

## ABSTRACT REVIEWS OF JOURNAL ARTICLES

### INNOVATIVE APPROACHES TO FORECASTING OF CONTENT OF NATURAL-SCIENCE, TECHNOLOGICAL AND PROFESSIONAL EDUCATION

**Oksana Gurianova**

**Relevance of studying of innovative restaurant technologies for the future specialists of the food technologies**

Article is devoted to increase of efficiency of receiving by students of system of knowledge of organizational, standard and legal issues of use of innovative restaurant technologies. The purpose of article is research of innovative restaurant technologies and definition of ways of formation at future specialists of food branch of scientific approach to studying of the innovations used in the modern industry of restaurant economy. In article theoretical and empirical methods of research have been used. Essence of the concepts «innovation», «innovative activity», «innovative process», etc. are considered by the author. Classifications of innovations by various signs are investigated. Introductions of an innovative component to technology of food and the offer of special services, application of the interactive (electronic) menu of the screen tablet on tables, the touch display, application of a QR code in marketing of the enterprise, the LED technology of the notification, food 3-D printers, touch producers of food, use of three-dimensional projections for demonstration of preparation of dishes, automation and informatization of processes at the enterprises, use of web and telecommunication technologies is analyzed in the article. The main directions of development of modern technologies in institutions of restaurant economy are: creation of restaurants as Free Floor; opening of food-courts; creation of the conceptual enterprises of restaurant economy; expansion of a network of the virtual restaurants providing the order on the Internet and delivery to the consumer; preparations of dishes in the presence of visitors; organization of service for system catering and others. New ideas, advanced restaurant products and services, technological processes, forms of the organization and management will be result of innovative development of institutions of restaurant economy. Introduction of innovations isn't cheap, however having offered exclusive menus and services for clients, restaurant institutions are capable to ensure a survival and profit. Processes of high-quality transformation of the sphere in general and ensuring competitiveness of her separate objects are result of introduction of innovative technologies of rendering of services and formation of service according to modern requirements. Innovative development of restaurant technologies increases competitiveness of an institution in modern severe conditions. It is necessary to pay attention to the main current trends of development of science and equipment, a novelty and the invention in food sphere and in the market of services.

**Keywords:** innovations, innovative restaurant technologies, restaurant innovation, restaurant service, professional education, food technologies.

**Natalya Myronenko**

**A place of innovative activity is in professional preparation of future specialists of готельно-ресторанного business**

Beginning of XXI of century is a period of active development and updating of socio-economic, social and political spheres of life, making and introduction of new technologies. A modern labour-market requires preparation of new generation ready to realization of innovative activity. The innovativeness is a sign of modern society, objective reality that needs to be realized and accept. Having regard to development of hotel-restaurant business in recent year extraordinarily important is quality preparation of future specialists of this industry. Leading role in preparation of specialists capable satisfying a modern labour-market is required to the pedagogical workers. It envisages development of new methodical materials, willingness of teachers to carry out this innovative activity. Innovative activity can and must do the payment in organization of educational process and his perfection. Therefore a large value is acquired by training of pedagogical personnels to his realization. There is a problem of readiness of teacher to the use of innovations in an educational process not only in the value of ability to realize a new didactics task, analyse possibilities of new types of educational-cognitive activity, but foremost in the value of presence for him of corresponding personality experience, breadth of understanding of problem of innovative activity and comprehension of own willingness to participate in this process. A study of questions of introduction of innovations during preparation of future specialists of hotel-restaurant business is actual and perspective in light modernisations of the system of national community. In the article the essence of innovation and reveals its importance in the modern education system. The role and place of innovation focus of future specialists of hotel and restaurant business in the course of their training.

**Keywords:** innovations, innovative educational activities, project method, a hotel and restaurant business.

**Mykola Sadovyi**

**Founders of one from Ukrainian scientific school – plasma physics**

The article considers the problem of formation of the Ukrainian scientist in the branch of plasma physics and thermonuclear fusion Oleg Oleksandrovich Lavrent'ev – Doctor of Physical and Mathematical Sciences, Honored Scientist of Ukraine, plasma installations creator of the «Jupiter». It expands its role in the development of plasma theory and its practical application at the Kharkiv Institute of Physics and Technology. On the history of the Soviet Union's nuclear and thermonuclear bombs written quite diverse and even monographs. The role of Soviet scientists, apart from western loans classified information reflected in them quite objectively. It cannot be said about the history of the CNF (controlled thermonuclear fusion) in our country.

Fathers ideas fusion with magnetic confinement of hot plasma in fusion reactors is considered Sakharov and Tamm. Yes, it is true, but what if it is almost never mentioned the name of O.O. Lavrent'ev – this is definitely a great injustice. With 18 years went voluntarily to the front, was in intelligence. Independently overcame a year program for high school (three classes). Peredplachuvav journal «Physics-Uspekhi», which is intended for researchers, graduate students. In addition, he alone mastered differential and integral calculus course mechanics, heat, molecular physics, atomic physics electrostatics. The value O.O. Lavrent'ev idea was to put forward his principle of operation of the hydrogen bomb deuterium  ${}^6\text{LiD}$  lithium as the main nuclear fuel from uranium detonator, which is located in the center of the sphere filled  ${}^6\text{LiD}$ , in principle, gun rapprochement between the two subcritical masses of sharing material. In 1958 in Kharkiv Institute of Physics and Technology launched the first electrostatic «lovushka» C1 Oleg Lavrent'ev. Started successful research plasma define its parameters. Then secrecy was lifted fusion research, because it turned out that in the world were dozens of such devices. 1968 was a turning point in research activities O.O. Lavrent'ev. In Novosibirsk conference on plasma physics and controlled fusion of his work received international recognition. A year later, adopted a program of «Jupiter». Were built experimental one slit pulsed magnetic fields of the «Jupiter-1A», «Jupiter-1M» and electrostatic field «Jupiter-1E».

**Keywords:** plasma, controlled thermonuclear fusion, hydrogen bomb, physics history.

**Olena Tryfonova**

#### **Relationship evolution of technology computer architecture and modern scientific world**

**Abstract:** The article deals with the problem of the relationship and influence the evolution of computer architecture technologies and modern scientific world. New technologies with high potential can be demanded by the market. Differ new, not new – improved, usable and obsolete technology. Not new, but improved technology can be effective, and tested when the market becomes standard. It is important that this standard is correlated with the market demand. This determines the lifetime of such technology. Useful technology usually are temporary satisfy demand. Outdated technology has low demand and leads to extensive road development. In recent years have developed several types of supercomputers: vector; vector-belts; parallel with distributed memory; Parallel with shared memory; cluster. Thus, a brief overview of technology design and production of computers makes it possible to conclude that this process is fundamentally influenced the formation of the modern scientific world, as well as provides insight into the effects of micro-, macro- and megaworld make appropriate conclusions. The development of national high technology development began in 1953 in Europe nayshvydkodiyuchoyi computer. Its performance was 8,000 - 10 000 transactions per second. This machine was created under the guidance of Academician of the USSR S.O. Lebedev (1902-1974). Over time performance improved modification of such machinery amounted to 1 mln. Operations per second. A high performance – 125 million. op/s – owned domestic multiprocessor computing complex «Elbrus-2», created in 1985 in mechanical or electrodynamic paintings in the world are no technological elements of computer systems, no features can work in man-machine mode. Use of computers has expanded not only the number of mechanisms, machines and other devices, which joins the computer, but also introduced a «smart» capabilities. In particular, information retrieval systems and databases grow in the knowledge base, which promotes development of the Internet. In knowledge bases stored not only data, but also the development of new rules on claims already available. This means that the database is able to generate new knowledge. Listed applies to new, modern scientific world that is constantly evolving and supplemented. Prospects of further scientific studies related to the study of patterns of formation and development of the modern scientific world.

**Keywords:** technology, scientific world, computer systems.

**Gennadiy Shyshkin**

#### **Formation of integrated knowledge in physics lecture course the students of pedagogical universities.**

The article is devoted to the methods of physics lectures for students of technological specialties at pedagogical universities. The method of lectures is based on principles of integration of knowledge in the disciplines of nature-science and professional cycle of specialists' training. Attention is paid to the necessity of forming of students' basic knowledge which necessary for further successful mastering of professional disciplines. Forming of integrated knowledge in physics disciplines and technological training of teachers is considered as the main problem of modern system of teachers' training. There have been experimentally proved that the formation of integrated knowledge largely depends on proper organization and method of lectures. The analysis of curricula and training programs for future teachers of technology indicates a decrease the number of hours of lectures in physics by 43% in recent years, which affected the level of knowledge of graduates of pedagogical universities. The article proposes the ways of realization of interdisciplinary connections at physics lectures and invariant component of educational lectures material. There have been determined that in the study of physics from the standpoint of fundamental theories on the qualitative and quantitative levels, lecturer should explain students the impact of mechanisms of modern techniques and technologies on the environment and society. The content of lectures should include an introduction, invariant and variable parts. There have been experimentally proved that the proposed approach of forming of integrated knowledge in study of physics as the fundamental basis of engineering and technology, significantly improves the quality of training. It has been proved that the quality of professional training of future teachers of technology is greatly enhanced if at the lectures on physics the attention will be paid to the formation of representations of natural phenomena, objects of modern technology and technological processes at the level of individual models. This approach to the formation of integrated physical knowledge provides fundamental training of professionals and promotes deeper knowledge assimilation of natural-scientific disciplines and also technical and technological cycles of preparation of future teachers.

**Keywords:** educational process, integration, lectures, physics, professional, technology teacher.

## METHODICAL ASPECTS OF FORMATION OF PROFESSIONAL COMPETENCE OF PROCESS OF TRAINING OF STUDENTS AND PUPILS

**Anna Boreichuk**

**The content and structural features instrumental competencies of lawyers**

This article analyzes the features of the competency approach to contemporary legal education characterized instrumentalni competencies that exist in modern pedagogical science that should appear in future lawyers in the learning process, the ability to analysis and synthesis, written and oral communication skills in their native language, the ability to find and analyze information from different sources, ability to solve problems, the ability to make decisions, revealed their contents.

