

ABSTRACT REVIEWS OF JOURNAL ARTICLES

I. PROBLEMS OF TEACHING METHODS OF MATHEMATICAL DISCIPLINES

INFORMATION AND COMMUNICATION TECHNOLOGIES AS A MEANS OF TEACHING MATHEMATICS IN THE MODERN ELEMENTARY SCHOOL

Andriievskia Vira, Olefirenko Nadiia

The article is devoted to the development of the primary mathematics education according to modern stage of society development. It was investigated that on the one hand, elementary school math in Ukraine are very important for further education. On the other hand, according to our study every year even more students lost their interest in studying math. The author explores the main factors for decreasing interest in study of mathematics: age peculiarities; rising difficulty of learning material and different level of readiness to overcome difficulties; help is not available at the time when the problem is occur (case: too many student in the classroom); tasks are not related to the life experience of the students; too little tasks to obtain needed skills; mistakes are corrected too late; no place for experiment; no conditions for free independent work of students with math tasks. Special attention was paid to find the way to preserve the interest of younger students to study mathematics. One greater possibility is to use the computer. The advantages are: positive emotional attitude of primary students to work with computer; teacher have more ways to present information; teacher can propose complex tasks and also has enough time to discuss multiple solutions; feedback is available; convenient tools to organize and control working process in class. The author has established the fact that the introduction of elements of the game may be considered as additional motivating factor: computer programs designed for primary schools are attractive, bright, offering unusual tasks in gaming form; programs for educational purposes are accompanied with dynamic images in 3D with animation; most of the programs for primary school based on familiar fairy tales and cartoons. The author states that the usage of computer in classroom for teacher is complicated, because it is: required organizational activities; time in the computer classroom, designed set of tasks. But on the other hand the use of computer supports unique learning pass: the use of simulator covers large number of similar task in a short time; the use of simulators helps to support individual approach to each student during the lesson; feedback; different types of presenting learning material: schematic, tabular so on. In conclusion there is important to prepare future teachers of primary school to use computer in lessons and design own educational software.

Keywords: elementary school, a modern information and communication technologies, mathematics.

TYPES OF PRACTICAL WORK IN THE STUDY OF DISTANCE MATHEMATICAL COURSES

Belous Elena

At the present stage of development of educational space using information technology emergence and development of distance education has become a significant event, which resulted in the need to develop and implement new methods and techniques of teaching. In a number adapted to distance learning forms and methods of practical exercises select the following: tests of different difficulty levels; virtual simulators; group wiki-task; Reference for debate and discussion. The article is a review of the forms and methods of practical work students enrolled remotely coverage problems, especially the formation and implementation of the various activities of students in gaining practical skills through information technology. Wide informatization of educational process to create the conditions under which is the development of creative skills and abilities, forming the ability to analyze and predict the tasks in the study of different disciplines. This distance learning technologies enable to provide students with e-learning resources for educational activities during classroom work, serve as an effective tool for the organization of independent work. Trainers can provide material in different forms to control the knowledge in the form of the game introduce domain at different levels of depth and detail learning information. However, the introduction of such training facilities makes high demands on teacher discipline during the development and debugging of electronic simulators. This teacher should be aware of these opportunities, to be able to shape the course material from different species represent a qualitative scenario simulator to develop an effective evaluation scale. Another form of practice are tests. These include tests that require a correct answer choice, tests of necessity making results using the keyboard, which is drawing up tests in several stages, compliance tests. For a group of students offered wiki-task. So on one task are multiple students. This unique form of practical work done in the only possible within the distance information platform. Students see the group work together, to review the results of each other, which encourages them to communicate with each other, producing responsible for their calculations.

Keywords: distance education, virtual simulator, multilevel math tests, group wiki -task.

