

## INNOVATIVE DIRECTIONS OF THE HIGHER EDUCATION OF UKRAINE

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**Abstract:** The article clarifies the concept of "innovation", including "educational innovation", examines some innovative teaching methods in universities. The main approaches of implementation innovations in modern higher education of Ukraine are analysed. It also defines the differences between traditional and innovative teaching, discovers different variants of the classification of innovative teaching methods and formulates basic approaches to the selection of innovative didactic purpose in accordance with the classes, the advantages and disadvantages of the use of certain methods. It tightly describes actual interpretation of innovative study methods in the Ukrainian higher educational institutions, as well as the realization of the innovative aspects in the separate Ukrainian universities. The importance of innovation in the learning process of entering higher education of Ukraine into the European educational space is also being highlighted.

**Key words:** higher education of Ukraine, integration to the European and world educational space, educational innovation, information and communication technology, innovative teaching methods.

### Introduction

In terms of complicated tasks solved by modern Ukrainian higher education with a view to joining the European and world scientific and educational area, the main feature of the progress of the educational sector is its development through innovation. This process is fully realized through improving the quality of scientific research, largely has a positive impact on training, and these factors together determine the forward movement of the economy of each state. The requirement of transition to innovative education, particularly at higher education, caused by the challenges of today and belongs to the priorities of the state policy in Ukraine in the context of integration of domestic education to European and world educational area.

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In order to reform the educational sector of Ukraine adopted a number of normative documents, including the new Law of Ukraine "On Higher Education", which among the main tasks of higher education institutions determined "to ensure organic combination in the educational process of educational, research and innovative activity" (Art. 26, p.1) (On Higher Education: Law of Ukraine of July 1 2014). Now before the higher education institutions are challenged constantly to improve the quality of education, modernization of its content, development and implementation of educational innovation and information technologies, creation of conditions for training specialists, suitable 'for effective implementation of innovative character tasks in appropriate level of professional activity "(Art. 5, p.1) (On Higher Education: Law of Ukraine of July,1, 2014).

### Literature review

Analysis of recent research and publications shows that the question of the nature of innovation in the conceptual, historical and methodological dimensions, ratio of necessary innovations and traditional component in higher education are considered in the works of V. Andruschenko, I. Artjomov, V. Kremen, L. Kozak, V. Luhovyi, V. Morozov, P. Sauh, I. Syladiy, Yu. Terletska, H. Tsvyetskova, T. Turkot, D. Chernilevskiy and others. In particular V. Andruschenko analyses the ratio of necessary innovations and traditional component of education, which requires fundamental changes in educational sector (V.Andruschenko, 2014). The essence of innovation in its conceptual, historical and methodological dimensions, and also innovative development of education in the context of creativity is considered in the monograph edited by V. Kremen (V.Kremen, 2008). On the basis of implementation of the program Tuning "Setting educational structures in Europe" in Ukraine, the National Education Glossary: higher education, of the International Standard Classification of Education (ISCED-2011,-2013) V. Luhovyi clearly agrees conceptual and terminological apparatus concerning innovative learning activities types in the context of competence approach (V. Luhovyi, 2011). H. Tsvyetskova describes innovativeness as the principle of new pedagogical thinking (H.Tsvyetskova, 2016). The problems of implementation of innovations and information technology as a system of pedagogical and teaching methods, techniques and ways are analysed in the monograph edited by P. Sauh (P.Sauh, 2011), the philosophical foundations of innovative educational process examines V. Morozov (V.Morozov, 2014). The combination of traditional and innovative teaching methods in the context of general principles of Pedagogics is considered by T. Turkot (T.Turkot, 2011) and D. Chernilevskiy (D.Chernilevskiy, 2010). In addition, poorly studied remain the opportunities for effective application

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of innovative methods in higher education institutions as a mechanism for entering higher education of Ukraine to European and world educational area.

**The purpose of this work** is to clarify the nature and characteristics of individual innovative methods of training of future specialists in domestic universities.

**Study methods.** In studying the affected theme were used general scientific methods: accumulation and fixation of new factual data on the issue, theoretical, analytical and synthetic processing of the obtained data, their comparison, understanding, grouping, disclosing relationships, generalization, formation of scientific conclusions. All these actions were carried out on the basis of materialist dialectics principle, which is to consider objects in interrelation and interconditionality, inductive generalization and deductive conclusion.