**Key words:** educational process, competence approach, future lawyers, instrumental competence, professional activity.

**Nadiya Borysenko**

**Organizing the experiment on checking the pedagogical conditions of training the intending technology teachers to forming basic school pupils artistic and technical skills**

The article is aimed at describing the general framework for organizing and content of the pedagogical experiment on technology teachers training to form basic school pupils' artistic and technical skills, methods of implementing the stages of the experiment. Objectives and content of the main stages of the pedagogical experiment (stating, molding, controlling) were characterized, on the base of which the conclusion on the efficiency of the grounded pedagogical conditions, of the developed model, of the proposed methodology for intending technology teachers forming the artistic and technical skills of basic school pupils. Diagnostic tools used in the process of studying the levels of formation of each of the specified components of intending technology teachers' readiness for the designated activity (motivational, cognitive, operational, and reflexive) were presented. The above mentioned tools included: 1) observing aimed at defining the students' interest in using the artistic and technical skills in the practical laboratory work and the state of the students skills formation; 2) a survey aimed at determining the perceptions and attitudes of students and technologies teachers to form the artistic and technical skills of the intending technology teachers and the need to develop these skills for the basic school pupils, as well as to examine the state of students readiness of the control and experimental groups to form the artistic and technical skills of basic school pupils. Testing was intended to identify the level of knowledge available to students for forming the control and experimental groups, and find out the state of formation of the cognitive component of preparedness. Testing was aimed at defining the level of the students existing knowledge to form the control and experimental groups, and find out the state of formation of the readiness cognitive component. Applying the analysis of the students activity results made it possible to represent the objective view of the intending technology teachers in the practical performance, to draw conclusions on students neatness, diligence, aesthetic tastes, the condition of forming the artistic and technical skills. Identifying the degree of formation of the intending technology teachers artistic and technical skills was carried by means of the specially designed diagnostic and creative tasks. Peer review of the formation of readiness components was applied to improve the objectivity of the data. The received results of the experimental studies demonstrate the positive changes in forming the components of the experimental groups students readiness to forming the basic schools pupils artistic and technical skills. Prospects of the investigation are made of studying the possibilities of using ICT to improve the intending technology teachers artistic and technical skills.

**Keywords:** the pedagogical experiment, the pedagogical conditions, technology teachers, artistic and technical skills.

**Olga Vnukova**

**Pedagogical component of professional competence of future engineers-teachers**

The article addresses the competence approach in preparing future engineers-teachers. We use methods of comparative analysis and synthesis, generalization and systematization the definition of «competence», «professional competence», «pedagogical competence» and structure engineer-teacher competence which involves engineering and teaching staff are dealt with. Researchers on the use of competency approach in training future engineers and teachers analysed. Pedagogical competence of students of the educational degree «Master» specialty 015 Professional education (with specializations) as elements of the educational component of professional competence of engineers, teachers and pedagogical conditions of entry to higher education have been identified. It includes the ability to solve educational problems based on their categories and methodological foundations of pedagogy; regularities and laws of anatomical and physiological age and mental development of students, theoretical comprehension and awareness of the types of teaching and educational goals in vocational education; introduction of modern pedagogy ideas and innovative methods education and upbringing in the educational process, possession of educational technology; understanding the perspectives of development of society and professions and the ability to foresee the consequences of pedagogical influence; abilities and skills to demonstrate knowledge of the professional sphere to solve educational problems, presentation of scientific material, its arguments in writing and orally expression with the ability to design scientific publications; ability to education management, self-management; the ability to adapt scientific achievements to practice using theoretical and experimental methods; ability to learning and professional development. Formation of the list of professional competence is a prerequisite for training at the present stage. Results of the research can be used by developers of educational programs for specialty «Professional Education», including master's level, and scientists to determine the levels and criteria of professional competence of students. Prospects of further research is to analyze the conditions of formation of pedagogical competences of future engineers-teachers.

**Keywords:** professional competence, pedagogical competence, future engineers and teachers.

**Olena Holowan**

**Formation of professional competence of skilled workers of professions «Cook», «Confectioner» in the course of training of preparation of dishes from the test with innovative technologies**

Article is devoted to synthesis of experience of preparation of personnel in PTUZ from the point of view of the professional and practical direction. Permanent job over itself, self-education and a perenimaniye of experience at more skilled colleagues is a daily work as a result of which the skilled worker has to be born.

Key problem in the solution of a problem of improvement of quality of educational process is activation of the doctrine of pupils. Her special importance consists that process of training is focused not only on perception of a training material, but also on formation of the relation of the pupil to the most cognitive activity. The main stages of a lesson of inservice training of innovative technologies are analysed: conversation, motivation, updating of knowledge, discussions, brainstorming, вводний instructing, etc. The stage of performance of independent work as pupils is investigated. The methodology of holding a seminar practical work «Modern ways of preparation and giving of the pancakes» prepared and which are carried out by the author of this article is described. It is proved that application of innovative technologies of preparation of dishes from the test (for example, pancakes) promotes formation of professional competence of future skilled workers of professions «Cook», «Confectioner», increases interest of pupils to professional disciplines, improves a microclimate in group.

**Keywords:** professional competence, the cook, the confectioner, dishes from the test, innovative technology.

**Denis Grin**

#### **Use of information technologies when training entrants for profile education**

Application of IKT in the course of teaching and study opens unique opportunities and prospects. New level of educational services demands creation of essentially new technology of acquisition of scientific knowledge, other pedagogical approaches to teaching and assimilation of knowledge, modernization of programs of study and techniques of teaching. The national doctrine of a development of education provides active introduction of IKT what would provide further improvement of teaching and educational process, availability and efficiency of education. Efficiency of educational process has to increase by application of new information technologies at such stages of study which are insufficiently effective in their traditional organization, or in cases when study with use of traditional forms, methods and means is not absolutely effective. Today multimedia means became the integral component of the modern world, they define further economic and social development of mankind. In these conditions of revolutionary changes also the system of training demands. Now high-quality teaching labor study cannot be carried out without use of means and opportunities which are given by computer technologies and the Internet. Ensuring teaching and educational process of labor study with modern means of study, in particular means displays of visually training material which can be used in quality components of the educational environment of new generation is the purpose of creation and application of means of multimedia. Multimedia means of study capture pupils, awaken in them interest and stimulate motivation, learn independent thinking and actions. Efficiency and force of influence on emotions and consciousness of pupils depends on abilities, style of work of the specific teacher. They demands design and developing of such means of study which would allow to connect different types of the information environment to an interactive form of study which gives the chance to increase motivation of study due to computer visualization, multimedia representation of objects of studying.

**Keywords:** information and communication technologies, information technologies, labor study, multimedia.

**Dmitry Dederko**

#### **Development of professional competence of teacher of secondary school in the village**

This article describes the conditions of professional competence of teachers in rural schools in modern conditions, are investigated the views of scientists on environmental features educational institution located in the village. It is proved importance of the accounting of features of the professional environment of rural school in development of professional competence of the teacher of school of rural areas. Features of teaching and educational process at rural school and feature of teaching and educational process at school of rural areas are marked out. Were revealed the conditions of professional competence of teachers, who work in rural schools. The importance of taking in account the peculiarities of professional environment of rural school is proved in the development of professional competence of village teachers. It has been discovered the peculiarities of village school activity as an effective way of human's development, even nowadays due to creating of certain conditions during the teaching process. According to supposed conditions in the teaching process, described in the article above, it has been observed teacher's readiness in the organization of the teaching and educational process in conditions of village school. Components which improvement will allow are allocated to increase competence level in general, structure of professional competence of the teacher which is presented as system of the interconnected components: cognitive, procedural and operational, personal and reflexive. There is no doubt that the problem of efficiency, productivity of pedagogical process at rural school, can be decided only on condition of ensuring high competence and professional skill of the teacher that is a subject of many actual researches which analysis is provided in article. And Professional competence of the teacher of rural school demands continuous development and improvement.

**Keywords:** professional competence of the individual, village teacher, rural / village school.

**Mikhail Kryzhanovsky**

#### **Control actions when studying physics in higher education institutions of the i-ii levels of accreditation**

In Ukraine there are substantial changes in the methods of teaching general subjects in 1st and 2nd level of accreditation higher educational institutions due to making certain parts of material self-study. Physics is an important basic discipline that forms a students' scientific world view, develops their imagination and thought process. The author developed and described several types of control tasks, which is a structural part of the test: introductory test control, thematic control and final semester control. Each of them is held at a particular, logically defined educational process, time, has its purpose, objectives, and what determines the makeup of the work. Because in College in the cycle of General subjects used a 12-point scale assessment of knowledge, all test tasks are calculated on a grading from 1 to 12 points. The program recently changed for this discipline, there are interesting innovative approaches to its teaching but diagnosis of acquired knowledge and skills is always important. The article draws attention to the control forms of testing physics knowledge in Kirovograd college of

agriculture mechanization. Three types of multilevel control tasks are offered: introductory proactive test control, final thematic tests, semester test.

**Keywords:** test, introductory test, thematic tests, semester test.

**Maryna Liashenko**

**Formation of entrepreneurial competence of future teachers of technology**

Implementation of economic knowledge in technological education is one of the conditions of continuous economic education. The aim of the article is to develop business competence in future teachers of technology at the process of teaching the basics of entrepreneurship. Article analyzes key competencies of a personality and defines «the concept of business competence.» Based on analysis of the economic block of specialists training content, contradiction was determined: between the needs of society in the pedagogical workers for preparation of the younger generation to entrepreneurial activity and the current state of economic training of future teachers of technology. As the decision, was proved the necessity of entrepreneurial competence formation of future teachers of technology for pedagogical activity and for their own personal development. Considering specifics of professional training of technological education specialists, we have defined the entrepreneurial competence as the ability to use knowledge and skills from the basics of entrepreneurship at the pedagogical activity; commitment to create own business as the ability to prove their scientific achievements to commercialization and to implement them at certain economy field; critically interpret and apply different information; creative approach to business, and leadership qualities. The article suggests and defines selective discipline «Basics of entrepreneurship», which is aimed to form business competence. First thematic module of the «Theoretical Basics of Entrepreneurship» forms in future specialists of technological education main terms and concepts describing the basics of entrepreneurship. Second module «Practical Aspects of Entrepreneurship» is dedicated to creation of own business, from successful planning to implementation of business project. Perspective for further research at this area is seen in the method development of forming entrepreneurial competence as a part of professional competence of future teachers of technology.

