

УДК 338.24:37.014.54 (477):378.112

*A.A. Romanovskii,
Yu.Yu. Romanovska*

ECONOMIC AND MANAGERIAL INNOVATIONS IN THE SYSTEM OF HIGHER EDUCATION

Досліджено економіко-управлінські інновації у вищій освіті. Висвітлено напрями інноваційних змін у сфері вищої освіти. Розглянуто види інновацій у системі вищої освіти, які можуть призвести до подальших інноваційних змін. Здійснено аналіз інновацій навчально-педагогічного типу та інновацій організаційно-педагогічного типу в системі вищої освіти. Визначено роль підприємницьких університетів та інноваційний підхід до організації підприємницької освіти (навчання та тренінги підприємців).

The economic and managerial innovations in higher education are explored. Directions of innovative changes in the area of higher education are studied. Types of innovations in the system

of higher education which can lead to innovative changes are considered. Innovations of the educational-pedagogic type in the system of higher education and innovations of the organizational-pedagogic type in the system of higher education are analyzed. The role of entrepreneurial universities and the innovative approach to the organization of entrepreneurial education (teaching and trainings of entrepreneurs) is investigated.

Key words: economic and managerial innovations; innovations in the system of higher education; types of innovations in the system of higher education; entrepreneurial universities; entrepreneurial education.

Significant attention has been paid recently to creation and implementation of new methods, techniques and technologies in education. Effective management of innovative activities is important for the successful development and introduction of new technologies, and for further development of science and technology and economic growth of the nation. The questions of implementation of innovations in the system of education and the system of higher education, as well as the issues of innovative technologies in education and higher education and the questions of innovative developments in the USA [2; 3; 9], U.K. [1; 4; 8], Russia and Ukraine the following publication are dedicated [6; 7]. The processes of formation and development of innovation in higher education, innovation and entrepreneurial activities of the higher education establishments as well as the innovative policies of the higher education establishments, innovative management of universities and university management principles in the innovative economy, management of innovation in education and the innovative models of distance learning and innovation in information technology the following book is dedicated [7].

Analyzing innovative activities in the field of education one should take into consideration that it lies not only in the practical use of the latest scientific, scholarly and technological achievements and the results from the sphere of education and rich intellectual potential of educators with the aim of developing (producing) of the new or radically improved scientific knowledge, scientific and educational technology, high-quality educational services, and effective satisfaction of consumer demand in Ukraine and other countries for high-quality education. Educational innovative activity is also a process aimed at the development and introduction of new completed (received) results of national and international research and development (R&D) of other scientific and technical achievements in the field of economics, education, science and culture for their implementation on Ukrainian and the global education market, improvement of the educational process management, of the structure of the education system, encouragement of further scholarly search research in this area, future development of academic (university) entrepreneurship etc.

Very important are innovative solutions for financing and loans higher education and research in universities. It is, first and foremost, institute of universities endowments and participation of industrial and private capital in funding university R&D and training of skilled workers, engineers and scientists of higher qualifications – Bachelors, Masters and PhD. Also is very important the use of universities, colleges and other higher educational establishments (HEI) revenues from licensing, patenting and technology transfer for future use in their research.

The problem of the innovations in the system of higher education development. The problems of scientific management of the innovative processes in the educational activity

belong to the both scopes of economic and managerial innovation of higher education [7] and educational innovation [6]. Innovative processes in education which are viewed through the socio-economic, psychological, pedagogical, organizational and managerial lenses are the subjects of the innovative management. These contexts are the ones that determine the conditions in which innovation processes occur and which character they have – spontaneous or deliberately guided.

With the global economic transformation and distribution of market economic relations in higher education has appeared a phenomenon of academic capitalism, university entrepreneurship, commercialization of all spheres of education and research activities. The basis of academic (university) entrepreneurship is widespread laws and business practices to non-production educational and research activities of universities and colleges, receiving additional independent funding sources to support research and staff, further development of the educational process and scientific research. All these transformations are inherently economic and managerial innovations in higher education.

Innovative activity as a package of measures to ensure the effectiveness of the innovative process at different levels and in different areas of educational and research activities leads to changes in such components of the teaching and research process as the meaning, purpose, content, ways of new knowledge search and their comprehension (fundamental research), transformation and transfer of new knowledge (use of new knowledge in applied research, development of the new techniques and designs of new technologies), forms, methods, learning tools, and scientific research, management teaching process and research and so on. It is important for socio-economic growth of the society to promote and support entrepreneurship, organization and provision of business education.

It is known that the subject of pedagogical innovation in the higher education is a system of relations that arise in the innovative educational activities with the aim of establishing individual distinguishing features of the subjects of education: students, graduate students, trainees, teachers, professors and scientists, teachers, managers, and administrators. We think that the subject of the scientific and technological innovation in the field of higher education should be the study of the relationships and mechanisms that arise in the process of scientific and technological innovative activity with the active participation of professors and teachers, scientists, researchers, students, graduate students, engineers and technicians, support staff – on the one hand and customers and consumers (production and business) – on the other. In this case, obviously, the innovative changes occur in the following ways (Fig. 1). Be noted, that the scientific and technical innovations (the word based on the English word innovations) – is the continuous process of creative activity, aimed at creation of new products and services, technology and materials, technical solutions and of new organizational forms, which possess scientific and technological newness and those which allow for the fullest satisfaction of public and individual needs. Materialization and the industrial appropriation of novelties, which are based and established on scientific-technical activity and market research on identification of the unmet needs and demand, are the end-result of the scientific-technical novelties.

