Use of Creative Teaching Methods as a Basis for the Future Specialist’s Innovative Activity in High School

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Abstract

The article discloses the problem of creative teaching methods as the basis of the future specialist’s innovative activity using in the high school. On the basis of the scientific literature analysis, the concept of «innovative activity» is generalized. It is noted that an innovative activity is considered as a management activity that takes into account the needs of the market economy in the continuous updating of goods, services, technologies and manifested itself in the effort to out-compete by means of novelty, perfection and product quality, support for creative initiative workers; and in the readiness for organizational changes, to the breakdown of management structures in response to market fluctuations, etc. It is noticed that a significant part of the researchers refers the concept of «innovative activity» to the characteristics of the enterprise activity, and not to its employee. The specialist’s innovative activity is one of the manifestations of its work activity, which is connected with the ability to work, to generate new ideas, to develop innovations and create innovations and also with the implementation of the acquired knowledge, abilities, professionalism at a certain level of motivation. The expediency of using creative teaching methods in the educational process of higher education is proved. It is proved that by the help of only traditional
training methods it is not possible to fully prepare a specialist who will be competitive on the world labour market; therefore, it is necessary to apply creative teaching methods in the educational process of higher education. It is noted that the increasing of the specialist’s innovative activity requires application non-standard, creative methods of teaching in the process of its training, the use of creative teaching methods contributes to the development of personality’s creativity, the search for non-standard solutions, which is determinant in the formation of innovative activity of a specialist as a professional.

**Key words:** activity, innovative activity, creativity, creative teaching methods, future specialist.

**References**


Introduction

The socio-economic transformations of modern society put forward qualitative new requirements for the future specialist’s professional training. The main ones include the specialist’s ability to continuous professional and personal growth and development, the ability to make non-standard decisions in the process of professional activity and the openness to innovations. In the conditions of a rapid development of the scientific and technological progress, the spread of new knowledge into all spheres of public life, the increase of the national economies competitiveness, there is a need for innovation in
the field of higher education and science. In this connection, it was at
the Parliamentary Hearings on the theme: «The National Innovation
System: Status and Legislative Provision of Development», held on
March 21, 2018, where the Minister of Education and Science of
Ukraine Lilia Hrynevych noted in her report that it is innovations
which determines the competitiveness of the state, divides the
countries into the countries of the first and second world. By the help
of only traditional training methods it is not possible to fully prepare
a specialist who will be competitive on the world labour market;
therefore, it is necessary to apply creative teaching methods in the
educational process of higher education. The use of these methods
contributes to the development of personality’s creativity, the search
for non-standard solutions, which is determinant in the formation of
innovative activity of a specialist as a professional.

The basics of modern concepts of using innovations as the most
important factor in achieving competitive advantages of production,
stimulating an innovative activity, motivating a personnel for a creative
activity, an innovative activity were laid in the works by such domestic
and foreign scientists as V. Antoniuk, K. Hoyos, N. Lukianchenko,
A. Novikova, B. Tviss, J. Schumpeter et al. The results of scientific
research and pedagogical experience of modern teachers and scientists
make it possible to state that the use of creative teaching methods
has a number of significant advantages over traditional methods in the
context of the formation of the future specialists’ innovative activity,
in particular, the works of O. Khartsii, I. Mudrytska, A. Muratova,
T. Polylova, T. Shaposhnykova, I. Zymniaand others.

The purpose of the article is to consider the state of the problem
research and to carry out a meaningful analysis of the potential of
using creative teaching methods in a higher school as the basis for
the innovative activity of a future specialist.

Materials and Methods

A number of scientific search methods were used for the
research, in particular – analysis, synthesis, generalization and
systematization of scientific literature.

Results and Discussion

The world economy of the twenty-first century has undergone
dramatic changes, as a result of which the power of countries is
determined not only by millions of tons of smelted steel or the amount of oil produced, but, first of all, by the gains of innovative work associated with the development of innovations, which are necessary for the creation of competitive products, goods and services.