SOCIAL AND CULTURAL ASPECTS OF PROFESSIONAL ACTIVITY OF THE FUTURE TEACHERS OF MATHEMATICS

Zinchenko Galyna

The article devoted to the problem of complete preparation of the future teachers of mathematics to professional activity, revealed the nature and specificity of its socio-cultural aspect, singled out common factors of socio-cultural context of professional preparation and professional work of the future teachers of mathematics. Philosophy of Education defines education as a sociocultural phenomenon of optimum human entry into the world of science and culture within the general spiritual development of society. The process of professional training of future teachers of mathematics, his work is considered by us as social-evaluative process of operation subject-teacher and student, teacher and student, man and society in the socio-cultural environment. In this context, the teacher (teacher), organizer of the educational process, and the carrier are subjects of mathematical culture. Through the prism of his personality, his world values student (the student) learns the universal values of mathematics education, developing mathematical tradition, increases personal mathematical achievements. Mathematical culture of future teachers of mathematics determined not only by the high level of mastery of his system of mathematical knowledge, the ability to use them in professional practice, a high level of mathematical language and speech, but also a system of social and cultural values of the teacher, his general ideological erudition and most importantly - the ability and willingness to shape this culture to students.

Keywords: professional activity of the future teachers of mathematics, social and cultural aspects of professional activity, complete preparation of the future teachers of mathematics, sociality and culture of mathematics education, factors of socio-cultural context of professional preparation, mathematical culture of the individual of a teacher.

THE DEVELOPMENT OF INDEPENDENT LEARNERS BY IMPLEMENTING PROJECT METHOD IN MATHEMATICS LESSONS

Levchenko Lyudmyla

In the article special attention is paid to the formation of independent learners in mathematics lessons. Proposed the technique for forming and developing independent learners by implementing project method in mathematics lessons. In the article the skills and abilities as students and teacher are necessary for the successful implementation of the method of projects in the educational process in mathematics. This is due to the fact that project method is a complicated process. Own teaching experience and analysis of advanced pedagogical experience has shown that the method is more effective projects in high school, where students have a deep theoretical knowledge. But in our opinion, to start projects should use the method in primary schools, introducing students to its individual elements and accustomed to independence. As part of the implementation of our proposed methods are outline lesson in mathematics in Grade 6 on «Positive and negative numbers».

Keywords: methods of teaching mathematics, project method, mathematical competence, autonomy of students, the educational process.

COMPETENCE ORIENTED METHODS OF ORGANIZING AND CONDUCTING THE MATHEMATICS IN HIGH SCHOOL INSTITUTIONS OF I-II LEVELS OF ACCREDITATION

Plotnikova Elena

The article discuss features of the mathematics teaching high school junior specialists in the field of professional knowledge 27 «Transport» in colleges. The analysis of mathematics learning first-year cadets in the College has been performed in the context of providing the formation of mathematical competence of navigator's profession and mechanical's specialty colleges. The article is to identify the characteristics of the establishment and modernization of methodical system of teaching high school mathematics course for cadets of sea specialties in higher educational institutions I-II levels of accreditation. Based on the fact that substantive mathematical competence of seafarers has a dual determination: on the one hand, it can not be formed without gain some degree of key competencies, and the other - she acts as a basis for the formation of key competencies. Therefore, the main components of activity-constituent subject of mathematical competence of the mathematics should include the ability to: solve typical mathematical problems; use known algorithms for solving typical problems; organize common problem; find criteria erection problems typical; recognize the typical problems or reduce it to default; use various information sources to search procedures for solving typical problems (textbooks, reference books, Internet resources). In the formation of the mathematics is defining establishment and modernization of methodical system of teaching mathematics. So important is the analysis elements methodical system, identify key issues that will ensure further development of the introduction of competency-oriented teaching methods of students in the mathematics nautical school.

Keywords: college cadets, learning mathematics, competency.