**Study case: Innovative methods of teaching in Ukrainian higher education – theory and facts.**

The term "innovation" is seen in psychological and pedagogical literature as ambiguous. Modern domestic scientists consider innovation in education as a process of creating, distributing and using new methods to solve educational problems in original, non-standard approaches (I.Syladiy, 2011, p.105). So it is a purposeful process of changes that lead to the modification of goals, content, methods and forms of education and training, adapting the learning process to the new requirements. So education becomes an effective lever of the knowledge economy, the innovation environment in which students gain skills and ability to independently acquire lifelong knowledge and apply this knowledge in practical activities (T.Turkot, 2011, p.183).

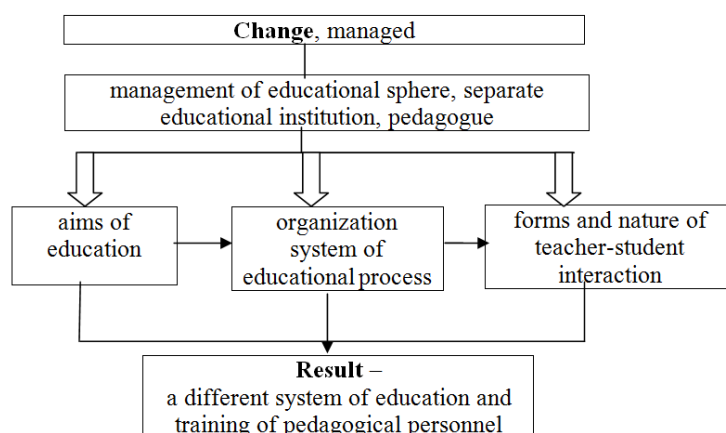
Innovative teaching methods should be the hallmark of a research university. Now in Ukraine the concept of innovative university as the highest stage of a research university has been developed. Innovative University maintains academic component, but it works in three interrelated areas – education, research, innovation. Along with the implementation of research projects urgent task of innovative university is a quality training of innovative focused professionals in priority areas of science and technology, dissemination and application of new knowledge in terms of innovative environment that is the development and introduction of new education technology based on competency approach (I.Artjomov, 2015, pp.94-96).

The part of a holistic pedagogical process of modern higher educational institution is a learning process, which has inherent innovative features. Innovativeness of educational process has its own peculiarities, originally, formed philosophy of innovations, which is then concretized in its basic elements (targeted, contents, procedural, technological and evaluative) (V.Morozov, 2014, p.37).

Changes in the objectives, content, methods and technologies of educational process can be attributed to the main types of innovations and innovative directions of research; forms of organization and management system; style of pedagogical activity and the organization of teaching and educational process; system of monitoring and evaluation of education quality level; system of educational work; the process of interaction between pedagogue and student. Thus, the main criterion for innovativeness of education is to change goals, i.e. the content of education and its results as the main components of the pedagogue activity and for those who learn.

Innovation or innovative capacity of higher education system in terms of its adaptability to changes characterized, on the one hand the content of transformation that occurred, and on the other – determines the direction of innovative development. Based on this understanding, we can define the main characteristics of innovation in higher education system, in particular: manageability of creating process, perception, assessment, learning and application of scientific and pedagogical innovations; develop effective (ideal) methods for mastering innovation at all stages of the educational process and the implementation of creative rethinking of existing methods; development of technology for professional training and selection of scientific and pedagogical staff.

Thus, the main criterion for innovativeness of education is changing of goals, i.e. educational content and its results as the main components of the pedagogue activity and for those who learn (V.Morozov, 2014, p.38)



**Figure 1. Educational innovation as a process**

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A characteristic feature of innovative education is student-centred learning, which involves the transformation of the educational processes in the joint research, search, the educational game that becomes a source of experience (T.Turkot, 2011, pp. 184, 185). This feature changes interpersonal communication between teacher and students: with the innovative learning the student becomes an important educational entity involved in active, creative collaboration with the teacher, is interested in acquiring deep and relevant professional knowledge. The focus on subject-subject, dialogical interaction required to implement educational and pedagogic process through a combination of traditional and innovative methods and forms of education.

Thus, innovations in the content of education are filled and implemented through the mastery of innovative methods and forms of education (dialog, diagnostic, active, interactive, remote, computer, multimedia, telecommunications, training, design) as well as through the introduction of alternative educational technologies such as algorithmic, individualized, differentiated, modular, collective (in small groups) and others. Widespread use in this line have become *Internet Technologies* (website, blog, forum, e-mail, chat, e-zine, search engines, subject directories, educational portals, etc.), *multimedia software tools* (computer simulators, multimedia presentations, educational films, educational software), *computer testing*, *remote (e-) training*, *electronic textbooks and teaching materials*, *electronic repository*.