The change of priorities in the requirements to the personality of a modern specialist determines the influence of such world tendencies:

1) the transition of a humanity from the industrial society to the informational one (the intellectualization of labor spreads, the role of innovative work increases);

2) the recognition of an ability to create and innovate as a priority factor in the growth of material and spiritual wealth, increasing a competitiveness between countries of the world;

3) the globalization of a world development, which involves not only the rapprochement and integration of economies, but also the absorption of underdeveloped countries by the most economically developed states, their transformation into raw appendages, suppliers of a cheap labor;

4) the aggravation of international competition in world markets, in particular, labor markets (in these conditions, the staff’s low competitiveness, inability to work innovatively and a lack of innovative activity often becomes a factor in the workers’ social risk).

Today, as a result of these tendencies, many countries of developed market economics qualitatively change the content of labor, the requirements to the level of knowledge, the specialists’ labor and innovative activity; and an important priority in a personnel management is going to be the promotion of innovative activity, the growth of professional competence, the development of educational and professional abilities, the increase of staff’s competitiveness in the interests of increasing the competitiveness of enterprises and the country as a whole.

Until now, there is no single approach to the interpretation of innovative activity. In particular, a large part of the scholars refers the notion of «innovative activity» to the characteristics of the enterprise, and not to its employee.

The group of authors K. S. Bieliavska, O. N. Korolko and I. A. Tarasenko (2009) determines the innovative activity of the
business entity, «... as a focus on the implementation of strategic development goals in the conditions of the market competition in order to ensure the sustainability of the enterprise’s functioning and its success in the long run.» In other words, it is noted that the enterprise’s innovative activity is determined by two main factors: the state of its innovation potential and the efficiency of the innovation management system.

These two factors of innovation activity has been under the interest of I. V. Baranova and M. V. Cherepanova (2006), they interpret an innovative activity as a complex characteristic of the intensity of the enterprise’s innovative activity, which is based on the ability to mobilize an innovation potential. According to A. A. Tryfilova’s thought (2003), an innovative activity is characterized by the intensity of the economic entities’ work on the development and introduction of new technologies or improved products into an economic turnover. That is, an activity is a characteristic that is determined by the level of the course of the activity process, its result and it indicates the result’s dependence on the level of intensity of a change and determines the potential for the intensification of its level.

The O. M. Belousova’s study (2011) presents an innovative activity of five positions: institutional; investment; infrastructural; innovative and intellectual types of economic activity. It is noted that an innovative activity is an activity aimed at solving creative non-stereotyped tasks brought to the level of commercialization. It means that not only the novelty of the tasks to be solved is important, but also the presentation of the results obtained to the practical implementation.

The Explanatory Dictionary presents an innovative activity as a management activity that takes into account the needs of a market economy in the continuous updating of goods, services, technologies and realized in:

1) an effort to compete in competition through novelty, perfection and product quality, a support for creative, initiative workers;

2) a readiness for organizational changes, for the management structures breakdown in response to market fluctuations, etc. (Zorin, 2002).
An innovative activity is a managerial category, among the main features of which are: the quality of innovation strategy; the level of mobilization of innovation potential; the level of attracted capital formations – investments; methods, culture, landmarks used in carrying out innovative changes; the validity of the realized level of an innovative activity; the compliance of the enterprise’s reaction with the character of a competitive strategic situation; the speed (the pace) of developing and implementing an innovation strategy. That is, an innovative activity is a connecting link between the stages of the internal and external environment analysis, the formulation of goals and strategy planning, and is characterized by a combination of three components: the innovations in the production of a new type of product; the innovations in the form of manufactured goods, performed works, rendered services; the innovations related to research and development.

The notion of «innovative activity» extends to all participants in the innovational process, which determines the need to measure all the main operating forces in the innovation business: a consumer of an innovative product, a creator-producer (innovator and disraptor), an investor. Accordingly, an innovative activity is characterized by the susceptibility to innovations, the level of intensity of the performed actions on the transformation of innovations and their timeliness, the ability to mobilize the potential of the required quantity and quality, the ability to ensure the validity of the methods used, the rationality of the innovational process technologies in the composition and sequence of operations. An innovative activity characterizes the readiness to restore the main elements of the innovational system – personal knowledge, technological equipment, information and communication technologies and the conditions for their effective use (structures and cultures), as well as susceptibility to everything new.