METHODS OF FORMING MATHEMATICAL COMPETENCES IN SECONDARY SCHOOL PUPILS

Strilets Lyudmyla

The article devoted to the improvement of methods of teaching mathematics using the competence approach. Relevance of the research is the fact that the requirements for teaching mathematics in secondary schools increased significantly, and the method of education needs to be improved according to requirements of State Standard and complete secondary education. The article aims to give an option of non-standard lessons and show its features in terms of implementation of competence approach in secondary schools. To achieve this goal and increase the interest of students to master the mathematical knowledge and the formation of their mathematical expertise we offer to use non-standard lessons. As the example of the proposed method, we look for the lesson tournament in mathematics in Grade 6 on «Proportions. Property proportions». The proposed approach to teaching mathematics in schools promotes better understanding acquired knowledge, their organization and synthesis, formation of mathematical competence.

Keywords: methods of teaching mathematics competence approach, unconventional lesson, mathematical competence

METHODS FOR AUTOMATIC GENERATION OF GRAPHS WITH RELATED VERTICES

Khlista Ruslan

An algorithm of automatic generation of: a connected undirected tree and a simple connected undirected graph. For the algorithm for generating the tree of an undirected connected to the input of the computing device is supplied number of vertices, the output is obtained by the adjacency matrix of a tree as a two-dimensional array of integers. For the algorithm for generating graphs the input is the adjacency matrix of a tree, the output is obtained by the adjacency matrix of an undirected graph. The algorithms are designed for automatic generation of systems problems and test tasks on discrete mathematics, mathematical logic and computer science. Algorithms are also designed to be useful for the study of the mobile agent vertices of the graph, modeling of information networks and other applications that use graphs apparatus.

Keywords: algorithm, tree, graph generation, the adjacency matrix.

II. THE PROBLEMS OF PHYSICS TEACHING METHODS

*APPLICATION OF METHOD OF PROJECTS IN PROFESSIONALLY-ORIENTED TEACHING OF
PHYSICS IN AGROTECHNOLOGICAL COLLEGES*

Barkanov Artyem

Formulation of the problem. One of the ways to implement the requirements of the society to improve the quality and level of college graduates to the conditions of labor market is a professional orientation of teaching of physics. Physics is the basic discipline to study subjects in the training colleges. The implementation in the learning process of method of projects will improve the professional orientation of teaching of physics, students of agrotechnological colleges.

Analysis of studies and publications. The study of the problems associated with improving the quality of professional training with the inclusion in the educational process of teaching of physics of professionally-oriented material examined in the works of P. Atamanchuk, I. Bogdanov, C. Goncharenko, L. Zbaravska, A. Kaspersky, I. Kozlovsky, V. Maksimov, S. Pastushenko, V. Sergienko, V. Torchuk, G. Shishkin and others. The method of projects is studied by Ukrainian scientists K. Bahanov, Yu. Zhenzhera, T. Kruchinina, S. Odaynyk, E. Piekhota, N. Polikhun, M. Rozdobudko, N. Stuchynska.

The aim of article is to study the possibility of using professionally-oriented projects in physics as a mean of improving of professional orientation of teaching of physics of students of agrotechnological colleges.

Presenting of main material. The method of projects allows on the most effective way to create the conditions for future professional skills of the professional activity which is close to real ones that promotes the formation of the competencies of students. When working on a project there is a unique opportunity to the formation of ways of activity of students which are informative and communicative competences. From the practice of the use of method of project, we offered the following recommendations: 1) during the plan of project work we should take into account future profession of students; 2) according to the college curriculum subject «Physics» is studied on the first two semesters of the first year, in the series of general subjects. Therefore, students are not familiar with the features of the future profession, because studying of relevant subjects is on the second year.

Conclusions and recommendations for further researches. The method of projects is one of the most effective tools for the professional development of future professionals that allows the student to cooperate with training courses teachers.

Keywords: professional orientation, agrotechnological education, physics, project method.

