

**HEAD EDITOR PAGE****Viktor ANDRUSHCHENKO**

PHILOSOPHY OF INFORMAL EDUCATION: PROBLEMS AND PROSPECTS ..... 5

**URGENT PROBLEM****Volodymyr LUGOVYY, Svitlana KALASHNIKOVA, Olena SLYUSARENKO, Zhanna TALANOVA**

NOBEL LAUREATES AND TOP HIGHER EDUCATION INSTITUTIONS, COUNTRIES AND CONTINENTS WITH LEADING UNIVERSITY POTENTIAL..... 10

The article explores the role of prominent higher education institutions, countries and continents with the powerful university potential in the formation of Nobel laureates as human development leaders. It was identified that in total 326 institutions from 51 countries on 6 continents have been involved in the formation (education, internship, employment) of 835 Nobel Prize winners in physics, chemistry, physiology or medicine, literature, peace, economic sciences. The shared and collective character of institutional participation via academic mobility in the formation and functioning of the laureates was determined. On the one hand, one institution typically participated in the formation of nearly 8 laureates (with variation range from 1 to 89 laureates); on other hand, the formation of each laureate, as a rule, was realized in several institutions. The dominant contribution in the formation of laureates is done by top-institutions in the TIMES and Shanghai Rankings that accordingly provide for 87,0 and 91,8 % of all cases. The most significant contribution (above 40 %) is assigned to institutions that occupied positions 1 to 30 in the above rankings. A strong correlation was revealed between ranking position of an institution in the above mentioned rankings and its productivity in the formation of laureates. The average age of such high-ranking institutions is over 200 years old. The major producers of laureates are institutions of USA, United Kingdom, Germany, France, Switzerland, the Netherlands, Russian Federation, Canada, Sweden, Japan, Austria, Australia and Italy that provide for 93,2 % of formation cases. Among the continents, the biggest contributors are institutions of the North America – 52,4 % and Europe – 42,7 %. The experience of organization, operation, development of leading universities network, countries and continents with high university potential can serve as an example for modernization of Ukraine's higher education, as well as other countries, aiming at efficient formation of the national elite relevant to research-innovative type of social progress.

*Key words:* Nobel laureates, formation (education, internship, employment), top higher education institutions, leading university potential, countries, continents.

**Ludmila SHULGINA**

ANALYSIS OF ECONOMIC AND FINANCIAL CONDITIONS OF GETTING HIGHER EDUCATION IN UKRAINE ..... 21

It has been proved the importance of improving the human assets formation system in the article. The results of financial and economic conditions researches of getting higher education in Ukraine have been set forth. It has been analyzed indexes of tuition fees, as well as the normal and higher scholarship in some universities of Ukraine. The effect of the position of the studied universities on tuition fees in rankings has been illustrated. It has been defined portions of training cost and scholarships in per capita GDP of Ukraine and the cost of the consumer basket. The necessity to revise the consumer basket composition as the basis for determining a training cost and education loan values has been proved.

*Key words:* the cost of education, educational service, the portion of the cost of education in GDP per capita, the share of tuition fees in the cost of consumer basket.

**EDUCATION PHILOSOPHY OF THE XXI CENTURI:  
SEARCH FOR PRIORITIES**

**Mariya NESTEROVA**

**COGNITIVE ASPECTS OF MAKING OF MANAGERIAL DECISIONS: HIGHER  
EDUCATION TASKS .....32**

Cognitive aspects of decisions making in modern socioeconomic sphere are considered in the article. Effective thinking skills and an ability to work in the semi structured systems and situations, knowledge of cognitive technologies are the supposed set of expectations from market participants and, accordingly, modern system of higher education. Use of cognitive technologies, in particular cognitive modeling both in management practice and higher education system are considered to be perspective in order to solve these problems.

**Key words:** higher education, cognitive models, cognitive technologies, decisions making, socioeconomic systems.

**Gennadij MOSKALIK**

**PHENOMENON OF EDUCATION IN PEDAGOGICAL DISCOURSE AT THE TURN  
OF CENTURIES .....38**

It is considered in the article to be a necessary part of socializing education at the turn of the century that should prepare a modern man to life in the new environment the way of innovative teaching. Pedagogical discourse simultaneously unfolds in ordinary schools and institutions of a new type. Taking this into account there are various interpretations of educational content, the essential features of which are revealed through its forming or developmental nature. Therefore, in modern pedagogical discourse the significant attention is paid to defining meaningful aspects of education.

**Key words:** education, innovative teaching, teaching creativity.

**INNOVATIVE SCIENCE AND MODERN EDUCATIONZ.**

**Zinaida TARUTINA**

**THE LATEST ACHIEVEMENTS IN STUDYING A HUMAN BEING AS MEANS OF  
IMPROVEMENT THE QUALITY OF HIGHER EDUCATION .....45**

It is pointed at the specificity of those problems which a modern higher education faces in the context of internet development and fast technological changes. A possible number of students is close to the limit and difficulties in providing heterogeneous students according to their skills with a qualitative education have increased. The necessity of using in higher education achievements of new sciences about a human being – genetics, ethology, neurobiology and others is proved. The examples are made and the use of other achievements in all exact sciences is offered.

**Key words:** general higher education, training quality, competence, information technologies, networks, sciences about a human being, cerebation laws.