The Great Explanatory Dictionary of the Ukrainian Language (2002) characterizes the notion of «activity» as energetic activity, active participation in anything. In general, «activity» is characterized as the property and ability of a subject to purposefully choose its condition or as «... a general description of living beings, their own dynamics as a source of transforming or maintaining vital links with the outside world, the inherent to a living being ability to self-response;
... the ability to self-choose certain actions ... «(Novikov, 2005). This proves that an activity is not the abstract feature of an enterprise, but the characteristic of its staff, therefore, an innovative activity should be considered precisely in relation to the personnel of the enterprise. Since the main resources of an enterprise are the staff, then the innovative activity should relate precisely to it.

The innovative activity of the personnel can be argued basing on three components, that characterizes the level of participation of researchers, inventors and entrepreneurs in the innovative activities implementation for a certain period: the research component; the inventive component; the business one (economic actions, which are specified in the form of the production of a particular product or the provision of a specific form of services) (Belousova, 2011).

Nowadays the market relations put high demands to the professional qualification level of employees, which implies the necessity to develop their innovativeness, creative activeness, creative thinking, but these processes are implemented very slowly at domestic enterprises and not always act as an incentive for self-development.

In Ukraine, innovative activities are regulated by the relevant Law of Ukraine «On Innovative Activities» (2002), where there is no definition of «innovative activity». However, it is known that a significant impetus to the growth of innovation activity is the clear definition and understanding of this concept in domestic legislation and practice.

The concept of «innovative activity of a specialist» can be identified with the concept of «innovative activity of a personnel», that is a complex and multifaceted phenomenon of labor activity. It describes the system of socio-economic relations regarding the effective use of productive and creative abilities of employees, formation of their common interest in increasing the innovative potential of the enterprise, practical implementation of the strategy of innovative development of a production (Lukianchenko, & Buntovskyi, 2011).

Today, in theory, the innovative activity of a personnel is considered in three approaches: a) understanding of innovation activity as a manifestation of creativity in the labor process; b) perception of innovative activity as the activities of entrepreneurial activity subjects
towards the creation of innovations in any sphere; c) the interpretation of innovative activity as one of the important components of the characteristics of labor potential or human potential in general, the realization of which enables to create various innovations in the process of work, to carry out an innovative work.

The innovative activity of a specialist is one of the manifestations of its work activity, which is connected with the ability to work, the generation of new ideas, the development of novations and the creation of innovations and the implementation of the acquired knowledge, abilities, and professionalism at a certain level of motivation. Increasing the innovative activity of specialists, respectively, requires an application of non-standard, creative, training methods in the process of their training.

In order to form the student’s personality as a future specialist in the educational process, the modern didactics recommends enriching traditional methods of teaching with such techniques and methods that would contribute to the formation of subjects of motivation training, future professional activities and meaningful life guidance, the high level of activity and emotional enthusiasm in educational and cognitive activity, and to the creation of conditions for the students’ active getting general scientific and professional knowledge, skills and abilities by creative methods of training.

The creative methods of teaching are the methods aimed at creating students’ own educational products through intuition, algorithms, instructions and decisions, and include active and creative learning activities (Hutorskoy, 2012). Also, these methods are aimed at students’ creating their own professional products.

The creative teaching methods used in higher education are classified in three directions:

1) intuitive («brain attack», empathy, inventions), which rely on illogical actions, on the intuition of teachers;

2) algorithmic prescriptions and instructions (methods of synectics, «morphological analysis»), that is the construction of logical support for the creation of educational products by educators;

3) heuristic, which help teachers to accomplish tasks by «guiding» their possible solutions and reducing the options for such decisions.
Let’s consider some of them.

The method of thinking up (inventing) is a way of creating an unknown previously product based on the results of certain mental actions of teachers. The method is implemented using such techniques: a) replacing the quality of one object with the qualities of another in order to create a new object; b) the search for the properties of the object in another environment; c) the change of the element of the object under study, and the description of the properties of the new object, which was obtained as a result of this change.

The method «If ...». Students are asked to write a description and draw a picture of what will happen if, for example, they will perform another professional function.