**Keywords:** professional training, entrepreneurial competence, technology teacher.

**Olena Markova**

**The application of the method of projects on discipline «Biochemistry» in the preparation of future teachers of physical culture**

The article is dedicated to the introduction of the project method as one of the effective means of the organization of the independent work of future teachers of Physical culture with parallel learning of biochemistry subject. Project work, as one of the most forward-looking method of education is getting more and more widespread in the frameworks of high educational establishment that is why the article highlights the problem of the development of the critical thinking of the modern expert and the usage of project work for the independent work of students through active ways of operations which are aimed at realization of the personally-oriented communication. The aim of the research is to disclose the essence of the project technologies and the conditions of its effective usage during studying biochemistry subject while preparing future teachers of Physical culture. The methods of the research are pedagogical observation, research discussion, close studying and generalization of the pedagogical experience, the original sources, as well as studying of the students' activities materials. The results of the research are the effective introduction of the project method into the educational work of the students of the physical culture faculty taking into account the level of the motivation to learning. The practical value of the project work consists in mastering of a great amount of the information out of the independent work of students during the whole semester. In such a way project work of students studying biochemistry subject higher their motivation to learning and assist their mastering the knowledge, that goes out of the teaching programme frame, mastering the valuable researching potential, and working out the information in a better way, the development of collation and classification skills as well as analyzing and synthesizing, the development of the skills to search and analyze the information, to form person-to-person communication and the ability to work in team. The perspective of the further educational researches is the analysis of the progress of the future teachers of Physical culture in biochemistry subject in both experimental and control groups, as well as testing and polling of the students to check not only the level of gained knowledge while working on project but also motivation of the project members to independent learning.

**Key words:** project method, project work, personally-oriented education, students, biochemistry, researching project, informational project, pedagogical project, Web Quest project.

**Elena Radionova**

**The gist of the problem in the preparation for the future teacher of physical culture is in the forming of health-saving competence of young students**

Annotation. In the article, theoretically grounded problems regarding the preparation of the future teachers of physical culture in the forming of health-saving competence of students, the modern state of professional preparation of students is outlined in higher educational establishments of Ukraine. The preparation of future teachers of physical culture to the formation of health protection competence of students *espiritualidad* is a system of organizational and pedagogical measures, providing the future teacher to professional orientation of knowledge, abilities and skills. This training is one of the modern directions of the professional-pedagogical training of physical culture teachers, in which students are motivated to conduct studies of the health nature with students, master the content, forms, methods and methods of treatment. Professional training of future physical culture teachers must take into account the new requirements, according to modern international and national requirements of training. Thus, the future teacher of physical culture is considered as a person who is motivated by gaining appropriate qualifications in the process of educational activities in higher education institutions, to provide further professional practice skills for creating a healthy lifestyle schoolchildren. The different approaches having been detected towards the determination of the concept of «professional preparation», clarified the content and basic principles of preparation for future teachers of physical culture.

**Keywords:** professional preparation, physical education, future teacher of physical culture.

**Alexander Sushentsev**

**Methodical aspects of competitiveness of future electrical engineer in universities based on the implementation of innovative teaching technology**

Article is devoted to methodological aspects of formation of competitiveness of the future electrical engineers in higher education through the introduction of innovative educational technologies. It is defined the main task of the university - in a relatively short period of time to form a student competitive personality qualities. Of fundamental importance for the formation of competitiveness is increasing the motivation of students to learn through their involvement in the research and design activities. To intensify the educational process through the introduction of innovative educational technologies, development and deployment of forms and methods of training and this training-methodical material, which would provide targeted development of the students' mental abilities, interest in academic work, autonomy and creativity. At the same time, the future electrical engineers should not only be competent and responsible, but also such fluent in their profession and are guided in the adjacent areas, ready for continuous professional development, social and professional mobility. Of particular importance is correctly formulated the goal of education and the choice of forms and methods of teaching. It was found that the effective formation of competitiveness of future engineers-electricians enough to hold the traditional lectures and practical or laboratory classes. To increase the activation of cognitive activity of students is advisable to use the lecture-shows, lecture-presentations, active lectures, lectures-visualization, lectures-situation. To achieve the goal of formation of professional competence of the future competitive electrical engineer is advisable to use techniques such as working with the guiding text, didactic professional tasks, business games, project work students. In particular, active forms and methods of teaching contribute to the formation of the students' competitive qualities of the person.

**Keywords:** competitiveness, innovative pedagogical technologies, the formation of competitiveness, the future electrical engineer.

**Liliia Sushentseva**

**Innovative pedagogical technologies in the preparation of future professional mobility of teachers of vocational training in higher educational institutions (theoretical aspect)**

The article is devoted to theoretical substantiation of innovative educational technologies in the training of future professionally mobile vocational teacher. The essence of the concept of «educational technology» which is interpreted as a system of methods, techniques, tools and forms of teaching and educational process of production and united only conceptual idea, purpose and objectives is considered, providing a given set of conditions for training, education, development and students gain experience, and guaranteed receipt of a predetermined positive result. In the context of the researched problem, the innovative educational technology is seen as an ordered set of actions, operations and procedures to achieve predicted and diagnosed because of constantly changing conditions of the educational process. Based on this concept, one of the ways of solving the problems developing the future of professionally mobile vocational teacher is finding and implementing the educational process of innovative educational technologies, methods of active and interactive learning. Pedagogical technologies workability criteria were determined, which include conceptuality, consistency, handling, efficiency, reproducibility. Content deals with three basic blocks of the proposed technology, namely teaching job block: «object - process – product»; methods block: «methods form-tool»; requirement block: «requirements, standards, forms of learning regulation». The first block is referred to the substantive component that implements purpose courses, elective courses included in the curriculum. Two other blocks refer to procedural component that ensures the implementation of the main goal - shaping the future of mobile professional teacher training. The main difference between innovative educational technologies is the traditional focus on the individual of the professionally mobile future teacher of vocational training, the development of his social, professional and values qualities, its social and creative activity.

**Keywords:** Pedagogical technology, teacher professional learning, vocational mobile teacher.

**Inna Uchitel**

**Developing humanitarian orientation of the future pedagogue of professional learning**

Article is devoted to specification of categorial matter and content of humanitarian orientation of future professional learning pedagogues as the component of their pedagogic skills. In the article considers theoretical, methodological and practical aspects of developing the humanitarian orientation of future pedagogues of the professional learning of the metallurgical field in the context of forming their pedagogical skills in the higher school. Also the state of pedagogues of professional learning preparation in higher educational institutions is analysed. Following the analysis of scientific and pedagogical literature, author describes the essence of the «humanitarian orientation of pedagogue of professional learning» concepts. Author provides analysis of controversies relevant to the pedagogue of professional learning preparation in the modern university, discusses possible solutions. The ways of solving the problem of developing the humanitarian orientation of students in the process of learning pedagogical skills are defined. The humanitarian orientation is determined by such professional learning pedagogic skills as ability to build relations of partnership between pedagogue and student, ability to stimulate motivation and maintain the perception interest, ideas and creative ideas of students, ability to develop personalities of students with consideration of their interest and absence of prejudices for students in personal relationship. Also, the pedagogue humanitarian orientation is determined by ability to build open and emotional relationship, create psychologically safe environment in classes, maintain the interest for the world and support the development of professional personalities of students. The author has estimated the possibilities of solving the issue of humanitarian orientation development of students during the pedagogic subjects learning. Humanitarian orientation development of students during the training in higher school is provided by training process humanization, practice-oriented education, pedagogic experience learning and usage of innovative education methods. The perspectives of this study are pedagogic situations case development based on a material of pedagogic practice in college and aimed on the further use for pedagogic subject classes.

**Keywords:** humanitarian orientation; pedagogical skills; pedagogue of professional learning; competence approach; humanization; interactive methods.

**Irina Tsarenko**

**Health-keeping technologies in preparation of future teachers of professional education**

Article is devoted to the rational competency approach in training future teachers of professional education in the university to use the educational Health-keeping technologies. Competence approach provides that the results of formation of competence system of future teachers of professional training in direction health-keeping is one of the key points in assessing the quality of their training. The notion «Health-keeping technologies» competencies includes: knowledge and understanding; knowing how to act; knowing what to do. To the Health-keeping competencies for solving issues and problems of social activities, tools and general problems of future teachers included: the ability to organize the educational process in compliance with life safety; the ability to track and capture the positive and negative changes in the state of their own health and the health of others; ability to form effective and efficient health program saving all subjects of the educational process; ability to create the health-keeping learning environment; ability to organize preventive events for to preventing student's diseases. Pedagogical conditions of the effective use of health-keeping technologies are revealed on based of the literature analysis and synthesis of teaching experience. Results of the research provide an opportunity to concretize the concept of health-keeping competence and determine its semantic content, to isolate the components of the model secondary schools of different types in direction of health-keeping. It was found that the content of education and rational combination of traditional and innovative health-keeping technologies ensures proper quality of professionals of professional training preparation. Further researches should be directed to the integration of technology with components of Health-keeping methodical system of training professional-oriented disciplines in Pedagogical University.

**Key words:** culture of health, healthy lifestyle, Health-keeping competence, educational technology, educational process.