FORMATION RESEARCH COMPETENCE WHILE STUDYING PHYSICS USING ICT

Verhun Igor, Verhun Ruslana, Tryfonova Olena

In this article the problem of development of students' research competence with using of information and communication technologies (ICT) in the teaching of physics. Showing the importance of competence approach in the educational process and the benefits of using ICT: individualization of learning, growth made in class tasks, increasing communication channels using the Internet, controls and systems through testing questions for self and others. The concept «research competence» and «Research» shows the relationship between them and indicate the main components of research, projecting component, component information, analytical component, practical component. Indicate the basis for research activities: the ability to identify the problem, formulate a hypothesis, analyze necessary data to choose the appropriate methods of research and data, fix the intermediate and final results of the study, to discuss and interpretation of research results, use them in practice. Schematically outlines the organization of educational process in the formation of research: the selection of educational issues, the opportunity to articulate current and emerging ideas, selection of forms and methods of forming interaction with society, interpolation of acquired competences for a wide range of physical phenomena and situations, assessment and student self-esteem gained competences. The proposed level game as a form of information and communication technology to enhance students for research to generate research competence. As an example of a dedicated class 8 Section 2 «Electrical phenomena. Electric shock», and shows the structure of the lesson through the game, these questions first and second level and the number of points for each question. The proposed rating on the results of games for interest and enhance cognitive and research. This game is a stepping stone to solving problematic issues and article helps you realize the vast majority of program requirements and adhere to the principles of teaching, the prospect is creating a rating online games on phones and PCs for greater interest and remote control of the teacher.

Keywords: research competence, research, educational process, methods of teaching physics, information and communication technologies.

CONTINUITY IN FORMATION OF PHYSICAL COMPETENCE IN PRIMARY AND BASIC SCHOOL

Gerasimova Tatyana, Kalenik Michael

The article discusses the implementation of the principle of continuity of physical education in elementary and primary school. Analyzed the program of elementary school, grades 5-6, in Physics program grades 7-11 and meaningful classification between objects. The author points out some of the problems that hinder the implementation of the principle of continuity in the study of physics at school. Competence approach involves the assimilation of students than individual knowledge and skills, rational ways of life, and mastery of the complex. In this regard, the system is updated teaching methods. Taking into account the age characteristics of students, it is necessary to create conditions that would facilitate the preservation and maintenance of cognitive motivation. It is necessary to skillfully use traditional and pick up new forms and methods of the educational process, which would contribute to the maintenance and development of the students' interest in the study of the subject and general learning, enlivened and enhance the learning experience, creating conditions for the development of creative abilities and inclinations of each student. Of course, the introduction of basic and essential features of the formation of cognitive and practical skills from primary classes require additional training time. But without it you cannot generate in students the concept of the components of the content of school physics course, relevant to their understanding of science, physics, and this affects the results of the study of physics at all stages of education. The authors suggest appropriate methodological improvement to bridge the gap between primary and senior education, in the context of the study of individual physical concepts, through the improvement of students' adaptation in the transition from primary school to the main, in particular, in the transition from the individual problems of mathematics courses, natural science and the other to the course physics, where there is a realization of the subject competence. Given the proposed teachers in primary and secondary education units in the study of the content of components of a school course of physics (physical values, physical phenomena, laws of physics, fundamental physics experiments, the basic physical instruments and devices) to adhere to the generalized plans (algorithmic regulations) of their study, as is done in the school physics course.

Keywords: formation, physical competence, subject competence, continuity principle, the principle of continuity, component.

COMPETENCE EXAMPLES AS THE MEANS OF INTEGRATIVE TEACHING PHYSICS STUDENTS IN MARINE HIGHER EDUCATION INSTITUTION

Denderenko Oleksandr

We consider competency examples as the means of integration teaching physics students in marine college. Describe an information professional use content as a basis for drawing up and solving physical problems. Examples of professional situations and conditions of problems in physics, compiled on the basis that can be used in the training of marine engineers. Listed ways of implementing Applied Physics orientation. The purpose of this article is to consider the possibilities of application tasks Competence as a means of interdisciplinary integration in the training of maritime education in physics. Achieving led to the need to: determine the nature of the concept of

«competence problem», establish interdisciplinary connections Physics of future profession of students, selection of professionally oriented situations and preparation tasks with competence content of physics. These are some results of pedagogical experiment confirming the growing interest in fundamental and specialized subjects in the training of future marine engineers.