Scientific-technical innovations, as a rule, come to fruition in three phases and pass the following stages:

- 1) Research → creation of the first industrial samples.
- 2) Creation of the trial set → extensive production in the volumes which are determined by the market demand (market needs).
- 3) Production → creation of distribution channels → utilization by the end consumers (customers, users) → creation of the repair service.

It is important to note that while scientific-technical activity is evaluated by the number of discoveries and innovations (the number of registered patents and issued licenses), their scientific-technical importance is determined by the depth of the conducted research, innovative activity is characterized, first of all, by its commercial value — profit and economic effectiveness, competitiveness of the products and services of the enterprise as a whole.

The following types of Innovations exist:

- 1) Radical (foundational) innovations — revolutionary Changes in the development of technology and society, formation of new industries.
- 2) Growth (changing) innovations — improvement of properties of existing appliances and technologies.

Let us consider areas where innovative changes taking place in higher education, and desired outcomes of these innovations (Fig. 1).

- 1) *New educational content*: the formation of a new curriculum aimed at training people to self-actualization and independent life in society.
- 2) *New technologies in education*: development, creation and implementation of innovative technologies in education, total and comprehensive entrepreneurial and environmental education (training).
- 3) *New training programs and plans*: utilization of methods, techniques, tools of implementation of new training programs and plans.
- 4) *Comfort conditions*: creation of favorable conditions for self-determination of the individual in the learning process.
- 5) *Changes in the way ways of activities and style of thinking*: the motivation to change the way of thinking and styles as teachers, instructors, pupils and students, changes in the relationship between them, the creation and development of innovative community in all levels of educational institutions.
- 6) *Bringing up (Rising) of interest toward research and development*: education of youth' interest in research and design activities through involvement in research and design work, the desire to search, inventions and discoveries.
- 7) *Diversification of the sources of financing*: diversification of the sources and ways of financing of education, search for new ways for financial support of education, creation of innovative funds of financial-economic and material-technical support of education.
- 8) *Bringing up of interest toward academic (university) entrepreneurship, creation of conditions for entrepreneurship in universities*: educating and encouraging all members of the university staff to be interested in academic (university) entrepreneurship, educating and encouraging them to be interested in the commercialization of the results of educational, research and engineering activities, creating the necessary conditions (logistical, legal, system of incentives and rewards) for motivation and practical implementation of educational, scientific, technical and technological entrepreneurship in universities.

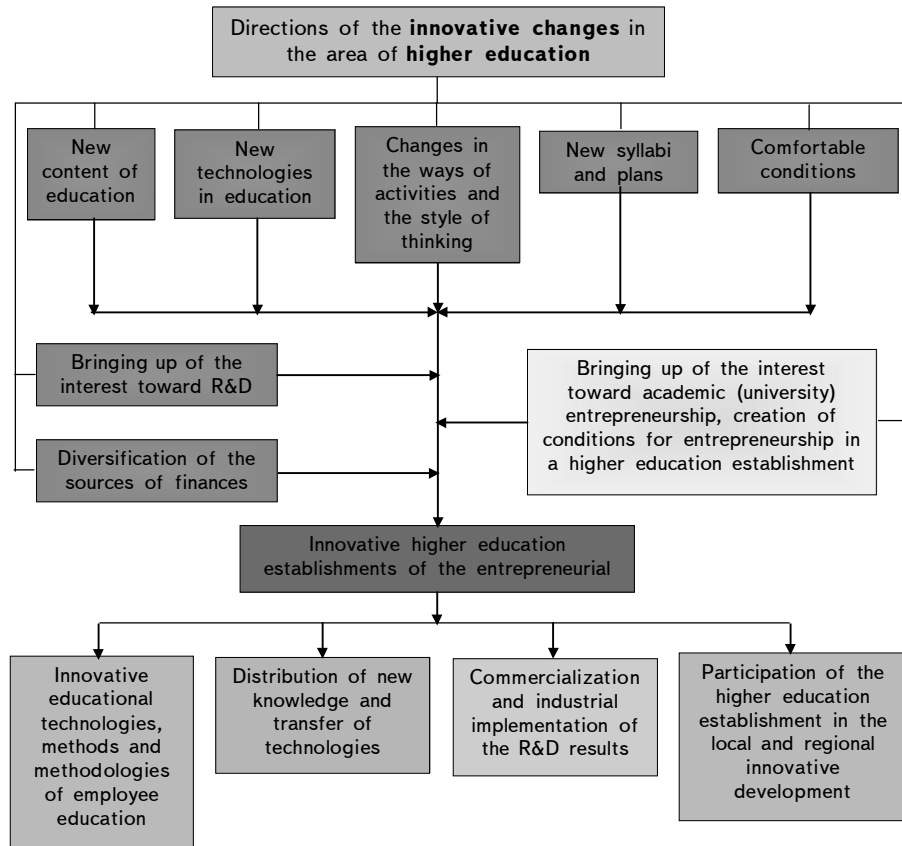


Figure 1. Directions of innovative changes in the area of higher education (authoring)