**Anna Shevchenko**

**Competence approach in teaching the art of designing the future experts in design**

Formation of professional competence of the teacher profile design is an important prerequisite and indicator of its readiness for professional activities. In the context of the specific design profile professional teacher should pay attention to his skills in the exercise of professional activity that is directly related to the ability to design and art. This ability underlies the components of educational qualification characteristics of a graduate student who received appropriate profession and has a certain set of knowledge, skills and ready to apply them in practice. In fact it is nothing like the possession of specialized competences specialist. Unfortunately, today there is the problem of the definition of specialized competencies profile design professionals based on a theory and methods of preparing them for artistic and design activities. The article aims to research and justification of competence approach in teaching the artistic design of future specialists in design; definition of specialized competences future teachers designers. The level of artistic and professional competence of project profile design depends on the sophistication of artistic and creative inclinations and abilities, mastering effective degree of shaping knowledge, creative search methodology, figurative language of plastic art and technology, art materials, which leads to efficiency diyalnosti. The article reveals the essence of art and design competence of future teacher's designers. A study of professional competence designers on which the basic specialized competence, which should have a teacher-designer. Including requirements for future teachers design profile professional tasks that should be completed in the educational activities and research professional competences designers gives rise to define what art-project activity for future teachers designers provided specialized competences, which include visual, design and artistic and aesthetic competence. This statement requires further study and refinement of their content.

**Keywords:** design education, teacher-designer, professional competencies sharing competencies, specialized competence, artistic-proekt competence.

**Olha Shevchenko**

**Formation of professional competence of the students of the faculty of physical education.**

This article analyzes and substantiation of major professional competence of future teachers of physical education. The task of the theoretical phase of the experiment was conducting qualitative and quantitative determination of the content of professional competence in the process of preparation of future teachers of physical culture through the prism of selected structural components of readiness. The objectives of the study are theoretical analysis of the research problem, determining component structure and essence of the concept of «professional competence». In preparing future teachers of physical education singled out four functionally related aspects: motivational, cognitive, action-operational and personal. Motivational aspect is important and necessary in the process of readiness. Without interest, desire and interest in a particular activity can not be successful and the goal. The cognitive aspect is the systematic knowledge, abilities to the thematic synthesis of information, its analysis, reproduction system concepts in the industry of physical education, sport and human health. Activity-operational aspect – involves the formation of students as future teachers of physical culture and skills of professional activity; is manifested in the number and speed successfully and independently solve professional problems. Indicators of activity-operational aspects are manifested in the implementation of functions on a certain level of development skills of professional activity: analytical, predictive, reflective and meaningful practice. We have determined the content and scope of the proposed disciplines and the number of credits (ECTS) professional and practical cycle curriculum of different educational levels of students training in the industry. In qualification level of bachelor students master 65.5% of disciplines of professional and practical training of total hours allocated curriculum. In accordance with the qualification level specialist – 49,6%, and by qualification level master – 51,3%. The study of virusnya the content of professional competence of future teachers of physical culture, which requires the graduate ownership concepts, concepts and facts of science teaching and the necessary knowledge, skills and practical skills in the field of physical education, sport and human health.

**Keywords:** training, readiness, student, competently, aspect, level of qualification, the teacher of physical culture.

## METHODOLOGICAL APPROACHES TO TEACHING GENERAL SCIENTIFIC AND SPECIAL DISCIPLINES IN MODERN TECHNOLOGICAL SOCIETY

**Anisimov Mykola, Nadija Grigor**

### **Division of technical disciplines, depending on their destination**

The article provides a systematic analysis of textbooks, educational and methodical manuals on disciplines «Fundamentals of drawing», «Drawing», «Technical drawing», «descriptive geometry», «Engineering and computer graphics», which are now used by teachers in the preparation of complex technical professions professional technical education institutions, colleges and higher educational institutions. Active development of science and technology in modern society require new specialists, who possess practical skills to solve operational and managerial challenges, which are freely oriented in the flow of scientific and technical information, constantly improve their knowledge. Future students of vocational educational establishments and higher educational establishments of the required school knowledge base from the basics of drawing and fine art. The necessity of studying the course «Drawing» is dictated by the conditions of everyday life, in which he is often necessary to read the various graphical image content and purpose. The whole scientific and technical progress, the whole modern civilization is based only on a drawing (no matter on what media they are made – paper or electronic). «Engineering graphics» has a unique graphic language of human culture. Being one of the oldest languages in the world, it is notable for its brevity, accuracy and clarity. In his time the foundations were laid and developed a large number of textbooks and other literature graphic directions researchers and practitioners. Were also studied various textbooks, manuals, reference books, problem books and other teaching materials that were prepared in other subjects. This was necessary in order to identify and systematize the interdisciplinary connections that are necessary for the development of student's technical thinking. Consideration of any theoretical problems of construction of textbooks and manuals impossible without their scientific substantiation and practical check. Analysis of quality of educational literature was performed using specific criteria, which were developed by the author.

**Key words:** textbook, study guide, fundamentals of drawing, technical drawing, descriptive geometry, engineering and computer graphics

**Olga Voloshyna**

### **Technology of using diagram notes for enhancing the students' learning and cognitive activity in lectures**

This article analyzes the experience of diagram notes use for enhancing learning and cognitive activity of students of secondary and higher educational establishments, the development and presentation of educational material, its structuring, technologies of development and application of diagram notes of lectures for the effective professional knowledge formation in the process of technological training of engineers and teachers-engineers of the sewing specialization. In education there are contradictions between the need to increase the amount of information included in the content of education and the students' ability to master it. Thus, there is a growing need for theoretical development and practical use of brief means of professional skills expression, which facilitate the appropriate transfer and the effective assimilation of information, develop logical thinking and imagination, and foster the formation of positive motivation for learning. One of such elements, which improve the efficiency of learning, is represented by diagram notes of a certain portion of educational material. A number of methods was used to fulfill the objectives of the research: study and analysis of the literature on the research problem, analysis, synthesis, generalization and systematization of theoretical data; observation of the students and the level of their learning and cognitive activity at the lectures with the use of diagram notes, in comparison with traditional lectures. The use of diagram notes enhances cognitive interest, the students' participation and their success in learning. The proposed technology is rather time-consuming because of the development of teaching materials themselves in the form of diagram notes and methodology of their application. In addition, those didactic materials which have been already developed require amendments after their approbation. Application of the diagram notes technology should also be adjusted according to the characteristics of the students' group. Therefore, the work in this direction gives the opportunity for continuous pedagogical research.

**Keywords:** students' cognitive activity, activation of learning and cognitive activity, visual learning, reference-input signal, supportive notes, diagram notes, structuring of educational material.

**Sergey Korolev**

### **Overcoming the «synergetic syndrome» in the training process**

The appearance of cynergetics as a science has first caused the solutions of a number of complex problems in the sphere of laser physics and laser radiation. Then the cynergetics methods have also been used in other spheres of the science: to explain the phenomena of self-organization in non-linear dynamic open systems in the inanimate nature, to study the evolution of biological systems, to investigate the complicated processes of social systems. The processes of thinking and human consciousness can also be regarded as the result of cynergetics interaction between themselves and the subsequent structural self-organization of large volumes of information, recorded in the human «memory system». Considerable successes, achieved in diverse realms of scientific activity by means of cynergetics approaches, have lead to the illusion that the capabilities of cynergetics are almost unlimited, which could be called «cynergetic syndrome». But cynergetics, as any other science, has a system of strict restrictions of its capabilities. That is why, when applying cynergetics on practice, one should not forget about the limitations of its capabilities. Unfortunately, in many works, dedicated to the application of cynergetics in solutions of pedagogical problems, one can come across not quit scientifically-based approaches. One should pay special attention to overcoming this drawback, which is one of aims of this work. The article demonstrates that the elimination of «synergetic syndrome» is possible only if scientific methods are used in synergetic approaches to pedagogic. The synergetic approach as a probabilistic approach to solution of pedagogical problems is investigated. A tract of notions and tasks has been obtained as a result intersection of synergetic and pedagogical laws. It is demonstrated that synergetic is not a system of methodological instruction for educational specialists, that it only opens «the windows of possibilities». Definitions are given to



both the list of synergetic basic ideas, which can become the foundation for creating «Axiomatics of synergetic approaches» (ASA) and the system of «Training basic principles» (TBP). The proposed axiomatic approach to the application of cynergetics in solutions of pedagogical problems is analogous to the system of axioms in Euclid's geometry, as Euclid's approach has been proven effective for many centuries. That is why, in the course of broadening the ASA tract of theses the effectiveness of application of cynergetics in pedagogics will only rise, as the cynergetics is going to be applied only on the scientific basis. It will also cause the broadening of the tract of training principles, as well as rising of the effect combined application of scientifically-based principles, compacted into one, "packet", individually chosen for the each of the students.

**Keywords:** chaos, probabilities, self – organization, axiomatics of synergetic approaches, training basic principles.

**Inna Kosiak**

**The elements of technical creativity as the basis of project activity of future teachers of vocational training technology of light industry**

**Abstract:** Designing activity has always been closely connected with the creative work. But lecturers consider technical creativity not only as an activity aims to familiarize students with the diverse world of technology, but also as one of the effective means of labor education and polytechnic education. Psychologists, in the creative works, pay more attention to the timely finding of the students' abilities to a certain type of the creative work, the ascertainment of their formation and the sequence of development. Thus, taking into account the educational and psychological viewpoint the technical creativity is an effective means of education, focused on learning and development of creative abilities of the students in the establishment of material objects with signs of usefulness and novelty. Analysis of psychological and educational research and teaching experience allows us to conclude that the technical creativity sets up favorable conditions for the development of the following elements: observation, visual memory, imagination, spatial and technical thinking of the students. Technical thinking manifests itself in solving technical problems. The process of creativity, especially technical, always carried out in phases and includes the following steps: understanding conflict, the creation and study ideas; technical development of the task and practical work on it (designing, modeling and construction); testing objects at work and evaluation of the results of the creative solutions. Therefore, the effectiveness of creativity should be considered not only in relation to the final «product», but also for each phase of the creative task. The designing process includes scientific research of the best solution of technical problems; argumentation of technical specifications; technical proposal; schematic design; engineering design; workplace design. Practice shows that design is one of the effective means of forming initial professional skills. Designing is closely connected with modeling as a method of examination of various objects of different nature at their analogs (models). Modeling is widely used in the designing to represent and transform objects, phenomena processes that don't exist in reality or that are for some reason unavailable. The next step of designing is the construction. In the process of construction are elaborated the details, full and particular schemes of the planned object and working drawings of all components and individual parts of the product. Designing may be theoretical (on the paper or computer), and the construction concedes the material (real) implementation of the designing activity. In our opinion, the great importance of the creative work is the continuity of the creative process and its result is the growth of intellectual activity of a student, the easy beginning of the creative condition, the desire for work that requires proper contribution to the case, being in «a state of creativity», the ability to see in creative work joy and pleasure.