The method of hyperbolization. It is when the object of knowledge, its parts or qualities, increases or decreases: an innovation in legal education, which does not exist yet, is invented.

The method of agglutination. Students are encouraged to combine the undepicted realities of a quality, properties, and an object’s parts and to depict it.

The method of «brainstorming» is a method of group solving creative problems or a method of communicative attack, proposed by A. Osborne. The main task of the method is to collect the largest number of ideas in order to release the discussion participants from the inertia of thinking and stereotypes. The characteristic features of the method are: the focus on activating the creative thought of participants; the use of means that reduce criticality and self-criticism of an individual (direct instructing and/or creating favorable conditions for the upbringing of compassion, mutual support and approval), thereby increasing its self-confidence; its functioning on the principles of free, unrestricted generation of ideas in a group of specially selected individuals («generators of ideas»); the main path of the personality creative abilities’ development in conditions of emancipation of its intellectual possibilities at the expense of weakening of psychological barriers; the reducing of the level of the individual’s self-criticism and preventing the displacement of original ideas into the subconscious as dangerous; the creation of conditions for the appearance of new ideas; the promoting of the emergence of a sense of psychological security.
The method of synectics is a way of stimulating the imagination of students through a combination of heterogeneous elements; J. Gordon is considered to be its developer. This method is based on the method of «brainstorming», the various types of analogies (verbal, figurative, personal), inversion, association, etc. The characteristic features of this method are: the going beyond the scope of narrow-profile opportunities by involving specialists from different fields (a group of synectics) to solve the problem; the expanding the field of action, developing new approaches to the problem solving through collisions of unexpected thoughts, unusual analogies (direct, subjective, symbolic, fantastic), that develop thinking; the increasing of the personality meditations, which helps to rush on the object, creating optimal conditions for activating the intuitive process. Initially, general features of the problem are discussed, the first solutions are advanced and eliminated, analogies are generated and developed, they are used to understand the problem, alternatives are selected, new analogies are being searched. It is already after that when you return to the problem. When applying the method of synectics, it is recommended not to evaluate the obtained results, because the verbalization of ideas inhibits its development.

The method of «morphological analysis» (a method of multidimensional matrices) is developed by F. Zwicky, the principle of system analysis is the basis of the method. In the process of developing a new idea, students need to draw up a matrix in which to reveal a complete list of features of this idea or task (characteristics, processes, parameters, criteria, etc.). There is a process of finding new, unexpected and original ideas by drawing u-p various combinations of known and unknown elements. An analysis of the features and relationships derived from various combinations of elements (constructions, processes, ideas) is used both to identify problems and to find new ideas.

The method of inversion (appeal) is focused on finding ideas in new, unexpected directions, which are largely opposed to traditional beliefs and beliefs. The characteristic features of this method are: orientation to the principle of dualism; the development of students’ dialectics thinking; influence on the level of development of creative abilities.
The application of creative methods in the practice of higher education is quite reasoned, since:

1. The basis of creative methods is the involvement of participants in learning activities. It is proved that the person learns most and memorizes in the process of its activity.

2. A public activity rarely is a separate activity, most often it occurs in a group. Creative methods provide the opportunity for such group training.

3. Participants of training come to classes with huge luggage of practical and social experience. Creative methods allow a teacher and a group to use this experience.

4. Training should train its participants for solving problems that may appear outside the premises of the training room. Creative methods are much better than traditional teaching methods, training for an independent problem solving.

5. Each of participants of a training group is distinguished by a peculiar style of training. Creative methods provide an individual approach to each style and each person in particular; the use of these differences contributes to the growth of the potential of the entire group.

6. Traditional teaching methods appeal to people-listeners as creatures who think, but people do not only think, but also feel, act, make decisions. Interactive methods try to address all forms of human activity and involve them in the learning process.

7. Training means making changes; the learners, as a result of learning, should change something in themselves. Creative techniques help to make such changes and get approval for changes.

8. The effectiveness of training depends to a large extent on the degree of integration of a group.

9. People learn better when they can control the level, process, and pace of learning. Creative methods involve each participant to create an education, as well as to control learning.