Keywords: competence, interdisciplinary integration, competency examples, cadets, teaching physics.

SCHOOL PHYSICS COURSE: WAYS MODERNIZING

Drobin Andrii

The article is devoted to critical analysis of the level of school physics course modern Ukrainian school it mismatch present state of physical science and social order on the formation of knowledge and competencies students in physics at the level of standards in the context of post-industrial society. It is shown that factors such as positioning physics as the most important among all subjects; saturation calculation tasks of educational material; morally and physically obsolete material base of educational institutions; moral obsolescence of educational material and the lack of modern information; lack of focus on educational material mastering modern household technology are factors that shape insurmountable contradiction between the knowledge provided by the education system and public demand for them. We consider the relevance, feasibility and possibility of amending and modernizing the content of school physics course in terms of reforming school physical education in Ukraine. It also analyzed the lack of educational material on physics of modern fundamental and applied technologies that are internationally recognized awarding of the Nobel Prize in Physics, the lack of curriculum of advanced technologies near future based on fundamental physical laws and phenomena of new discoveries and have to come in the content of school physics course as promising. These include: horizontal and vertical system of information networks, providing data related to the review and networks; Internet of things; clouds; analysis of large data sets that have the statistical and probabilistic nature. virtual modeling phenomena, processes, technology, products, testing them in a virtual environment; additive manufacturing (3D-printing); augmented reality and multi-dimensional space; robotics; Artificial Intelligence; cyber. In the article the following aspects of the modernization school physics course: modernizing the material; technological development, applied aspects; strengthen interdisciplinary connections butt to knowledge; expansion of historical reconstructions; strengthening the moral aspect; transformation experimental component in the search; rejection at the standard settlement of problems in the quality side.

Keywords: school physics course, post-industrial society, the technology of the near future, Nobel laureates.

*ON THE FORMATION OF TECHNICAL COMPETENCE OF FUTURE TEACHERS OF PHYSICS
DURING APPLICATION OF MODERN ELECTRONICS AND COMPUTER TECHNOLOGY IN PHYSICS
EDUCATIONAL EXPERIMENT*

Ilnitska Katerina

The article analyzes the concept of «technical competence», its place and role in the formation of professional competence of future teachers of physics. The directions of students that influence the formation of their technical competence. Giving content study of physical sciences should be aimed at developing students' awareness of the role of physics in the development of modern technology and modern technology in general progressive development of society, the technosphere, modern production. Concept of sustainable development, etc. The introduction of elements of modern electronic technology in the curriculum of physics, particularly in school physical experiment, provides for the rationalization of its structure and content, enables you to develop an improved method and equipment staging demonstrations, laboratory work and work physical workshop, significantly update form methods and means of training. The basis of the electronic saturation process laboratory work and demonstrations of physics at present are digital laboratories, in fact, represent a modern equipment and the possibility of computer experiment. In modern scientific and methodological literature digital lab believe teaching and research equipment of the third generation. Along with noted electronic components of modern electronics leads to modification and computer technology, the emergence of new generations of PCs. This raises the need for further intensification of ICT and create another learning environment to prepare future teachers of physical physics experiment. Technical competence of future physics teachers formed in the course of a dual process: play physical (natural) phenomena based on private laboratories, equipment which is saturated element base of modern electronics and computer technology as a universal tool identification (receiving) and processing the results of measurements of physical quantities. Formation of technical competence as a result of a systematic approach to the integration of physics, electronics and ICT, has provided active work of students in the following areas: 1) development of students the principles of operation and rules of operation of modern electronic technology (digital laboratories) when performing physical experiments; 2) mastering the means of electronic communication; 3) knowledge of technical and methodological possibilities of innovative ICT; 4) ability to develop and produce through a comprehensive involvement of the ICT teaching materials; 5) mastering the rules and techniques of rigging private laboratories and classrooms with modern multimedia equipment; 6) study design features and opportunities for better improvement of the existing hardware of the educational process in physics.