**Keywords:** project work, technical creativity, planning, modeling, design.

**Alexzander Labenko**

**Stochastical pedagogical process as a basis of composite pedagogical technology for the English language teaching for listeners of language course**

The paper deals with the problem of usage of stochastical pedagogical process to composite pedagogical technology for the English language teaching for listeners of language course. The author pays special attention to the theoretical basis of the composite pedagogical technology for teaching English language. This technology is certain answer of author for inquiry of contemporaneity. The Ukraine realizes deep reforms of the national system of education at a new democratic bases. Fundamental tasks of innovational pedagogical activities realize by raising of the standard of concession of educational services for the learning of foreign languages. Special it pertain for the English language because she become as means of interethnic communication. In author opinion, this technology is the most prospective for the learning of the English language to citizens of the Ukraine on condition that they would like go to foreign countries for tourist rest or privision of employment. It is correctly because this technology included to her the next essential components: It has deep innovational frame because it is base oneself on the new scientific quantum-relativistic paradigm. It is a special composite between humanitarian and technical scientific thoughts. It is open for modernization by herself composite nature and realizes stochastic pedagogical process in English language methodology. It is included oneself in a certain sense nonconventional innovational English language teaching methods: informative model method, realizes fractional language system method and other. It is take into account such off-standard factor as a different in kind of chaos in English language teaching process. By the way, it is non-standard for traditional technology. The result realizes the composite pedagogical technology of the English language teaching at the base of stochastic pedagogical process for listeners of the language course is a special composite with knowledges, arts and skills that their took and learnt listeners of language course (according to the British Council Levels for A-I)

**Key words:** stochastical pedagogical process, composite pedagogical technology, informative approach, fractional system, creating of topic web method.

**Vera Sviridjuk**

**Development of reading skills with the aim of mastering foreign language communication**

The article is devoted to finding ways to optimize the development of reading skills of students-philologists in German. This article presents a set of exercises for learning to read using different reading strategies according to the characteristics of psycholinguistic reading. The benefits of different methods of reading and examples of their realization in the process of mastering foreign language communication. We describe the content of teaching reading based on the estimated-activity

methodology. In addition, these stages of reading skills of students-philologists in the conditions of independent work. Consider the organization of design work in the teaching of reading in the German language in conditions of out-of-class independent work of students-philologists of the 2nd course. The paper presents the results of the National Linguistic University during independent work of students of bachelors. With the help of techniques and use of relevant methods of teaching reading students learn new material, according to the theme receive a certain system of knowledge; the educational material promotes the transformation of knowledge into sustainable speech skills; teaching material develop in the students a positive attitude to the country whose language they study and to their own culture. The author analyzed modern strategies of teaching reading. Schematically reading strategies proposed three stages of this type of speech activity. Emphasized the importance of gradual and systematic use of exercises under the conditions of learning.

**Keywords:** teaching reading texts as a source of information, reading strategies, project methodology, texts for reading, exercise as a means of learning objectives, self-study

**Alina Stohnii**

#### **Methodological approaches to discipline «General technologies of food productions» in the process of preparation of the future teachers of vocational training**

The article considers methodological approaches to the construction of the discipline «General technologies of food productions» in professional training of future teachers. While writing the article used methods of analysis and synthesis of scientific research. In the process of training future teachers of vocational training in the food industry is an important element of determining competence, technological and environmental approaches that can optimize the process and make it more effective and consistent with the needs of society. Through qualitative change in production in society began to be formed a need for specialized training of teachers for vocational education, particularly in the field of food technology. The efficiency of educational process in many respects depends on the methodological base. Since modern pedagogical theory considers the learning process through the prism of methodological approaches as necessary conditions improve vocational education can be considered of general pedagogical and general scientific approaches, their successful use in training and selection, development and improvement of certain methods, analysis, verification and implementation results. This research does not cover all aspects of this important issue. To further areas of research consider it appropriate to include the possibility of combining methodological approaches in theory and practice and their implementation in professional training of future specialists.

**Keywords:** methodology, methodological approach, environmental approach, competence approach, technological approach.

**Zoya Tkachenko**

#### **The forming of vocal competence of students in the process of professional training**

In the article the basic methods of forming of vocal competence of future teachers of musical art are examined on employments after the voice training and also the review of rozspivok is carried out on the different types of technique, which are most effective in the process of preparation of vocal vehicle of performer to the high-quality singing. The purpose of the article is to reveal peculiarities of forming of vocal competence of students, the use of which will contribute to raising the level of professional training of future teachers of musical art. Forming of vocal skills of future teachers of musical art on employments after the voice training heads for the decision of tasks, students related to the future profession, that with work at general school and various out-of-school establishments. A perfect capture must become the result of this process by bases of breathing of singer, faithful position of sounding of voice, different types of golosovedennya, dynamics of sound, orthoepy of singer, faithful articulation of singer, and clear. Exposing the features of process of forming of vocal skills on employments after the voice training we tried to optimize the process of preparation of students of artistic faculty to work with student's vocal collectives, to promote teoretiko-methodical level, stage performance culture and level of profesiynoy trade of future teachers of musical art.

**Keywords:** future teachers of musical art, methods of vocal development, vocal competence.

**Anatoly Turchak, Natalia Tokar**

#### **Some aspects of teaching lecture courses of professional disciplines in higher education**

Using lectures greatly intensify teaching and learning motivation of students, increases their interest in professional training, creativity and level of independence and expertise promotes future professional activities. Today, the world apply the new characteristics of professional knowledge, breadth, flexibility, evolutionary, perspective, art that encourages teachers to new teaching and pedagogical decisions discoveries. In general, this approach involves a process of reform and modernization of the national education system, changing approaches to education space, expanding the content of the curriculum of higher education, improve the efficiency and quality of training, variability and compliance with European and international standards of education. In this regard, the article describes the latest methods of teaching lecture courses in high school. Special attention is paid in this context, project method and its application in the educational process. This method allows you to seamlessly integrate knowledge from different sectors in solving one problem, makes it possible to apply this knowledge in practice, thus generating new ideas. Also, the article suggests additional areas to deepen knowledge in professional disciplines: 1) the use of social media (email, forums, conferences, top training areas and specialties, individual academic courses, trainings, microblogging, widgets, webinars, etc.); 2) the use of electronic textbooks (theoretical, practical, information and reference data, calculations, analyzes, drawings, diagrams, tables, charts, graphs, drawings, audio and video materials, presentations, etc.); 3) the use of tests in determining the educational achievements of students (accuracy and speed of obtaining educational information in a significant number of respondents, objectivity and fixing attention on understanding the nature of the answer, a clear end result); 4) the use of distance learning and more.

**Keywords:** lectures, professional discipline, project method, multimedia technology, competence approach.

**Alexander Shchirbul**

**Development of creative abilities of students when using ict learning tools**

In article problems of formation and development of creative abilities of students when studying of discipline are considered by them «Technical creativity». In particular, the theoretical analysis of scientific sources in which from the different points of view the essence of the concepts «abilities», «creative abilities», «classification of abilities» is analyzed is carried out. On the basis of the carried-out analysis a definite purpose of the publication which is that for formation of creative potential of future teachers of technologies use in teaching and educational process of tasks which stimulate search activity of students is important. Concrete examples of tasks which solution induces students to use of information retrieval systems, processing and the critical analysis of information are given. By preparation for a practical training it is offered to future teachers of technologies such tasks: using various information, information and technical sources to find the theoretical description of several principles of permission of technical contradictions; to offer algorithm of their use; to find and analyse concrete examples of practical application of these principles to permission of technical contradictions. The tasks formulated thus help students to be prepared for a practical training and stimulate development of creative abilities at future experts: ability to analyze, estimate, systematize the obtained information, etc. Thus, development of modern information technical means gives the chance to widely use search engines of the Internet for educational activity of students, increase of level of their motivation, an individual approach, formation of abilities to work with information that promotes development of creative abilities of students. Further research of a problem of formation of creative abilities of future experts has to be based as on the theoretical developments concerning studying of the mechanism of creative processes and on modernization of content of training of students.

**Keywords:** creative abilities, development of abilities, creative tasks, analysis of information.

**Tatyana Yarkho**

**Continuity in various ways of mathematical preparation of future specialists of technical profile in the process of its fundamentalization at higher educational establishments**

The paper focuses the continuity in various ways of mathematical preparation of future specialists of technical profile in the process of its fundamentalization at higher educational establishments. The paper pioneers the introduction of the two concepts of the basic and the special various ways of mathematical preparation of future specialists of technical profile in the process of its fundamentalization at higher educational establishments. The expediency of continuous exercising the basic mathematical preparation under the conditions of a two-tier higher education in the framework of the general-educational constituent on the educational-qualification levels “Bachelor”/“Master” is grounded. The continuity of the basic mathematical preparation is suggested in the form of preserving certain elements of content, as well as a certain set of the didactic principles and approaches in teaching classical and applied mathematical disciplines. The necessity for continuous exercising of the basic and special modes of mathematical preparation within the framework of general-educational and profile constituents of professional technical preparation is justified. The continuity of the basic and special mathematical ways of preparation is suggested in the form of preserving certain elements of content of separate sections of a mathematical discipline, as well as certain elements of setting professionally-oriented tasks. The role of the professional focus in teaching mathematics in the framework of the general-educational constituent of preparation is stated. The methodological problem of singling out and classifying professionally-oriented tasks as a key method of exercising a professional focus in teaching mathematics is set. The prospects of further scientific research are seen as specifying the content of the basic and special modes of mathematical preparation.