10. Education gives the best results when it is least isolated from previous experience and daily practice. Creative methods help to bring the learning process closer to the group’s specific experience.

11. The most important enemy of effective learning is the passivity and apathy of the participants. Creative techniques are a
negation of passivity, since they help participants solve their own problems and determine their own needs.

12. Creative methods provide significant flexibility; their main thing is a result, rather than the implementation of a predetermined didactic plan.

All these arguments are not directed against traditional methods of teaching, lectures, reports, reading literature will always remain an important element of high-quality education (Khartsii, 2008).

**Conclusion**

The growing need of the economy in specialists, those are capable to arrive at any task innovatively, non-traditionally and to solve existing problems qualitatively, is conditioned by accelerating the pace of a society development and the need to live and work in rapidly changing conditions. The use of creative techniques in high school becomes one of the main factors in the formation of the innovative activity of a future specialist in the process of its training and a source of additional benefits in the long run.

The new systemic vision of contemporary social, economic and political phenomena makes it possible to state that virtually all educational institutions require the transition to creative methods of teaching disciplines as the main source of specialists’ innovative activity in the future, which, in essence, is the creation and transformation of scientific knowledge into a particular product, technology or service, as well as their distribution for practical use.

Басюк Л. В., Доброскок І. І.

Використання у вищій школі креативних методів навчання як основа інноваційної активності майбутнього фахівця

**Анотація**

У статті розкрито проблему використання у вищій школі креативних методів навчання як основу інноваційної активності майбутнього фахівця. На основі аналізу наукової літератури узагальнено поняття «інноваційна активність». Зазначено, що інноваційна активність представлена як управлінська діяльність,
що враховує потреби ринкової економіки в безперервному оновленні товарів, послуг, технологій та виявляється: у прагненні перемагати в конкурентній боротьбі за рахунок новизни, досконалості і якості продукції, підтримки творчих, ініціативних працівників; у готовності до організаційних змін, до зламу управлінських структур у відповідь на коливання ринку та ін. Зауважено, що поняття «інноваційна активність» значна частина науковців відносить його саме до характеристики діяльності підприємства, а не до його працівника. Інноваційна активність фахівця є одним із проявів його трудової активності, що пов’язана зі здатністю до творчості, генерації нових ідей, розробки нововведень і створення інновацій та реалізацією набутих знань, здібностей, професіоналізму за певного рівня мотивації. Аргументовано доцільність використання креативних методів навчання в освітньому процесі вищої школи. Доведено, що за допомогою лише традиційні методів навчання вже неможливо в повному обсязі підготувати фахівця, який буде конкурентним на світовому ринку праці, тому в освітньому процесі вищої школи необхідно застосовувати креативні методи навчання. Зазначено, що професійна підготовка майбутнього фахівця вимагає застосування в освітньому процесі вищої школи нестандартних, тобто, креативних методів навчання, використання креативних методів навчання сприяє розвитку креативності особистості, пошуку нестандартних рішень, що є визначальним у формуванні інноваційній активності фахівця як професіонала.

Ключові слова: активність, інноваційна активність, креативність, креативні методи навчання, майбутній фахівець.

Басюк Л. В., Доброскок И. И.

Использование в высшей школе креативных методов обучения как основа инновационной активности будущего специалиста

Аннотация

В статье раскрыто проблему использования в высшей школе креативных методов обучения как основу инновационной активности будущего специалиста. На основе анализа научной
литературы обобщенно понятие «инновационная активность». Отмечено, что понятие «инновационная активность» значительная часть ученых относит только к характеристике деятельности предприятия, а не к его работнику. Аргументированно целесообразность использования креативных методов обучения в образовательном процессе высшей школы. Доказано, что с помощью только традиционных методов обучения уже невозможно в полном объеме подготовить специалиста, который будет конкурентным на мировом рынке труда, поэтому в образовательном процессе высшей школы необходимо применять креативные методы обучения. Отмечено, что использование креативных методов обучения способствует развитию креативности личности, поиску нестандартных решений, является определяющим в формировании инновационной активности специалиста как профессионала.

Ключевые слова: активность, инновационная активность, креативность, креативные методы обучения, будущий специалист.