Keywords: modernization of general secondary education, technical competence, physical experiment, electronics and computerization.

THE ROLE AND IMPORTANCE OF LECTURES IN THE COURSE OF GENERAL PHYSICS

Kyianovskyi Alexandr

The article is devoted to the definition of the place and importance of lectures in general physics course in the preparation of specialists in the field of natural sciences and technical sciences. The rapid growth of scientific information requires increasing the effectiveness of training, in particular, the teaching of physics in higher education. We analyzed some of the most essential functions of lectures. There have been dependent on the content of the lectures the structure of the material, especially the organization of educational process in conducting classes with students the first year. It stresses the importance of the lecture demonstration experiments in general physics course for deeper assimilation of theoretical knowledge, activation of mental activity of students. In the teaching of general physics course traditional lecture is still the main form of organization of educational process, but, of course, information technology are making significant adjustments to the methodology of teaching.

Keywords: the course of general physics, methodology of teaching, lectures.

*ISSUE OF INCREASE OF STUDENTS' MOTIVATION IN STUDYING SCIENCE SUBJECTS I N IN
SERVICE TEACHER TRAINING SYSTEM*

Klimenko Ljudmila

The article focuses on astronomy, biology, physics, chemistry teachers' professional growth in the in service teacher training system as far as increase in students' motivation in studying science subjects is concerned. The research has revealed effective methods and activities of school science teachers' professional growth improvement in increase in students' motivation in studying science subjects within STEM education that is supposed to boost science, technology, engineering and math significance. Dominating effective methods of increase in students' motivation in studying science subjects are science info implementation methods: students' oral presentations, teacher's lectures, science symposium role-play, mobile technologies (students' on-line interviews, scientist's video performance), solving quantitative, qualitative and experimental tasks, case technology (business correspondence method, projects, incident method). Content strategies are: acquaintance with modern achievements; implementation of psychological and pedagogical potential of study experiments; fundamental science history and its creators' study; students' involvement in intellectual science contests. The role of science in modern life development cannot be overestimated. It leads to further transformation of human life system. Its impact on engineering and new technologies is impressive as well as the impact of scientific progress on human lives. Science creates new environment for people. Consequently, the author determined criteria of choosing modern science achievements appropriate as school contents. It is supposed to deal with such human values as science real-life implementation, its impact on human life and social development, space exploration information, the reasons of the Universe and life creation, research on the impact of technogenic human activity on human health and health awareness technology development. The contents of a scientific discovery or achievement must be of metasubject (generalizing) character. As far as activities of school science teachers' preparation for increase of students' motivation in studying science subjects are concerned the most effective in the course period were: trainees' acquaintance with modern science achievements during lectures; Ukrainian college and research institute internship; study experiment workshops; tours to the virtual science and technology history museum; pedagogical Open studio «Science and we», lecture tour «Man in the Universe», ensuring students' participation in intellectual contests in between training courses period. Teachers who use the above-mentioned methods of stimulating students' science lesson motivation as a rule ensure high quality students' preparation for science intellectual contests (all-Ukrainian physics contest «Levenja» («Lion cub»), international interactive science study contest «Kolosok» («Spica»), regional contest for 5-11 form students «Energy – 2006-2014», young physics and astronomy fans regional forum. Moreover their students usually enter science oriented colleges.

Keywords: science, motivation, growth, student, in service teacher training system, STEM-education.

*BROADCAST AS AN ELEMENT OF SYMMETRY IN LEARNING PHYSICS IN TECHNICAL
UNIVERSITIES IN THE DEVELOPMENT OF STEM-EDUCATION*

Kuzmenko Olha, Dembitska Sofia

Article is devoted to the concept of symmetry and one of its elements as broadcast. The concept of symmetry – one of the fundamental concepts of science and practice. To note that the grand unification theory, based on the principles of symmetry, is under development. Symmetry exhibits the relationship of physical laws, simplifies the understanding of the complex processes, considered as a result of studying by students of general physics course in higher education. The article describes the operation and elements of symmetry. The aim of the article is to examine the basic elements of symmetry, in particular translation in the educational process of general physics course in high schools in the conditions of the development of STEM-education. Prospects for further research are as detailed

analysis of the concepts of symmetry and to develop methods of studying physics using this concept in terms of STEM - education.