**Keywords:** continuity, fundamentalization, higher technical education, basic mathematical preparation, special mathematical preparation, principle of continuous education, professional focus in teaching mathematics.

## **DOMESTIC AND FOREIGN EXPERIENCE OF DEVELOPMENT OF NATURAL-SCIENCE, TECHNOLOGICAL AND PROFESSIONAL EDUCATION**

**Svitlana Alekseeva**

**Information technologies of advising of future designers on development of professional career**

The article is sanctified to the problem of the use of information technologies of advising of future designers in development of professional career, actuality of that is conditioned by the specific features of designer activity. Professional career as a trajectory of the motion is created by personality and it is important to prepare future specialists to successful realization, to teach them objectivity of self-appraisal of individual skills, business internal's, rightness of determination of aims of career. Preparation of future designers to development of professional career requires the use of plenty of evident materials and interactive facilities that in turn positively assist quarry activity in the field of a design during professional life. The use of information technologies of advising from development of professional career in the process of preparation of future designers will assist providing of the personality oriented and differentiated approach, increase of cognitive activity due to various audio to information, to the use in the studies of achievements of the newest technologies of design, selection of the, to the improvement of skills of independent work in an informative network the Internet, possibilities of realization of self-control. The use of network is reasonable the Internet in the process of preparation of future designers to development of professional career, in particular: by the necessity of popularization of design product, presentations of own work in a virtual environment, creation and use of creative portfolio. Possibilities are analysed and basic advantages of the use of network are educed the Internet in the process of preparation of future designers. The role of influence of information technologies is exposed on forming of professional consciousness of future designers, that determines realization of own possibilities in a professional career, planning and prognostications of quarry prospect. Possibilities of the use of cloudy services and blogs are described in the process of advising of future designers from development of professional career. The use of far of additions of

design from clouds needs from future specialists knowledge of cloudy technologies and presence of practical skills of work with modern business-additions and informative systems in clouds, and thus must be plugged in the program of preparation to development of professional career.

**Keywords:** professional career, information technologies, network technologies, cloudy services, blogs.

**Olha Yezhova**

**Training of skilled workers of sewing branch in Ukraine (XI – the beginning of the 20th century)**

Article is devoted to the analysis of the main stages of development of system of training of the qualified sewers in Ukraine. Research is actual for creation of dynamic models of training of skilled workers of sewing branch Information concerning programs of training of needlework in women's educational institutions, since XI is generalized centuries. Methods of the analysis of scientific literature and archival materials are applied to research. It is established that since the beginning of XIX century in Ukraine vocational schools for children of the lowest ranks which trained in sewing business opened. Analyzed «the statute of women's professional education «of 1879. It recognized the need for the establishment of vocational schools and courses for training women. It was decided to organize 4-year course of school, with a choice of specialization in third grade. While needlework has established as a requirement for all students. Among the compulsory subjects noted needlework for everyday life: knitting, sewing, cutting, and mending. Women offered 4 jobs in the sewing and needlework: seaming; sewing and tailoring; fashion; embroidery; weaving and knitting. It is proved that by the end of the 19th century in training of tailors the apprenticeship as transfer of professional experience from the master to the pupil prevailed. It is established that the first period of development of system of vocational training of workers of a sewing profile (the end of the 80th of the 19th century – 1920) is characterized by obligation of training in sewing business of all girls at the level of household requirements, and emergence of women's craft schools with professional studying of dressmaking. It is established that training in the knowledge and crafts useful in life was the purpose of professional education of women in the 19th century and capable to provide to women independent earnings.

**Keywords:** vocational training, tailor, sewing profile, apprenticeship, needlework, model.

**Nadezhda Kalinichenko**

**Genesis rural labor training students in the 60-80-years of the twentieth century**

The paper analyzes the genesis of theoretical generalization labor training students in rural schools for 60-80-ies of XX century as promising structural component of regional educational systems. The study used complementary methods: historical and logical analysis and systematization of scientific literature, archival sources, chronological, systematic and problem-search methods for scientific study of the evolution of the national system of labor training of students in rural schools. In the practice of rural school system that period prepare students to work in agriculture included: employment training, elective courses, work in a student production brigades and forestry school, extracurricular classes study-circle, socially useful labor in agriculture. The leading objective of an 8-year school is determined enhance labor training and orientation of polytechnic education. New programs provided for students mastering basic knowledge in materials technology, electrical engineering, agrobiological basics of agriculture, formation of skills using the simplest tools for woodworking and metal, agricultural implements. Introduction to machining wood and metal for turning, drilling, milling and planing machines. Students have to learn to make products from multiple wood and metal parts (composite materials), equipment for use in teaching and research sites, perform check for serviceability and repair household appliances, to take part in practical feasible agricultural labor. Drawing attention to students mastering the skills of self-service, participation in technical and industrial circles contents socially useful work in agriculture. All these measures were aimed at labor education of students, preparing it for a successful direct involvement after the 8-year school in productive activities. Th Were substantially revised curricula and programs. In the eight-year school 50% of teaching time, resulting in the transition to junior high school eight-year period of training given to labor training. Its graduates are focused on continuing education in full-time secondary school education with production or included in productive work. Secondary school was designed to give young people a common polytechnic education and provide training. Graduates can enter both higher education and work in different sectors of the economy.e system is monitored in the many rural schools in Ukraine.

**Key words:** genesis, 60-80-th years of the twentieth century, rural areas, employment training youth.

**Oksana Tur**

**The problem of formation of communicative competence of personality (9th – first half of 19th centu)**

At the present stage of development of society by the main task there is an education of the educated and humane person, education of the harmonious developed personality who is capable to live and work fully in the conditions of modern society, adequately and effectively to communicate in collective. Process of reforming of the highest provides education not only introduction of various innovations, but also use of the best traditions of domestic and foreign science. The article analyzes domestic and foreign experience of formation of communicative competence of personality in the period during 9th – first half of 19th of centuries. Marked the middle Ages and the Renaissance. Pay special attention to the main ideas of the figures of the New time (the philosophers I.Kant, W. Humboldt; the sociologists M.Kovalevsky, E.Mayo, G.Tarde; psychologists D.Moreno, C.Hooley). The special attention is paid to categorical imperatives of I. Kant which remain actual and necessary in the interpersonal relations now – treat people as you wants that people treated you. Development of linguistics as sciences was important for formation of communicative competence of the personality. On development of science about language views of V. Humboldt who marked out social character of language and proved objectivity of its existence were of great importance, I allocated functional kinds of language and presented language as system. Having studied relationship of various social groups of E.Meyo becomes the founder of «the theory of the human relations». K. Rogers, A. Maslou, E.Erixon E. Fromm's works in which the value of the person is considered, the right for realization of his requirements and interests is defined behind it have special value. Attention is also paid to the problem of formation of communicative skills of young people of Kiievan Rus', the ethics of communication of the next generations (Galicia-Volyn chronicle, polemic works and

others), puts more emphasis on the outstanding role Skovoroda for formation of communicative competence of personality. In article on the basis of theoretical methods of studying of scientific and historical literature, a citing method, and also methods of the analysis of synthesis and generalization the conclusion is drawn that during the studied period the special attention was paid to language as to means of achievement of social interaction, and also the principles of humanity, partnership and tolerance.

**Keywords:** communicative competence, communication, Medieval, Renaissance, modern times, I. Kant, G Skovoroda, E. Mayo.

**Vasil Chubar**

**Using of interactive technologies in senior students' profession-oriented technological teaching**

The article is devoted to searching the ways of improving the preparation of would-be-teachers technologies for using interactive technologies of collaborative teaching of senior students in heterogeneous groups in profession-oriented technological teaching. Complementary methods are used in research: learning, analysis and classification of psychology, pedagogical and methodological literature, also system and problem-researching methods for the ways of grounds the usage of interactive collaborative teaching technologies of senior students in heterogeneous groups in profession-oriented technological teaching. Taking to the point the results of the research we offer: to start a promotion of interactive technologies of collaborative teaching for profession-oriented technological teaching of senior students from indicating their cognitive knowledge and according to the results and offered recommendations to accomplish set of heterogeneous groups in students' team; in the beginning of realization of interactive technologies of collaborative teaching in heterogeneous groups in teaching process we recommend to use them counting offered sequence of interactive technologies and keeping appropriate requirements.

**Key words:** profession-oriented technologies, interactive collaboration teaching, technologies of interactive teaching.

## APPLICATION OF INFORMATION AND COMMUNICATION TECHNOLOGIES AND TUTORIALS IN NATURAL-SCIENCE, TECHNOLOGICAL AND PROFESSIONAL EDUCATION

**Julia Biletska**

**Evaluation skills to prove assertions of the theory of limits in the MOODLE environment**

Modern tendencies of in the education require further development of teaching science, new theoretical and methodological developments, their implementation by using the informational and communication technologies. Many of scientists devoted their works to the theoretical and practical aspects for implementation of testing technologies in the educational process due the fact that the testing in Ukraine has taken a prominent place as the most popular means of control in recent years. After studying the advanced experience of teachers, we can conclude that students feel more difficulties in implementation of tasks on proofing than the practical tasks. Acquainted with the latest methodological developments, it is revealed that question of the application the tests in the diagnosing of abilities to prove allegations reviewed is not enough at currently. Skills to prove statement is important for the future teacher of mathematics, so one of the priority directions of higher education institutions in the preparation of specialist of abilities is to promote the formation to prove allegations. The theory of limits is the first and one of the most difficult modules of calculus. The theory of limits is the profound and important subject for the subsequent study of whole course. Apparently, there is a necessity of formation at students of physical and mathematical specialties of pedagogical universities of abilities to prove allegations already in the early stages of studying the course. Previously the author developed a test to verify the skills to prove allegations of the theory of limits. The purpose of the article is searching the optimal variant of implementation test assignments at proof of allegations the theme of the theory of limits of calculus in MOODLE environment. The theoretical and empirical methods of research have been used during the investigation. The database of test assignments and tests for the diagnosis of acquired knowledge and skills to prove the allegations of the theory of limits have been created in the MOODLE platform. The most appropriate test tasks for using are provided in the article. The advantages and disadvantages during the creation and using of tests in MOODLE environment are shown. The practical importance of the research is the possibility of using the test in the studying the course of calculus. This test may be useful for teachers and students of pedagogical universities who studying and learning the calculus. The distance course of learning and expanding database of test tasks are in the perspective.