9) *Innovative higher education establishments of the entrepreneurial type*: creating innovative universities and colleges (other universities) of the entrepreneurial type as the result of mentioned above innovative changes and transformational change in higher education (Fig. 1). The following factors should be the results of activity of the universities and colleges of entrepreneurial type:

- *Innovative educational technologies, techniques and methods of training*
- *Dissemination of new knowledge, technology transfer.*
- *Commercialization and industrial implementation of results of R&D.*
- *The participation of universities and research institutes in the local and regional innovative development.*

Consider further types of innovations in higher education, which can lead to innovative changes (Fig. 2). They can be classified as economic – free market, technological, structural-pedagogical, educational-pedagogical and organizational-educational innovations:

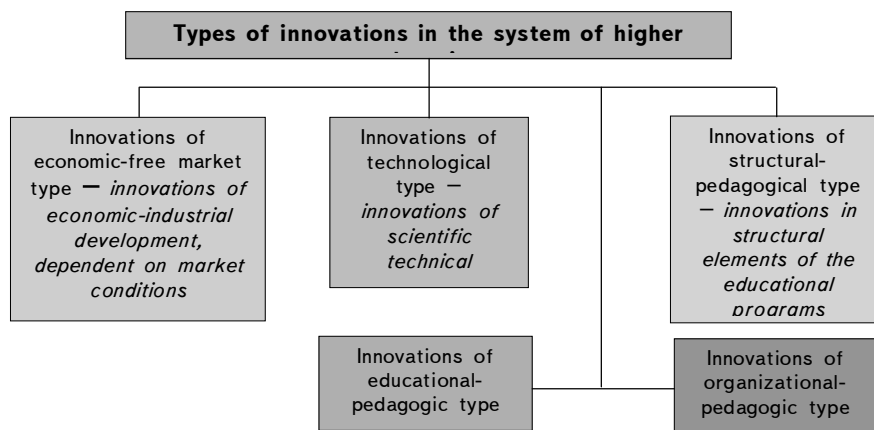


Fig. 2. Types of innovations in the system of higher education (authoring)

Innovations of the economic and free market-oriented type — they are the types of innovations which unite all innovations caused by scientific-technological and industrial and economic development of society: types and forms of education financing of educational services; educational institutions of various types, of educational services, of statutory (including — educational, scientific and educational and cultural) activity of education establishments; development of academic (university) entrepreneurship; commercialization of the results of educational (contractual forms of education, consulting, expert and other services), scientific and technical activities (R & D, technology transfer) etc. (innovations of economically-industrial development, depending on market requirements).

In the management of innovation in education innovative informational technologies, information and innovation management as well as innovation marketing are used [7]. They can occur almost in all types of the above mentioned innovations in the education system that can lead to innovative changes to achieve new quantity and quality levels of education. Information technologies use computers, the Internet and Intranet, distance methods of organization and management of educational activities, used to develop a variety of other information-retrieval systems, information and advertising and marketing materials (with web-design utilization).

Information management in education, which is based on the use of information technologies, is a subsystem of decision making and is aimed at management of the processes of creating, processing and distribution of information in the field of education. One of the main functions of information management in the sphere of education is the development of such organizational structure that would allow for timely and objective useful information in the right place at the right time and in a convenient form for effective decision-making. Implementation of the information management in education is dictated by the following circumstances: scientific and technical development of society, integration and effective utilization of funds for the development, implementation and

effective use of information technology (aggregate information resources, tools, and technologies that contribute to the right conducting of the whole process if management in education); necessity to integrate all the data that determine the effectiveness and efficiency of the education system as a whole and each educational entity separately (its components).

Information management in education is a system of strategic guidance of the innovative processes with the goal of studying of the major directions of educational, scientific-technical and industrial activity and finding reasons for existence of the system of actions toward realization of the innovative strategy. Its aims are the following:

- Development of plans and programs of innovative activity in education;
- Development and implementation of a single innovation policy in education;
- Preparation of scientific and educational experts and ensuring covering of all areas of education;
- Providing educational activities with necessary resources (material, labor, financial);
- Planning and selection of the best projects of world innovations (innovation) and control for its implementation;
- Creation of special groups of management and control for innovation activity at all stages.

Innovative marketing in education – ensures the effectiveness of the activity of the education system and educational institutions on the market innovations in education aimed at the formation or researching the demand for educational services aiming maximum satisfaction of the needs and demands of the society. Innovative Marketing is based on the use of new ideas and technologies that best contribute to the achievement of the purposes of the entire educational system and individual institutions. Innovative marketing in education is a function of innovation management in education. It starts with the stage of looking for new ideas toward new educational services and technologies that can best satisfy existing and potential demand with the future materialization and commercialization that ends at the stage of saturation.

Conducting market studies is necessary because: they help explore market conditions of educational services, identify requests, tastes and desires of consumers of educational services; forecast of the dynamics of demand for educational innovation, development of marketing strategies for innovations in education and more. The purpose of innovation marketing in education is achieving result of obtaining of the end practical result of the innovation. This result:

- is oriented toward gaining of the certain market share of educational innovations under a long-term goal, under which the innovative product was developed;
- Integrates research, production and marketing activity in educational management system;
- Is long-term oriented, which is why needs market research which is the foundation for creation of innovations which insure highly effective economic activity in the sphere of education;
- conforms to the requirements of potential consumers of innovation in education with simultaneous directed impact on their interests.