Keywords: symmetry, educational process, physics, symmetry elements, broadcast, STEM-education.

*THE STRUCTURE AND ESSENCE OF ENTREPRENEURIAL COMPETENCE OF PUPILS IN THE
CONTEXT OF STUDY PHYSICS*

Liskovych Olena

The article deals with the actual problem of contemporary education concerning the implementation of competence approach in education, in particular the formation of entrepreneurial competence of pupils during studying physics. The purpose of this article is the research the structure and essence of entrepreneurial competence of pupils in the context of study physics. As in the pedagogical science and normative documents there is no single approach to defining the essence of the notion it was proposed the definition of entrepreneurial competence of pupils as a structured complex of the personal qualities, that provide effective solutions of problems in different areas of life, related to their own social status and welfare, and also the development of society and the state as a whole. Based on the analysis of scientific research it was defined the structure entrepreneurial competencies of pupils that includes cognitive, activity and personal components. The content of the proposed components specified in the context of educational process of physics with account of basic types of activities which involve pupils: learning theory, solving physical tasks, perform physical training experiment, researching. The cognitive component of the entrepreneurial competence of pupil envisages knowledge on: physical essence of modern production processes, economical use of material resources, energy resources; principle action and rules of the effective use the modern machinery; opportunities to use acquired knowledge of physics in the future careers; use of modern industrial and manufacturing plants, that will be able to connect with future profession. The effective component of the entrepreneurial competence in the context of studying physics consists of the following skills: applying of physical knowledge for solving vital problems related to material and energy resources; economical and efficient usage of modern technics; effectively organize own activities; to assess own abilities for choosing future profession related to physics or technics. The personal component of the entrepreneurial competence of pupil include: value attitude to physical knowledge, results of own work and work of others; awareness of necessity of a balanced approach to the choice of profession, assessment of own abilities; value orientations in mastering of practical skills; diligence, responsibility for the results of own activities; desire to achieve certain social status in the society and contribute to the economic prosperity of the state. Determining the essence and structure of the entrepreneurial competencies of pupils gives reasons for the development of method of forming means of physics.

Keywords: competence approach, key competence, entrepreneurial competence, structure of competence, study of physics.

THE USE OF DC BRIDGES IN EDUCATIONAL PROCESS OF PEDAGOGICAL UNIVERSITIES

Medvedovskaya Oksana, Chepurnykh Gennadiy

As an increase of labour productivity is indissoluble connected with scientific and technological progress, so it is proposed to conduct a laboratory work, which is related with getting skills of the work on using bridge circuit to improve students' quality of training physics and mathematical specialties of pedagogical universities. Paying attention, that the bridge circuits were especially widespread among the meters of options of linear components. This is due to the fact that the bridge circuits have a high degree of accuracy, perceptibility, a wide range of measured values, the ability of creating as specialized instruments, which are intended for the measurement of some magnitude, as universal devices with manual or automatic balancing with digital readout. The bridge circuit can be represented as four series-connected resistors forming a four-pole.

Keywords: information technology, laboratory, measuring technology, bridge DC circuit, high sensitivity.