**Keywords:** ICT, MOODLE, test technology, test, testing, theory of limits, the limit of the sequence, limit of a function, proof by definition.

**Vasyl Bolilyi, Viktoriia Kopotiy**

**Open wiki course in the curriculum of the modern university**

The paper deals with the published e-Learning materials posted on Wiki-KSPU, particularly electronic academic courses which we suggest to call wiki-courses. A wiki-course is an open complex of e-Learning and methodological materials made up of texts, images, files, and URL links posted on a wiki-website and used in blended educations. This paper authors have aimed to research the experience of implementing open wiki-courses in the curricula of the Kirovohrad V. Vynnychenko State Pedagogical University. Achieving well-defined objectives the authors have availed of both theoretical research methods (analytical generalization of methodological referent sources and regulatory instruments which standardize educational process) and practical ones (study and systematization of wiki-courses implementation, blended studies efficiency analysis, pedagogical experiment). The paper also deals with the generalized eight-year-long experience of implementing e-Learning on the wiki-website platform and the unified concept of a wiki course template. The results of implementing e-Learning in the

educational process, examples of students' articles and portfolio, methods to maintain communication of instructors and students have been given. Generally, Wiki-KSPU is used as a platform for the publicizing of the main information on courses, instructors, and students as well as links to the instruction guides and methodological materials stored at Cloud-KSPU. Lectures texts, various tasks for practical classes and seminars are uploaded by instructors into cloud warehouses as PDF files which can be accessed via links posted on a wiki-course webpage. Maintaining communication of instructors and students is provided by means of a specialized webpage targeted to moderate e-Learning ("Participants" category). Overall, wiki-courses implementation tend to personalize and differentiate educational processes by means of flexible settings aimed to adopt individual features of specific users.

**Keywords:** ICT in education, blended learning, e-Learning, open courses, online courses, wiki, wiki-course, cloud computing, e-environment, distance learning.

**Julia Botusova**

#### **Some methodological aspects of using ict in mathematics lessons in the process of preparing high school students for the external tests**

The purpose of the article are the analysis of the specifics of preparing senior pupils for the external independent evaluation of mathematics, the definition of the features of methodical work of mathematics teachers in a given direction and the considering some methodological aspects of the using ICT in the preparation of senior pupils for the external independent evaluation of mathematics. The author in her research uses such general scientific theory and empirical methods as analysis and synthesis, generalization, observation and experiment. The problem of preparing senior pupils for external independent evaluation of mathematics discussed in the article. The features of methodological work of the teachers of mathematics in this area analyzed. The research also analyzes the problem of testing as a form of monitoring the pupils' educational achievement. The arguments about the advantages and disadvantages of testing presented in this article. The using of new information and communication technologies in the educational process can greatly help to modern teachers of mathematics. We examine and describe the possible of using the software for creating and conducting the educational testing. We also offer the using an option of the program MyTestXPro for creating paper multivariate tests. The article described the main features of the program MyTestXPro, specified its positive and negative sides, and displayed a brief description of the algorithm of the program to create tests. The use of ICT and various programs for creating tests allows teachers to individualize work with students, develop students' independence, and fight against the problem of writing off. When the teachers will use the software that referred in the article, they can optimize the use of time and find the opportunities for creative development. In his subsequent researches, the author plans to describe in detail the work with programs and online-services that are designed for creating and conducting tests. Also author plan to carry out a comparative description of these programs, describe the methodological features of their use in the preparation of teachers to teach mathematics.

**Key words:** testing, mathematics, senior pupils, ICT, software.

**Natalia Manoylenko**

#### **Simulation to the development of technical thinking in the future specialists in the study of the course «History of technology»**

The article is devoted to the questions of psycho-pedagogical aspects of forming of technical thinking of students – future specialists in professional education, application and role modeling method. Given the definition of models and technical modeling – how of the procedure of creating designs and operating models that are able to go into the design and creative work for the production of products. This process is aimed at enriching the general technical knowledge and skills and promotes the development, creativity and skills to transform them into the educational process at the place of their future professional activity. It is shown that the relationship of simulation with the educational process in higher education should be established on six main areas: epistemological, using the model instead of the original, the model information analytical, methodological and general psychological. Determined that the review of any act that students should master begins with the implementation of this operation in material things in stages: preliminary acquaintance with the action, the creation of an indicative basis; the material (or materialized) action; the external speech stage; - the stage of inner speech; the stage of automated actions. The ways of achieving future professionals in a creative and productive level of technical thinking, the components and stages of solving problems in a productive way of technical content, the solution of which is: the generalization and the specification of technical performance; designing; constructing models; establishing the diagnosis; manipulation of images and relationships; the actions are transferred to the real object. Further research should form the basis for the development of theoretical considerations concerning the formation of technical thinking in the study of relevant disciplines, the role and place of the modeling method in the process of its formation, aimed at improving the quality of professional training of future specialists in professional education capable of addressing the needs and requirements set before them in the future professional activity.

**Keywords:** technical thinking, modeling method, models, real objects, production and technical material, mental operation, attention, features, technical outlook.

**Sergey Ryabets**

#### **Features of creation of the remote course «Production Bases» as a component of the mixed training in technological training of students**

Article is devoted to features of creation of remote courses in the programmed educational Moodle environment. The last allows to represent effectively and productively materials of courses in combination with distant yonny control and communication. At the same time, feature of this software product is availability and clarity, and also ample opportunities of a realization of test control of knowledge, starting with tests of self-checking to a concrete subject and finishing with tests for the state certification. On the example of creation of the electronic course «Production Bases» the author shows options of structure of a subject in general and fillings by educational content of discipline on a thematic format. On concrete examples

standard filling by resources and different types of educational activity such as a web link, the book, the page, the file and a task, seminars, tests, lessons, forums, chats, etc. respectively is shown. The last types allow to raise significantly feedback with audience, to stimulate interest in a subject through communication in these services where it is possible and it is necessary to create «platform» for an exchange of opinions, offers, diskursiya concerning these or those tasks, problem situations, the general projects, and also to realize a self-assessment of the educational activity. The creative component of the developer of a remote course can be best of all realized not only when determining the general creation of a course, and when filling by resources and kinds of activity of concrete subjects or modules where an opportunity in each section (subject) is put to think over specific structure and filling, proceeding from complexity, a look, volume, etc. of the studied material. Thus, monzhno to make each subject original and unique. The combination of traditional elements of teaching and remote methods allows to intensify significantly training and interaction in system the teacher student. As an example mixing of internal and remote forms of education is used. The main advantages and shortcomings of the mixed system are shown. It is claimed that mass participation of youth in free social networks, existence of modern mobile devices, availability and quality of modern Internet communication will allow to solve problems of obtaining new skills of work and adaptation of students to educational software products.

**Keywords:** a remote course, educational content, an educational resource, activity, the mixed training, information technologies, independent work

**Mykola Sadovyi, Paul Koval**

**The use of Internet resources in professional training of teachers of physics**

The article examines some of the use of Internet resources in professional training of teachers of physics. For this set uses of online resources in molecular physics teaching future teachers of physics; The system requirements that apply to Internet resources used in education in physics. The attention is focused on a simple search tool and analyze related information, which is the search engines, educational and training portals and more. A solution to the problem of optimizing the learning process of molecular physics, improve student active role by participating in its online research projects, developing their own content sites, laboratories working with remote access, creating articles for online publications, visit thematic virtual tours, participation in the virtual research communities via online communication technologies (web forums, email, video conferencing, online communication with the student teacher, etc.). These resources allow you to enable students to different types of self-employment (search, information, cognitive, communicative, research, project), contributing to the development of motivation of cognitive activity, help the development of their own opinions based on analysis and comparison of different points of view, experimental data analysis of own practice and experience of others. The paper proposes a new approach to physical education that allow you to implement information and communication resources provided by the Internet. This approach is based on a new level of visibility, free access to large volumes of scientific and popular scientific information, operational communication, using effective tools and cognitive research. The proposed system online resources use, which optimizes the learning process for each type of classes in high school. Attention is paid to the criteria for evaluating teaching effectiveness of Internet resources that can be determined through the requirements that apply to the resources used in education in physics. Therefore, practical training on the use of Internet resources is an important part of the overall training of future physics teachers with specific educational subject of molecular physics. This study does not cover all of the use of Internet resources in the study course «General Physics» Physics for future teachers of technology the Internet, but it is a testament to the diversity and complexity of the research topic and requires further in-depth study.

**Keywords:** future teachers of physics, educational process, molecular physics, online resources.

**Mykola Sadovyj, Evgeny Rudenko**

**Application software application for extracurricular classes in physics in teacher training institutions I-II levels of accreditation**

The article devoted to the use of new learning technologies in modern physics lesson. The relevance of the study is the need of the organization and implementation of extracurricular classes in physics using computers and educational software. This approach will allow interested students and students greatly intensify the process of using models and simulation, abstraction, idealization and analogy. Creating idealized objects, such interconversions of elementary particles that do not exist in objective reality, but with some prototypes of real-world help to reach a first approximation to the truth. The purpose of this article is the justification for the use of new information technologies during extracurricular classes in physics, which will increase the general interest in the study of physics in general; using images of models and generate natural-scientific picture of the world; develop students' creative thinking through the use of opportunities provided information; develop creative thinking of students as a result of the use of dynamic multidimensional processing methods and information. The study of physics is now immersed in a virtual world: teacher for illustrative experiment uses a computer as an integral part of the research settings, to explain basic terms, concepts and processes working with him to modeling the phenomena studied. So today of classes and extracurricular activities for physics teacher is required to use computers.