Innovations of the Technological type – these are new introductions in the system of education and teaching activities caused by the development of science, technology

and technology: finding and acquiring new knowledge dissemination (transfer) and the implementation of new knowledge and new technologies, distance-learning, web-design, the use of innovative information technology, computing, information and communication networks, the Internet and Intranet, as well as innovative marketing (*innovations of scientific and technological progress*).

Innovations of the structural-pedagogical type – these are innovations in shaping the goals, objectives and content of education (training and bringing-up), in the forms, methods, techniques, technologies of education, in the diagnosis system, in control, evaluation of results etc. (*innovations in the structural elements of educational systems*).

Innovations of educational-pedagogical types are the following types of innovations:

- Innovations in the education process, educational course, in the education sector, at the level of the system of education, in management of the education process (education), etc. (*innovations in the pedagogical process*).

- Innovations in the community and group learning, in individual types of learning (under the guidance of a teacher), tutoring, alternative family education, etc. (*innovations according to the types of interaction of the participants of the process*).

- Innovations to develop talents of students, teachers, instructors, namely the development and improvement of their knowledge, skills, ways of life and competencies etc. (innovative changes in the personal development of the subjects of the educational process).

- Innovations-conditions for updating of the educational environment, socio-cultural environment etc.; innovations — are educational products (pedagogical tools, projects, technology, etc.), management innovations — new decisions in the structure of educational systems and procedures of management to ensure their performance (*innovation by functionalities of the subjects educational systems*).

- Innovations in the activity of one teacher, methodical association of teachers, in one school, in a group of schools, in the region, on the state level and the international level etc. Innovations in the activity of one faculty members, of the department, of the university, of all universities in the region, state, on the level of international higher education (*innovation according to the size of their distribution*).

- Innovations in the educational institutions of a certain type, for specific vocational and typological groups of educators and teachers (*innovations according to the level of socio-pedagogical significance*).

- Innovations that combine different types of pedagogical innovations in the educational system (*complex educational-pedagogical innovation*).

Innovations of the organizational-pedagogic type are the types of innovations which are distinguished by the following:

- Planned, systematic, spontaneous innovations (*innovations according to the ways of their implementation*).

- Innovations: local, massive, global, etc. (*innovations according to the size of innovative decisions and actions*).

- Innovations: corrective, improvement-oriented, radical, revolutionary, etc. (*innovations according to the level of forecasted changes*).

Let us consider the content of innovations in more details, as well as some possible ways of practical innovative activity in education.

Innovations economic and industrial level depended on market demands, form new opportunities, forms and sources for further development and support of the education system and its structures, opening of new majors in educational establishments, serve increase of corresponding of education, research and service to the requirements of the modern society. These should include:

- Participation of private capital in creation and financing of educational establishments of all levels, of educational programs, providing loans for education for students and researchers.
- Creation of new private educational establishments for continuous learning, increases of professional qualifications and provision of opportunities to receive a joint profession by corporations, companies and enterprises.
- Creation of new educational and scientific-production complexes (with different types of universities, research institutions and enterprises), parks and more.
- Development of academic (university) Entrepreneurship: promotion of scientific research, discoveries and inventions, the disclosure of the results of R&D, their patenting and licensing for further implementation among researchers and instructors.
- The commercialization of the results of educational activities: contractual forms of education, consulting, expert and other professional services.
- Commercialization of research results and scientific and technical activities of an HEI through: patenting and licensing of discoveries, inventions, and other important results of R&D, technology transfer, education and launching together with industry (businesses) of new companies (spin-offs, start-ups) and others.

Innovations of scientific-technical progress. They may include:

- Utilization of information technology in the process of innovation management of the educational system (including higher education establishments): information and innovation management as well as innovation marketing.
- Organization of Distance Education — implementation of distance courses (subjects of curriculum), automated control of student knowledge, telebridges and internet conferences and seminars based on on-line information technology, program platforms of type Blackboard type and so on; utilization of intranet communication systems and so on.
- The use of information technology in the educational process: learning how to conduct web-design and how to use IT technologies at work. These include: electronic business (e-business), automation of scientific research and projects, automation and decision-making and industrial processes, information technologies in entrepreneurship, management, marketing and more.
- Organization of distance courses as follows: the invitation of foreign experts — professors from foreign higher education establishments in order to teach introductory lectures → distance teaching of the main body of the course → distance conducting of 3-4 intermediary tests in the presence of the Dean representative → final exam conducted by the Dean (Assistant Dean) → exam evaluation and grade entry to the electronic records (transcript) of the student.
- Utilization of the latest techniques and technologies while conducting foundational and applied scientific research by universities and other higher education institutions and research institutes, interpretation and dissemination of new knowledge, design and

construction of new techniques, the development and transfer of advanced technology, the introduction of R&D results for local, regional and national socio-economic innovative performance.

- Creation and launch of new spin-off and start-up companies by the innovative entrepreneurial universities.

Innovations in the structural elements of educational systems. The main purpose of such innovations is preparation (bringing up and education) of the modern professional of the international level who:

- Is fluent in the national (Ukrainian) language as well as in foreign languages – English and another foreign language (European or Eastern), and Russian language;
- Has the necessary professional knowledge and skills;
- Knows how to use a computer, information technology, and software;
- Is a good team player and knows how to work in a team;
- Has high moral and ethical principles and humanitarian values and beliefs;
- Is focused on healthy life-style and ecological behavior;
- Is patriotic and is ready to integrate with the international community.

