialties, academic disciplines and their sections is needed, where the use of the case-study method gives a much greater effect than traditional teaching technologies.

These issues should be the subject of discussion at the methodological council and be the goal of improving the qualifications of teachers (IASECHKO, M., IASECHKO, S., SMYRNOVA, I., 2021).

The relevance of the technology for analyzing a specific situation is determined by the fact that this technology involves the solution of specific professional problems. The use of case technology in teaching will allow students to form a high motivation for learning; develop such personal qualities that are significant for future professional activity, such as the ability to cooperate, a sense of leadership; to form the foundations of business ethics (IASECHKO, SHELUKHIN, MARANOV, 2021).

Thus, a case is not just a truthful description, but a single information complex. Unlike traditional teaching methods, case technology is focused on teaching, not learning something, i.e. it is designed to develop students' ability to make decisions on their own and find the right answers to questions. This method involves creativity, creativity and creativity on the part of the students. Here, not

only the end result is important, but also the process of acquiring knowledge itself. In the traditional method, the teacher plays the role of a mentor, while in the application of case technology, he acts as a tutor. Almost any teacher who wishes to introduce case technology, having his own methodology and using various forms of work with students, will be able to do it quite professionally. The practice of using this form of training makes it possible to draw conclusions:

- students work more actively, purposefully;
- the incentive to obtain a predictable result is increased;
- mobility and efficiency in work are practiced;
- equal conditions are created for everyone;
- university graduates adapt to new social conditions.

When drawing up a program of activities, you need to focus on the initial goals and the reality of its implementation.

Conclusions

Having analyzed the state of domestic education in the context of the requirements of an innovative society, the author team outlines several lines of modernization of the higher education system.

The first Optimizing the network of higher education institutions, first of all wherever it is possible, taking into account the efficiency and quality of their functioning, by means of consolidation, unification, consolidation on the basis of a special state target program. After all, equal and fair access to higher education, its massification in the case of low-quality education loses its meaning.

Granting higher education institutions autonomy at the European level.

The second The development of specific ways of building an integrated educational and scientific system that would meet the requirements of the time and at the same time be marked by a high degree of integration and competitiveness in the global scientific and educational market. Education without science has no future, and science without education has no foundation. This requires not only to

increase the financing of scientific work in higher educational institutions, and to reduce the classroom workload of teachers who participate in scientific developments. Do not define a special status "from above" individual universities, and to promote the expansion of the practice of creation scientific and educational centers, joint faculties, departments and research laboratories of universities with national and branch academies, which will compete for the right to become "Ukrainian Cambridges and Oxfords".

It is also obvious that it is impossible to form a specialist capable of innovations, limited to the walls of the university. Integration is required higher education, science and industry. Beyond science and industry, higher education can only develop virtually. Higher education should be built on the basis of the latest achievements of modern science through the fundamental development of a complex of natural, physical, mathematical and humanitarian disciplines. A specialist can be competitive only if his training is based on the fundamental achievements of science, mastered by his own research efforts and combined with practical participation in the system of modern production. And this requires building the educational process according to the canons of scientific research.

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