An innovative process that must be implemented today in all educational structures is the only source of education system development. The requirement of transition to innovative education is conditioned by regularity of information society functioning. In summer, 2016, speaking at the Lviv IT Jazz Conference, the Minister of Education and Science of Ukraine L.M. Hrynevych underlined that the use of information technologies in Ukrainian education is negligible. That is why education loses in teaching methods, and in modernization of content, as well as in pedagogues training, and in lifelong learning of adults, and this also means losing in creation of real innovative economy (L. Hrynevych, 2016).

Information technologies allow implementations of principles of differentiated and individual approach to learning. Information technologies can be used for full-time and distance learning, which allows access to the single world information area. The use of computer technologies will help increase self-education, motivation of training activities and provides new possibilities for creativity, receiving and fixing various professional skills and meets the social order that the state makes to the university. Consistent implementation of innovative teaching methods is essential to maintain the high quality of all components of the educational process, the combination of scientific and educational work, establishing relationships between

higher education institutions and employers and, finally, the expansion of international contacts (V.Nelyubov & O.Dubiv & O.Kurutsa, 2013).

The development of forms for innovative education is only part of the overall process of acquiring practice by human activity of innovative character. Any information process requires possession of information resources and communication technologies. The problem is not to have the total set of such technologies, but to build the right system for their use, according to the strategy of any development. Innovative education is a model of education that focused primarily on the maximum development of creative abilities and creation of a strong motivation for self-development of the individual, based on voluntarily chosen "educational trajectory". Information technologies can implement the principles of differentiated and individual approach to learning. On training classes the lecturer allows each student to work independently with educational information in order to disassemble new material in detail by own scheme. Information technologies can be used for full-time and distance learning, which allows access to the single world information space.

Separately let us analyse *innovative teaching methods*. In educational theory and practice, there is a certain conceptual and terminological complexity on the distinction of forms, methods, education technology and so on. Article 50 of the Law of Ukraine "On Higher Education" the form of educational process organization is defined as training sessions, independent work, practical training and control measures, and the main types of training classes at higher education institutions consider lectures, laboratory, practice, seminars, individual classes and consultation (On Higher Education: Law of Ukraine of July,1,2014). V.Luhovyi also delineates the definition for "types of training classes" and "methods / technologies of teaching", meaning by the first definition the specificity organization of educational activities, and by the second – ways and means of processing educational (teaching) information for teaching (V.Luhovyi, 2011, p.18). The scientist proposes to use two categories of educational activities: on the one hand, *methods (techniques, ways) of teaching*, which is defined as types of classes (independent work, practical training) forms of educational process organization, and on the other hand, *types of educational activities* – learning tasks developed by teacher for student performance (V.Luhovyi, 2011, p.19). V. Morozov (V.Morozov, 2014, p.37) divides innovative methods on design, laboratory while D.V. Chernilevskiy and I.M. Lutskiy under the innovative technologies understand the technology of active, modular and problem training and also didactical games (D.Chernilevskiy&Co, 2010, p.287-318). T.I. Turkot analyzes the credit-module and module-rating technologies as innovative (T.Turkot, 2011, p.274-339). A number of researchers consider as innovative for



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legal education methods of specific situations, role-play, problem-searching, "brainstorming", individual and group training, interview method and others, and interactive methods of training for future engineers, motivational, cognitive and regulatory which are based on dialogic interaction and forced to work with intellect and soul (V.Andruschenko, 2014; V.Kremen, 2008; V.Nelyubov&Co, 2013).

In the practice of higher education, innovative *interactive teaching methods* are considered to change the role of the teacher (instead of the role of informant role of the manager) and the role of student (information is not a goal but a means to mastering skills of professional activity). Interactive learning («inter» - reciprocal, «act» - operate) is a special form of cognitive activity that involves creating a comfortable learning environment in which students feel their success and intellectual capacity (T.Turkot, 2011, p.284). A characteristic feature of interactive learning is continuous, active cooperation of all participants in the educational process. By analysing their actions and the actions of their partners everyone can change the model of its behaviour and more consciously acquire the necessary knowledge and skills, feel in conditions as close to future professional activity. The most common among these methods is the method of projects, group discussion, "brainstorming", business and role-playing, Basket Method (training method based on imitation of situations), training-education, practical experiment more.

Let us perform comparison of the main principles of innovative and traditional teaching in Table 1.