For the continued improvement and increase of the effectiveness of preparation of professionals such new progressive tendencies in forms, methods, approaches and technologies of education are important:

- Organization of included training – study abroad; study of the courses (subjects) according to the curriculum of American universities at international higher education establishments, theoretical and practical internship in foreign (overseas) and joint (with foreign and Ukrainian capital scrap) companies, firms, corporations, financial institutions and enterprises.

- Organization of theoretical and practical seminars on the questions of business administration, leadership in social and economic activities for students, scholars, instructors and employees with invitation of foreign experts.

- Invitation of experts from foreign countries for giving individual lectures, or lecture series as well as teaching entire courses (subjects) from the curriculum of the higher education establishment in English (German) language.

For integration of scientific-pedagogical and material-technical strength as well as introduction of innovations in education, science and technology, developing of new technologies and obtaining of new knowledge it is also important to cultivate the practice of combining of the different types of universities in teaching and research and production systems and creation of techno-parks.

Innovations in the pedagogical process. The following innovations may be included here:

- Introduction of the system of credit-module education, intermediary (3–4 times during a semester) testing in each course, with the final grade being the combination of all grades during the course.

- Implementation of electronic transcript for each student, cancelling of the opportunity for test retaking with proving students with an option of retaking the course.

- Organization of the education process according to the principles of interdisciplinary and multidisciplinary. It allows students of higher education establishments to plan their

academic load and timing of completion of their studies in such a way so as to receive knowledge to the fullest amount and choose additional courses according to their desires.

Innovations according to the types of interaction between participants of the educational process. Utilization of the latest information technologies, of the Internet and Intranet systems, and of the distance learning systems lead to reformatting of the division of students from academic educational groups, courses (in their usual sense) to the virtual time units (according to an individual student's choice). Depending on students' preferences they can study remotely or by themselves (individually) or in a group (collectively). Distance learning can take place both at universities and at home (if necessary technical means are available).

Innovative changes in personal establishment of the subjects of education. The following examples may belong to this type of innovations:

- new forms and methods of testing of the knowledge, skills, and abilities of students and instructors;
- continuous improvement of knowledge of graduates, staff and instructors through continuous training and increase of professional qualification during life;
- organizing of regular exchange of students and teachers between domestic and foreign universities as well sharing of experience between universities in different countries;
- inviting well-known scientists, high-level professionals from different branches of industry and successful entrepreneurs for lecturing at universities.
- organization of theoretical and practical preparation of students in the real conditions of the economy, scientific, research and business conditions.

Innovations according to the functional opportunities of the subjects of educational systems.

Conditions for renewal of the educational environment, social and cultural conditions, may include the following innovative conditions:

- Organization of educational process according to the plans and programs of the leading universities from economically developed countries. Business, marketing and management (including management of international business) is advised to be studied utilizing primarily American syllabi of BBA and MBA programs, as well as university programs from other countries (Germany France, Spain, Scandinavian countries, Benelux, etc.).
- The combination of Ukrainian educational standard educational plans with the educational plans and curricula from excellent international universities to integrate the best in a particular field of knowledge, science and technology.
- The democratization of the educational process, allowing students greater opportunities for free choice of academic disciplines, expansion of the curriculum to include the subjects of free choice for students and educational establishments.
- Engagement of Student Government of universities in the process of improvement of the educational process and statutory activities of the institution.

Innovations according to the size of their distribution. It is desired so that the professional activity of each individual instructor will include innovations, as well as the activity of each educational establishment. It is desired for this to take place at the individual level, at the level of a department, the entire university, all universities and colleges in a region, in a country and in the international overall system.

Types of innovations according to their socio-pedagogical importance. At the present stage of economic and social globalization processes it is important to create innovative temporary teams of teachers. First of all, it concerns Ukrainian universities. Invitation of renowned specialists in different fields of knowledge, science and technology will enhance the quality of the educational process, will encourage students to study English language (the international language of business, science and technology) and other foreign languages, will allow them to further communicate with colleagues from abroad, read foreign literature in its original version, study global scientific and technological achievements by themselves.

The following innovations belong to the type of Complex educational-pedagogical innovations. Such innovations unite different types of innovations in the system of education:

- creation of innovative Educational institutions: virtual HEIs, open HEIs, international (joint) institutions, including institutions of international education;
- creation of programs of international education based on combination of foreign and national plans and programs with teaching the subject at native national language and foreign (English or other) language;
- Creation of innovative educational programs based on new information technologies, remote and open learning, interdisciplinary and multidisciplinary curricular, individualization and intensification of learning.

Types of innovations according to the ways of their implementation. It is advised to conduct planned, systematic and periodic innovations, i. e.:

- Implementation of new technologies and improvement of basic available educational technologies, organization of educational and bringing-up process processes and research activities in universities.
- Development of new forms, methods and contents of education, flexible response to social development issues, education market, and the requirements of the industrial economics.

Types of innovations according to the size and scale of innovative decisions and actions. Innovations should take place not only in separate departments of educational institutions, but also in the entire institutions. Innovations in the state, communal and private HEIs positively affect spreading of innovations in the entire educational system.

As far as innovations according to the level of forecasted changes, it will be right to state that all types of innovations that lead to further development of science and technology, formation of the modern professional of the high level are desired.