**Dmitrij KASYANOV**

**TRANSFORMATION OF EDUCATION IN THE CONTEXT OF NANOTECHNOLOGICAL  
DEVELOPMENT REQUIREMENTS .....52**

Transformation processes in education are considered in the context of its role increase in preparation of the person for perception and realisation of nanotechnological development requirements. It is emphasized that globalization and individualization, generated by high technologies, are the main tendencies of human assets role reversal in the society of knowledge.

**Key words:** education, culture, science, education modernization, nanotechnologies.

**Alexandra KOSENKO**

PHYSICS IN HIGHER EDUCATIONAL INSTITUTIONS DURING NANOREVOLUTION ..... 59

The course and prospects of nanorevolution in the exact sciences and technologies have been researched. It has been proved the necessity of transition from micro- to nano-size products and devices. It saves materials very much and enables to embody processes which are impossible in a macro- and micro world. On the model of Russia and the developed countries it is time to begin preparation of experts on "nanotechnologies" direction and develop fundamental nanosciences actively.

*Key words:* classical sciences, nanosciences, nanotechnologies, nanorevolution, higher education reforms.

**PERIOD OF CHANGE: EDUCATION PROCESS METHODOLOGY AND METHODS**

**Yurii BOBALO, Bohdan MANDZII, Petro STAKHIV, Natalia SHAKHOVSKA**

CONCEPTIONS OF ELECTRONIC TEXTBOOKS CREATION FOR HIGHER EDUCATIONAL INSTITUTIONS ..... 65

The work presents the concept, the principles of electronic textbook working out. The elements of electronic textbook and evaluation complexity factors of student knowledge are determined. It is described the verification procedure and evaluation of gained knowledge. The algorithm for automatically check tests due to the formula note is worked out. Providing with incoming and outgoing data for tests is formalized.

*Key words:* e-textbook, off-campus study, virtual learning environment

**Yelena SEMENIKHINA, Inna SHISHENKO**

IT EXPANSION CONSEQUENCES AND MATH TEACHING IN HIGHER SCHOOL REVERSAL OF ACCENT ..... 71

It is becoming apparent today inevitability of future widespread use of information resources by youth, and therefore, the cornerstone of modern technologies of teaching mathematics is the need for reorientation of the younger generation from consumer electronic mathematical resources to thoughtful people of mathematical computer tools. This, in particular, confirmed by the experience of mathematics education, which not only requires the active use of IT in the field of mathematics, but also determines the need for the formation of young people critical attitude to the current computer environment of mathematical sciences and the results that they obtained.

*Key words:* information technologies, the impact of IT, computer tools, teaching mathematics.

**HUMANIZATION OF EDUCATION AND TRAINING**

**Roman OLEKSENKO**

ECONOMICAL EDUCATION AND TRAINING AS MEANS OF DEVELOPMENT OF MODERN BUSINESS WORLDVIEW ..... 79

Development of the modern market provides high level of social and economic, civil and moral culture of a businessman. It predetermines necessity of a qualitative economic education and training in the society in which fundamental bases for creation of the newest formation businessman are provided. But in Ukrainian transformation society such education and training have only been created. As a result of this conceptually-theoretical, philosophy-worldview research of economic education and training development in our country are very topical as basic means of a modern businessman formation. The primary goals of business worldview bases education and training and generation of a new formation businessman are considered in the article.

*Key words:* education, training, business.

**Natalia PARISH**

**RESEARCH AND EDUCATIONAL TECHNOLOGIES IN FORMATION OF ECOLOGICAL CULTURE OF ENGINEERING AND PEDAGOGICAL SPECIALITY STUDENTS.....86**

The use of information technologies is aimed to form readiness of the future engineers-teachers to use computer technologies in professional activity, as result of special training representing integrated education of the future engineer-teacher person arising in uniting of motives, theoretical and professional-meaning knowledge, abilities, skills and pedagogical experience related to engineering-pedagogical activity.

**Key words:** person, culture, nature, activity, ecology, education, training.

**FOREIGN EXPERIENCE**

**Vasyl BARANOVSKIJ**

**ACCESS TO HIGHER EDUCATION IN THE CONTEXT OF STRATIFICATION CHANGES IN WESTERN COUNTRIES .....94**

It has been taken a shot of stratification changes and social mobility objective analysis in modern western societies, tendencies of its social-class structure development and influence of stratification changes on access of citizens to education, in particular – higher, has been shown in the article based on researches of modern sociologists. It has been underlined that so-called "middle class" diminishes in modern western societies and increases differentiation on "rich" and "poor". It has been underlined the growing role of cultural and educational assets in the system of stratification changes and social mobility of Western countries. The article emphasizes that educational system of Western countries was also stratified on elite, increased, middle and low level with formal equality of society members. Thus, modern education camouflages the real inequality quick, than serves as an "elevator" on smoothing positions. The conclusion is done, that social inequality in western societies is to a great extent determined with a strategy of higher classes or its conservative part reflecting its predominance.

**Key words:** education, higher education, access to education, society, information society, stratification of society, social stratum (classes), social inequality, social mobility, Western countries.

**Mariya DEBICH**

**HIGHER EDUCATION EVOLUTION AT THE TURN OF THE CENTURY AND IN THE FUTURE.....107**

The phenomenon of world higher education big quantitative and qualitative changes in the second half of the XX-th century is considered. Structural innovations and expansion of problems of higher education are researched in details. Discrepancy of computerization in secondary and higher schools is emphasized. The phenomenon of sciences accelerated development at universities and research institutes is specified for Europe. It is offered to develop cooperation of Ukraine and the European Union particularly in these perspective themes.

**Key words:** higher education, reforms and innovations, education quality, general education, Bologna process, Lisbon project.