Analysis according to the following table shows the necessity and expediency of introduction of innovative approaches to the educational process as such, that will lead to achieving results - the presence of knowledge for young specialists, practical abilities and skills, a willingness of their creative use in professional activities.

Study of American and European scientists confirm that interactive teaching methods help to increase the proportion of learning because of their impact not only on the minds of students, but also on their feelings and will (D. Chernilevskiy & Co, 2010, pp.289-291). According to educators, scientists from lecture can absorb only 5% of the information and during other training or applications they absorb 90% of the information. Based on the systematization of teaching methods of the project Tuning, V.Luhovyi determines that the main method of teaching should not be the lecture, as believed in the domestic high education, but individual, research, project work, which complemented their own (controlled) group research work, seminars and practice (V.Luhovyi, 2011, p.24). Active learning methods (debates, didactic games, simulation of work situations, etc.) is a kind of testing ground on which students rehearse their professional skills.

Active (interactive) methods are divided into imitation and non-imitation (D.Chernilevskiy & Co, 2010, pp.289-291). Non-imitation methods do not envisage the creation of process or activity model, and the activation is achieved through selection of problem learning content that provides dialogical interaction. The non-imitation methods in scientific literature include problematic lecture, seminar-discussion with "brainstorming", practical training, coursework and degree work, internship without performing official duties. These methods make it possible not only to provide certain information to the student, but also to promote the development of individual professional abilities and skills.

**Table. 1 Comparative analysis of the characteristics of teaching methods in higher educational institutions**

Characteristics criterion	Teaching features	
	traditional	innovative
Place and role of teacher	Individual that defines all aspects of the learning process - the leading person	Individual that initiates and organizes the learning process, stimulates transformation of student in an active participant of this process
Place and role of student	Perception, learning and reproduction of the information provided by the teacher - passive role	Active learning and generating knowledge gained from various sources
Type of information submission	Determined and controlled information by teacher, knowledge submitted in finished form	Multichannel system that generates information between teacher and students and provides information interaction between them
Management of educational process	Authoritarian or totalitarian	Democratic
Level of creativity in work	Creativity is only possible in teachers work	Creativity of teacher takes many forms, activity of student has creative character
Form of educational activity	Mainly lectures	Dialogue, interactive, design and other forms
Solution of educational problems	Ascertains specific issues, describes ways of their solutions???	Training takes place through joint search of problem solutions, partial-search or research methods are used, abilities and problem-solving skills are formed
Control of the educational process	Hard, formal, not individualized forms of control	Individualized forms of control, formation of self-control skills and reflection
Teaching results	The combination of knowledge, use of knowledge for assessments	The combination of knowledge, practical abilities and skills, willingness to their creative use in professional activities



Imitation methods are divided into gaming and non-gaming, which involve work with situation model in the process of imitation. The method of analysis of specific situations as non-gaming method consists of study, analysis and decision-making in the situation that has arisen, or may emerge under certain circumstances in a particular organization. The gaming imitation methods include internships with the performance of official duties, imitation training, business and role-playing games. These methods provide the maximum possible approximation of educational process to the work conditions. Active learning methods (discussions, didactic games, simulation of work situations, etc.) is a kind of testing ground on which students work out on their professional abilities and skills.

Each of the innovative teaching methods has its advantages and disadvantages. For example, the cases method foresees the adoption of specific solutions by students in the proposed situation. For the effective use of this method, the information that is used («case» - incident, situation) should reflect a problem with future professional activities that can be solved in several variants. Each group of students in the result of discussion offers its own alternative solutions of the problem substantiating it based on acquired knowledge of the discipline. The teacher who prepares for such classes systematises the course material, supplementing its interdisciplinary connections, directs students to a professional, not an everyday approach to the situation analysis (T.Turkot, 2011, p.330).

When choosing the methods, the forms and means of education affect the peculiarities of academic discipline, the character of educational material, the amount of time given to study the material, the overall level of preparedness of the group, peculiarities of educational and material resources of higher education institutions and many others. To a large extent the choice of method is determined by the number of students, since most methods are mostly effective in a small number of participants-students. But first of all, the choice of method is determined by the didactic purposes of occupation, type of information that is received, and should be adequate properties of educational information and educational purposes. The effectiveness of innovative teaching methods in higher education institutions should be assessed not only based on quantitative measures of educational achievements of students, and given the changes in the minds of both students and teachers. Students showed willingness to constantly acquiring new knowledge, mobilizing their inclinations, abilities and talent, assert skills to take responsibility, to defend its position, collaborate, develop a new type of motivational sphere, where self-actualization effect on the overall creativity of the student, helps to create new positions of the individual (L.Kozak, 2014).