Phenomenon of Innovative Entrepreneurship at Universities and Colleges. The meaning of the term «entrepreneurial» lies in conscious effort directed toward the construction and development of an organization, which presupposes not only hard work but also a special approach to the task. Not being afraid of taking risks when the outcome is unknown is one of the main principles of this approach, and is also the key to success. An entrepreneurial university actively looks for new opportunities and ways of accomplishing even its major functions. Such a university attempts implementation of meaningful organizational changes in order to create a better future. Entrepreneurial universities want to be different from others and act according to their own rules. Earlier, the term «entrepreneurial» and the term «innovative» were used interchangeably

and were considered as synonyms. The concept of an «innovative» university is more attractive – it is gentler in comparison with an «entrepreneurial» university and it lets viewing entrepreneurial activity of a university as a new type of activity. The concept of an innovative university helps reducing and abolishing that negative attitude which most of representatives of academia have toward entrepreneurs (they view them as aggressive business people who are profit-oriented only). The entrepreneurial-innovative transformation of a higher education establishment is not a one-time event and does not happen by chance or when one entrepreneur ceases organizational power to rule over the organization (this would be an exception to the rule). If this happens, such an individual encounters enormous all-level opposition, which ultimately leads to the failure of his endeavor.

The real transformation takes place when a group of people in every university unit introduces innovative changes during a number of years, which changes the structure and orientation of this educational establishment. Collective entrepreneurial activity on the basic university levels is at the heart of the transformation phenomena [11–14]. Project oriented universities are also of great interest and are quite promising [10; 15].

Experience of the U.S. and other economically developed countries shows significant progress and achievement of entrepreneurial universities and colleges. The contribution of entrepreneurial universities into science, technology and economic development of their regions and countries as a whole are quite significant. The result of entrepreneurial activity of the leading universities is their high ranking and competitiveness in the market of educational and scientific services. Entrepreneurial universities are self-sufficient, perform important research and engineering development, implement new technologies, and promote cultural and spiritual development of both their students and faculty, and residents of the region. Fruitful and intelligent cooperation of entrepreneurial universities with business supported by the government provides the highest efficiency of their independent and mutually beneficial activities.

Many higher educational establishments all over the world are undergoing significant transformation with the aim of establishing themselves as entrepreneurial universities. The causes of this transformation are as follows: the cutback in state financial support, increasing competition in the education market, diminishing of the state control over university activity, the loss of competitiveness of numerous higher education establishments, reduction in the number of prospective students and so on. Entrepreneurial activity can significantly improve this situation, which is why discussing the issue of the development of entrepreneurial universities is so important. It is especially important in Ukraine, as Ukrainian higher education establishments need to find ways to deal with the mentioned above factors, which are especially pronounced in the country.

Innovative approach to the organization of entrepreneurial education (teaching and trainings of entrepreneurs).

The nature of the entrepreneurial education and professional training in entrepreneurship. Individuals can get entrepreneurial education and participate in teaching entrepreneurship and entrepreneurial training of staff in different periods of their lives, and that education, learning and training can be implemented in various ways (take a variety of forms). For example, all primary school pupils in Scotland have a class on «Entrepreneurship education», which is not a specific preparation for the

opening of business. It focuses on what it means to be entrepreneurial and tuned to the business; it teaches the basic concepts of entrepreneurship in more general terms. In some universities, students can get education in «about entrepreneurship» [5, p. 11].

This education is designed to teach how to open and run a business. Instead of the formation of a new company the main goal is in the context of academic studies devoted to entrepreneurship. Some students gain knowledge and study the experience of entrepreneurship, learning about entrepreneurship itself and exactly how and under what conditions it can be started. To provide the same practical assistance to employees who lost their jobs and became unemployed, employers or government agencies can offer training on opening an own business.

Entrepreneurship education can be defined broadly as the creation of general knowledge and skills «about entrepreneurship» or «about the goals of an entrepreneurial enterprise» in general. Entrepreneurship education can be provided as part of a recognized educational programs for primary (primary school), secondary (high school) or tertiary (university) level studies in educational establishments of various levels. Teaching Entrepreneurship is defined as the construction of knowledge and skills to prepare for starting a business. Thus, the purpose of teaching entrepreneurship is very specific, as opposed to the goal of entrepreneurship education, which may be much wider.

In addition to the opportunities for further training in entrepreneurship people can get education «on entrepreneurship» or «for entrepreneurship activity» and / or education in starting business in elementary and high school, college or university.

These courses can either be part of the formal education programs leading to a certificate or degree, or can include non-credit courses. Other programs of informal education, operating outside the formal education system may include courses, seminars, workshops and other training offered by local business organizations, employers or government agencies.

Some experts argue that the earlier people get involved in entrepreneurship, the more likely it is that they will become entrepreneurs in one form or another in their lives [16; 17]. Evidence of this can be seen in a greater prevalence of entrepreneurial activity among those individuals whose parents were private entrepreneurs or ran (opened) their own private business. We can assume that children of entrepreneurs are developing specific ideas, perceptions and entrepreneurship skills by watching their parents work and participating in the activities of the family business [5, p. 11].