**Keywords:** extracurricular classes in physics, application software, new information technologies.

**Maksym Khomutenko**

**Virtual physical experiment in cloudy the oriented educational environment**

In the article it is reflected motivation of application of cloud of the oriented educational environment at the study of atomic and nuclear physics in general educational establishments; application of virtual physical experiment is on the example of the created model of atomic kernel, demonstrations of isotopes of hydrogen and radioactive radiation. Swift development of scientific and technical progress brings in the adjustments in all spheres of human vital functions, at the same time it is motive force for development of elucidative industry. In recent year one of key questions of improvement of grant of educational services there was wide introduction of application of informatively-communication technologies in education, that positively influenced on the state of material and technical base of educational establishments, majority from that was provided with a

computer technique and multimedia devices, by connection to the network the Internet, but these changes at the same time caused demand in relation to the new going near the process of studies, her improvement and updating. Therefore on this stage the question of quality studies of Physics and Mathematics disciplines appears actual in general educational establishments in the conditions of global informatization of society. One of directions of improvement of educational services there is development of application of cloudy technologies at teaching of physics. For the achievement of the put aim there were the used methods of research : analysis of psychological and educational, scientifically-methodical literature, generalization of pedagogical experience on issue of creation of educational environment; a design of separate experiments is from atomic and nuclear physics. Cloudy services apply in an order to give user electronic educational resources that fold the rich in content filling of cloud of the oriented environment, and also provide the processes of creation and supply of educational services. Cloudy services are intended for work accessible to the user application software, space for storage of data and calculable powers over the Internet. In cloud the oriented educational environment it maybe to organize work with all computer and mobile devices regardless of what operating system is used be OS of Windows, OC Linux or OC Android. With the aim of deep and systematized study of division «Atomic and nuclear physics» we deem it wise to use the computer models of physical processes in cloud to the oriented educational environment. For the improvement of methodology of studies of division «Atomic and nuclear physics» and addition of educational physical experiment by us in the program Adobe Flash Professional CC there were the created demonstrations, that represent the models of atomic kernel, isotopes and radioactive radiation.

**Keywords:** information technologies, methods of teaching physics, cloudy technologies, cloud is oriented educational environment, physical experiment, demonstrations, atomic kernel, isotopes.

## MODERN ACHIEVEMENTS IN NATURAL, PROFESSIONAL AND METHODOLOGICAL SCIENCES

**Alla Rastrygina, Maria Klepar**

### ROOTING OF THE JEWISH EDUCATIONAL TRADITIONS IN THE MAINTENANCE OF PEDAGOGICS OF FREEDOM

A try was made to demonstrate how the most common for the Jewish culture national traditions of child education extrapolate into the freedom pedagogy. The analysis of the main ideas of the Jewish education was created; their explication was made due to the fundamental principles of the freedom pedagogy: the principle of the individual self-worth, the principle of the childhood self-worth, the principle of natural conformity of education and the principle of freedom. Every of these principles is dependent from the others, explains the presence of the others, and includes all the others. The groundwork principle, which keeps the whole system alive, is the principle of freedom, which defines the specific features of the freedom pedagogy concept and creates the direction of the other principles. The comparison of invariant principles of freedom pedagogy and the semantic characteristics of Jewish education demonstrated their deep genetic unity and, to some extent, the orientation on the values of freedom.

**Key words:** Jewish educational tradition, family education, the concept of freedom pedagogy, pedagogical principles of freedom.

**Tetiana Stratan-Artyshkova**

### Creative expression future teacher of musical art in songwriting, performing activities

The article reveals the importance of composition, performance of future teachers of music, focuses on the concepts of "creativity" and "performance", which are the essence of meaning creative and performing activities, emphasizes the importance of compositional creativity in spiritual development, creative self-expression, self-forming author capacity future teacher of music.

**Key words:** creativity, self-expression, self-realization, composer-performer activity, spiritual and creative personality, the author's ability.

**Olha Kuzmenko**

### The essence and direction of STEM - education

Abstract. The article considers a new direction - STEM-education. The aim of the study is to analyze the nature and content of the STEM-education, to identify the main problems and contradictions. Theoretical and methodological basis of the study were systemic, competence and personal-activity approach. Identified problems and contradictions in the implementation of the STEM-education, that is, the traditional education system does not fully meet the requirements and demands of education and training of the workforce of the XXI century; low level of success in the disciplines of physical and mathematical structure, and the lack of ability to solve real problems that require the knowledge and the STEM disciplines-applications. The article noted the diversity of STEM-education related to the lack of STEM-literacy, developed a variety of programs by type, direction and level of complexity. The attention that develop curriculum K-12 STEM in the leading countries of the world. It should be noted the complexity and diversity of STEM-education, resulting to address issues related to the lack of STEM-literacy program developed in various areas and levels of complexity. Isolate the main approaches to their development: enhance educational experience with specific STEM-subjects, using problem - oriented learning activities in which analytical concepts applied to real world problems; integrating knowledge of STEM-items to create a deeper understanding of their content, which will empower students to choose the future direction technical or scientific careers. Representatives from technical colleges, believe that STEM-education should prevail multidisciplinary approach that utilizes integration in teaching STEM-subjects. Implementation of innovations in teaching methods each of STEM-subjects and as an integrated approach to learning, where the basic concepts of science, technology, engineering and mathematics transferred to a curriculum. This wide range of approaches due to the complexity of the phenomenon, so it causes. Prospects for further research is to develop methods of teaching physics with regard STEM - technology.

**Keywords:** STEM-education, physics, education, IT-specialists, nanotechnology.



**Anna Lozenko**

**Customization in a traditional learning technology**

This article identifies and analyzes the current problems and prospects of individualization in a traditional learning technology, as well as defined and characterized by different psychological and physical quality and condition of the individual, as individualization is an account of the individual characteristics of students in academic work (especially those that affect the learning activities and on which depends the result of training). Among the psychological and physical qualities and conditions of the person to be considered a teacher in the educational process: the physiological properties of the nervous system and brain, mental cognitive processes, personal characteristics, education and health. The purpose of this article assumes the identification and analysis of current problems and prospects of individualization of learning in a traditional learning technology. The objectives of the article is to: identify and analyze the problem of individualization of learning in the modern school; formulate ways to solve these problems. The methodological basis were as follows: systemic and humanistic, technological, student-centered, competence and activity approach. The practical significance is to provide individual zone teacher of creative development of the child, allowing him every step of creating educational products, based on their individual qualities and abilities. Of course, this article does not exhaust all the problems of an account individual characteristics of the students in the classroom, but its content will be useful as a scientist in the field of pedagogy and psychology, and teachers practitioners as well as students of pedagogical universities, undergraduates and graduate students.

**Keywords:** individuality, personality, individualization, training and development, technology of education.

**Oksana Melnyk**

**The factor-criteria model of assessment of efficiency of educational process with electronic educational resources for primary school students**

The aim of the article is to develop the factor-criteria model for assessment of efficiency of implementation of electronic educational resources in the educational process of primary school. The main methods of our research are: systematization of the factors and criteria, monitoring of educational process, mathematical modeling. The article expands the original model which takes into account three grounded factors: organizational, content and methodical, each of which has certain criteria for quality assessment. An organizational factor includes both teachers' preparation for a lesson and its proper conducting. A factor of content relates of educational material selection taking into account all peculiarities of students of primary school age. It determines the result and efficiency of the perception of this material by the students. Methodical factor takes into account the methods, means and forms of presenting educational material to students. The assessment of each criterion is multiplied by the ranking criterion's coefficient, which takes into account the importance of this criterion. The summative assessment of the efficiency of the educational process is calculated as the sum of the scores of each of the three factors taking into account appropriate ranking coefficients. It was found that the use of the model makes it possible to conduct the current and objective assessment of efficiency of the educational process and come to a quickly decision on its improvement. We propose to define the resulting assessment of the efficiency of the educational process with electronic educational resources as the sum of the summative assessment of quality of the electronic educational resource and the summative assessment of conducting the lesson. In the further studies we are going to range the ranking factor's and criterion's coefficients by the method of expert assessment and develop a factor-criteria model for assessment of quality of the electronic educational resources. There is also a need to work out a scale for resulting assessment of efficiency of educational process with electronic educational resources.

**Keywords:** factor, criterion, model, efficiency, educational process, electronic educational resource.

**Andriy Tkachuk**

**Features of studying the theme «Natural hazards and the nature of their manifestations and actions on people, animals, plants, objects of the economy» during the teaching of discipline «Safety»**

The article describes the features of studying the dangers that are associated with different manifestations of natural hazards. The analysis of ministerial curriculum normative discipline «Safety» and the legal basis of life safety in Ukraine demonstrates the need for more high-grade and high-quality processing of this material by students of higher educational establishments. Effective presentation of lectures on «natural threats and the nature of their symptoms and effects on humans, animals, plants, objects economy,» the system of teaching tools, one of the main components of which the system presentations. Discussed and highlighted new approaches in the study of characteristic in Ukraine main groups of natural hazards, such as: 1) tectonic hazards (earthquakes and volcanic eruptions); 2) geological hazards such as landslides, avalanches and debris, karst, subsidence of the earth's surface of different origin, soil erosion; 3) meteorological hazards such as hurricanes, tornadoes, squalls, rain, extreme heat, cold, heavy snowfall, hailstorm, ice; 4) hydrological hazards such as flooding, flood or flooding floodwater, meltwater and combined lifting groundwater flooding due to ice congestion, wind surges of water; 5) fire in natural ecosystems (landscapes, forest, steppe, peat); 6) massive infections of people, animals and plants; 7) space hazards, such as asteroid, comet, powerful stream of ionizing radiation (cosmic rays). Attention is paid to the impact of abrupt climate change the course of human history and development of civilizations. Much of the material is given space natural hazards that periodically cause the mass extinction of many species of living creatures on our planet Earth or in certain regions. Discussed were found in Ukraine astrobleme, particularly in Kirovograd and Cherkassy regions, and possible space threat in the future.

**Keywords:** natural hazards and disasters, safety, presentations system.