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To achieve the objectives of innovative education and training, teachers have to stir the interest of each student in the work group by using a clear motivation, encourage students to free and correct expression of thoughts without fear of a wrong answer and demonstrate high professionalism in their work. Innovative activity of the teacher can be interpreted as the creative process and the creative result as the personal category, where the basis is reflection – understanding of the person, its own search and creative activities, creative and transformational activities and co-creation (D.Chernilevskiy & Co, 2010, p.333). The effectiveness of professional activity of teacher of higher education institution is determined by its active interaction with students, the realization of appropriate psychological and educational influences that promote quality mastering of modern professional knowledge, abilities and skills by students, and also to form the personal qualities and characteristics, necessary for future professional activity, social and public life. In order to increase the efficiency of professional activity for higher education institution teachers, each component of this efficiency must be improved (management of the teacher of educational process, a set of educational skills and qualities, relations with students, professional guidance, motivation to achieve the objectives of the educational process, professional reliability) (Yu.Terletska, 2014, p. 88).

The use of innovative teaching methods in the educational process of various higher educational institutions is subject to research of many scientists. Each of these works enriches methodological offers of the national higher education. In particular, the general principles of the implementation of innovative pedagogy in UzhNU are generalized in the paper of I. Artjomov. He stressed the need for a number of steps towards a single educational area, including the maximum use of border conditions for launching projects with European partners within the framework of international educational programs, and also establishes a model of education development according to which in the training of professionals both businesses and the state will invest. (I. Artjomov, 2015, pp.95-97).

## Conclusions

In our opinion, improvement of the quality and intensity of the educational process in higher education will promote organic combinations of innovative methods with classic, traditional, thoughtful and harmonious elements of different methods for each discipline and each class depending on their purpose and specificity. High-performance and promising is also the synthesis of class and extracurricular activities, which helps to create a fusion of professional abilities and skills with active social positions of the future specialist. To implement such approaches, as well as for active introduction of innovative teaching methods the teacher should

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not only improve training and methodological complexes of individual disciplines, but also master new facilities of teaching. With this purpose it is advisable to create in educational institutions a special scientific and methodological structure for organization and coordination of this work, equip audiences with technical means that will make it possible to implement innovative teaching methods in the pedagogical process.

A decisive role for teachers of domestic higher educational institutions in mastering the innovative technologies and methods is to carry out their internships in leading universities abroad as well as participate in the process of academic mobility. Outdated stereotypes about teaching activities should be changed, stimulus should be focused not only on a thorough study of foreign languages, but also on the use of individual, research, design, practical methods of pedagogical interaction. This can be optimally implemented as part of the pedagogical activity or internships on international programs that are part of the process of internationalization of higher education in Ukraine.

Based on the analysis of scientific research and methodological literature on the implementation of innovative teaching methods in higher school, it has been shown that:

- priority of national concept of reform and modernization of higher education is the creation of innovative learning environment in higher education institutions by fostering progressive innovation, including the introduction of innovative teaching methods;
- the exact use of a wide range of new training methods introduction of new public education systems using ICT, functioning of science parks and business incubators will become features of innovative universities and initiate the process of internationalization of higher school of Ukraine;
- a variation of innovative teaching methods may be found in modern pedagogy, aimed at the quality assimilation of knowledge by the students, development of their intellectual activity, formation of skills and abilities of critical understanding of professional issues, ability to process information independently, acquiring skills that will be useful in future professional life;
- each higher education institution creates its database of most used innovative methods taking into account the specifics of the teaching staff, contingent of students, characteristics of specialties, professionals that are trained in the specific university, logistical support and others. The combination of these methods creates methodical treasury of national higher education, indicating seriousness and hard work for establishment of the European quality in higher education of Ukraine. Successful introduction of innovative teaching methods requires systematic work for which it is necessary:

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- to review the content and direction of training and professional development (internships) of pedagogues in order to develop their professional preparedness to work in conditions of innovative learning;
- to promote the participation of teachers in the process of academic mobility, particularly in international exchange programs and internships;
- to implement a system of material incentives for teachers who actively and effectively implement innovative methods in the learning process.

### Prospects of further study

The actual direction of the next coverage of specified theme is to study the problem of training of future specialists in higher education on the basis of their involvement in research in the context of the competence approach, and also analysis of the most effective innovative methods that can be used for training students of humanities or natural specialties.

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