Perhaps some education and training programs can replace this training. A question of what types of business skills and approaches to training work best arises. This may depend on the educational context, for example, on whether the teaching takes place in elementary or secondary school, college or university, or as an extra-curricular educational program. Many authors agree that experiential learning, or «learning by doing» is the most effective for the development of entrepreneurial skills and attitudes than traditional methods (such as lectures or distance learning courses). Several studies conducted in the innovation-oriented countries — Singapore, Sweden and the UK show that the experimental approach to learning is the best approach to teaching entrepreneurs [5, p. 11].

What should be taught? Business surveys have identified the ten most desired topics for achieving and managing rapid growth. First of all, those were business problems, such as: sales, finance growth, cash flow management, and the problems of hiring and training

employees. However, education and skills training in entrepreneurship, should be much wider and influence attitudes towards entrepreneurship, they should help people recognize and understand business opportunities and think creatively, create opportunities for them to develop leadership skills and provide confidence in their abilities [5, p. 11].

Thus, the purpose of entrepreneurship training should be encouragement of creativity, innovativeness and self-employment (entrepreneurship). Therefore, entrepreneurial education and skills training in entrepreneurship involve something more than just development of specific skills of running a business. This can affect the motivation of people to look for something that might seem impossible or too risky. In short, entrepreneurial education and professional training in entrepreneurship can create a positive perception and willingness of individuals to start a business (see, for example: European Commission, 2008. *Entrepreneurship in Higher Education, Especially Within Non-Business Studies: Final Report of the Expert Group*. Belgium: Brussels, 2008. — 68 p., from URL: http://ec.europa.eu/enterprise/policies/sme/files/support_measures/training_education/entr_highed_en.pdf).

Where to teach entrepreneurship. Entrepreneurship is essentially interdisciplinary. Since entrepreneurial education, professional training in entrepreneurship and preparation of entrepreneurship personnel require learning of numerous business skills, students of other non-entrepreneurial and non-business majors can benefit and benefit from such training. Now, many experts have begun to doubt whether business schools are the best places to learn entrepreneurship. This is because the most innovative and potentially promising ideas, those that can be really implemented, often appear in the fields of technical and creative disciplines and not in business [5, p. 11].

Requirements of education «toward learning entrepreneurship» question the usefulness of the traditional practice of education (training), implying a shift of thinking on key areas of education and training procedures [16; 17]. New pedagogical methods of teaching and interdisciplinary content represent new opportunities (challenges) for teachers and schools. A considerable amount of research indicates lag or unwillingness of school business education and teachers to meet today's requirements [5, p. 11–12].

Multidisciplinary business content and empirical approach require integration into basic training. Today the «education of trainers (coaches)» can require the same great effort as developing training programs.

Creative computer applications can attract and retain the interest of some people, influence their attitudes towards entrepreneurship and their understanding of entrepreneurship.

Although the needs and problems of entrepreneurship education and entrepreneurship training are numerous, there are also many opportunities to influence the perception and the development of skills and ambitions in existing and potential entrepreneurs.

Relationship of the entrepreneurship education (and training) and economic development. As already noted, GEM research has divided countries into three groups depending on their level of economic development. Then, the GEM theoretical model presents three sets of basic economic framework (conditions) that affect business in a country — namely, those that:

- represent the basic requirements for economic activities;
- increase efficiency and are accelerators (amplifiers) of efficiency;

- develop innovations and entrepreneurship.

As the GEM model presents, entrepreneurial education and training are presented in a form of specific entrepreneurial framework (basic) conditions which affect the entrepreneurial attitude, activity and aspirations (desires), and as a result, economic development [5, p. 13–14]. Many people in innovation-oriented countries believed that entrepreneurship could not be taught. Many people today still believe that education and training are not required to start a business. They cite the example of Bill Gates and Steve Jobs, who dropped out of college after a few years of school and achieved stunning success in business. However, it became apparent that these people do not represent a typical entrepreneur, especially for companies that produce products based on knowledge and services. Many governments in countries with innovation-oriented economy since then have declared their commitment to teaching entrepreneurship, identifying it as a key priority.

In these rich economies entrepreneurial education is properly set up, organized and developed, attention is paid to the evaluation of existing programs, sharing best practices, identifying problems and making recommendations.

Conclusions. Effective management of innovative activities is important for the successful development and introduction of new technologies, and for further development of science and technology and social and economic growth of the nation. The problems of implementation of innovations in the system of education and the system of higher education are very important for innovative technologies in education and higher education developments not only in Ukraine but in other countries of post-Soviet space.

Development of innovative approach in entrepreneurship, entrepreneurial education and training of the entrepreneurs and their impact on the economic situation of the countries is usually measured in terms of the following parameters:

- School entrepreneurship education and training in entrepreneurship.
- Transfer (implementation) of the results of R&D.
- Laws and regulations in the field of entrepreneurship, taxes.
- Government programs to support entrepreneurship.
- Financial support of entrepreneurship.
- Internal burden (load) of markets.
- Policy of support of entrepreneurship.
- After-school entrepreneurship education and training in entrepreneurship.
- Cultural and social norms.
- Professional infrastructure.
- The internal market dynamics.
- Physical infrastructure.

Globalization and internationalization processes, reduction of state funding, as well as commercialization of the field of higher education – all these factors lead to inevitable transformation of colleges and universities into entrepreneurial educational business structures, entrepreneurial universities. The problem of surviving of Ukrainian higher education establishments in the difficult post-world crisis conditions strongly demands introduction of effective entrepreneurship in the field of higher education. Positive experience of such transformation in the leading world countries as well as in several national colleges and universities provides evidence for effectiveness of this approach.

This approach may be a great way of helping Ukrainian universities and colleges become self-relying financially independent and highly competitive educational organizations.

Over 20 years, the Association of non-state (private) ownership educational institutions of Ukraine performs the leading role in training of the young generation of entrepreneurs, businessmen, managers, marketing specialists and a wide range of specialties in the field of economics, information technology, and many humanities. The thousands of bachelors, masters and doctors and professional specialists with good education and professional skills were trained for the national economy of independent Ukraine. Universities, institutes and colleges of the Association are optimistic about their future!

1. Annual Innovation Report 2008: [Electronic resource]. — Mode of access: <http://www.dius.gov.uk/innovation>; 2. Best US Universities for Innovation Transfer? Comparing Innovation Transfer Activities of U.S. Research Universities. Copyright 2011. — Innovation Excellence: [Electronic resource]. — Mode of access: <http://www.innovationexcellence.com/blog/2011/12/14/best-us-universities-for-innovation-transfer/>; 3. Innovation and Competitiveness /The Association of American Universities (AAU): [Electronic resource]. — Mode of access: <http://www.aau.edu/policy/article.aspx?id=4692>; 4. Innovation Nation White Paper, 2008: [Electronic resource]. — Mode of access: http://www.dius.gov.uk/reports_and_publications/~media/publications/S/ScienceInnovation_web; 5. Global Entrepreneurship Monitor Special Report: A Global Perspective on Entrepreneurship Education and Training /Alicia Coduras Martnez, Jonathan Levie, Donna J. Kelley, Ragnvaldur J. Sæmundsson and Thomas Schutt // GEM, 2010: [Electronic resource]. — Mode of access: <http://www.gemconsortium.org/docs/download/276>; 6. Хуторской А.В. Педагогическая инноватика: учеб пособие для студ. высших учеб. заведений / А.В. Хуторской. — М.: Издательский центр «Академия», 2008. — 256 с.; 7. Романовський О.О. Феномен підприємництва в університетах світу: монографія / О.О. Романовський. — Вінниця: Нова книга, 2012. — 503 с.; 8. Science and Innovation Investment Framework 2004–2014: [Electronic resource]. — Mode of access: http://www.hm-treasury.gov.uk/spending_sr04_science.htm; 9. The Competitiveness and Innovative Capacity of the United States. January 2012. Prepared by the U.S. DEPARTMENT OF COMMERCE In consultation with the NATIONAL ECONOMIC COUNCIL: [Electronic resource]. — Mode of access: http://www.commerce.gov/sites/default/files/documents/2012/january/competes_010511_0.pdf; 10. Bargaoanu A. Project oriented university — an emerging concept / A. Bargaoanu, E. Negrea, L. Calinescu // Management & Marketing. — 2007. — 2 (4). — P. 55–64; 11. Clark B.R. Creating Entrepreneurial Universities: Organizational Pathways of Transformation. IAU PRESS. ISSUES IN HIGHER EDUCATION / Wagon Lane, Bingley BD16 1WA. — UK: Emerald Group Publishing Limited. Howard House, 2008. — 164 p.; 12. Clark B.R. Sustaining Change in Universities. Continuities in Case Studies and Concepts. The Society for Research into Higher Education & Open University Press / SL6 2QL. — England: McGraw-Hill, 2004. — 212 p.; 13. Etzkowitz H. The Triple Helix: University-Industry-Government Innovation in Action. — New York & London: Routledge, Taylor & Francis Group, 2008. — 164 p.; 14. Gibb A., Paul H. Towards the Entrepreneurial University? National Council for Graduate Entrepreneurship. Working Paper 035/2006 // The NCGE Working Paper series, Sept. 2006: [Electronic resource]. — Mode of access: <http://www.ncge.org.uk/communities/index.php>; 15. Грудзинский А.О. Проектно-ориентированный университет. Профессиональная предпринимательская организация вуза: монография / А.О. Грудзинский. — Н. Новгород: Изд-во ННГУ, 2004. — 370 с.; 16. World Economic Forum. Educating the Next Wave of Entrepreneurs: Unlocking Entrepreneurial Capabilities to Meet the Global Challenges of the 21st Century: A Report of the Global Education Initiative. — Switzerland: World Economic Forum, 2009. — 179 p.: [Electronic resource]. — Mode of access: https://members.weforum.org/pdf/GEI/2009/Entrepreneurship_Education_Report.pdf; 17. World Economic Forum. 2009. Educating the Next Wave of Entrepreneurs: Unlocking

Entrepreneurial Capabilities to Meet the Global Challenges of the 21st Century: Executive Summary Report on Entrepreneurship Education. World Economic Forum, Global Education Initiative. – Switzerland: Davos-Klosters, 2009. – 35 p.: [Electronic resource]. – Mode of access: http://www.stanford.edu/class/e140/e140a/handouts/Educ_Next_Wave_Entrepreneurs.pdf.

The article is recommended to be published in the present state by the following scientists:

Baulina T.V., doctor of science (economics), professor, head of the department, Academician Yuriy Bugay International Scientific and Technical University.

Mykytenko V.V., doctor of science (economics), professor, Chief Researcher, Public, Institution «Institute of Economy of Nature Use and Steady Development of NAS of Ukraine».