*TAXONOMICAL APPROACH IS TO FORMING OF PROFESSIONAL COMPETENCE OF FUTURE
TEACHERS OF PHYSICS IN THE PROCESS OF TEACHING THEORETICAL PHYSICS*

Podopryhora Nataliia

This article provides a scientific analysis of psychological and pedagogical models - Bloom's Taxonomy, which describes the process of learning and thinking in the context of future teachers and teachers of Physics special (professional) competence in Theoretical Physics. Revealed that multi taxonomy structure to clearly define the objectives of training students to formulate problems and set goals, determine appropriate valuation purposes instruments. Established that Bloom's Taxonomy advantage is the availability of its implementation in the educational process, particularly in learning of Theoretical Physics taxonomy enables the formation of students' critical thinking skills such as analysis, synthesis, evaluation, creation. The thesis carries out scientific analysis of future school and higher educational establishment teachers on Physics training. Physical and mathematical training of future teachers on Physics is determined to be the part of their training at the Pedagogical University, which forms individual and professional qualities that are important for future specialist, readiness for specific type of professional activity. Each of the disciplines of future teachers on Physics professional training: «General Physics», «Mathematical

Methods in Physics», «Theoretical Physics», «Physics of Solids», «Methods of Teaching Physics», etc., affects the formation and development of future specialists' professional competence.

Keywords: Bloom's Taxonomy, forming of thinking skills, special (professional) competence of future teachers of Physics, Theoretical Physics.

THE USE OF ELECTRONIC METHODOICAL SYSTEM WHILE STUDYING ACADEMIC DISCIPLINE OF NAUTICAL ASTRONOMY

Sokol Igor, Podobeda Volodimir

The article deals with the creation of electronic methodical system that includes planning, implementation of monitoring, analysis, adjustment of the educational process, aimed at enhancing the effectiveness of training and mastering the competencies required of future specialists to perform their duties by means of electronic communication. We consider the implementation of the electronic learning system on an example of the discipline of nautical astronomy practical in the Maritime College of Kherson State Maritime Academy. A, according to the authors, an objective system of students' academic of educational achievements, and the ability to create a competitive learning environment by using the rating, is suggested. Mentioned in the article meets the requirements of the system of electronic learning software Moodle. But this system combines all components that in case of any problems will not be available all at once. So we created an electronic methodical system, which consists of various programs that are responsible for different components of the system, and in case of failure of one component all others will work independently of the other components of the system. The proposed electronic methodical system of education designed for students of the Naval college Kherson State Maritime Academy and allows you to use it for students of correspondence courses, cadets stationary form of education that are at swimming practice and master plan preparation on an individual schedule or absent on training classes for another reason as well also for students of stationary form of education which are every day in the classroom. The system is located at the College, and a forum linked to the official website of the institution.

Keywords: methodical system of training, nautical astronomy, evaluation table, electronic methodical system of training.

ON ORGANIZATION OF TRAINING COOPERATION WHEN LEARNING MEDICAL BIOPHYSICS

Stadnichenko Svitlana

The article describes pedagogical conditions of training cooperation organization when learning medical biophysics. The examined types of cooperation include the pass of the consequent cycles by the students: self-execution of the actions by the participants of the training process; training cooperation of supportive actions; training cooperation with integrative and coordinative action; training cooperation with significant amount of individual work. In order to enlarge activity of the students in the practical classes it is proposed to give teaching information in the structural form, selection of information of intersubject content and practical usage of knowledge in medicine, biology, pharmacology; to explain new theoretical material or execution of tasks in the form of conversational and discovery teaching with the questions of statutive, clarificational and heuristic character; to introduce group and project technology teaching; to implement execution of creative tasks by the students, their participation in the research and development activity. Effective methods of students' management by the teacher are determined. Examples of usage of different mechanisms of integration of reproductive and creative learning and cognitive activity are given. It has been made an effort to prove that the change of creative and informational functions of teaching facilitates the creation of conditions for the students' activity and development of their skills, the deepening and widening of knowledge, rise of level of information flow. It is underlined that the assistance of the teacher in independent work might be as generally oriented to all students, as individually oriented (self-regulated, self-motivated and self-organized action). It has been defined that the transition of reproductive activity into creative gives an opportunity to change pedagogical conditions of organization of teaching cooperation and develop projective, constructive, gnostic, communicative, and organizational skills of the students which are of interest for further professional activity. Active scientific and research work with the diagnostic of training level of the students allows to engage the students into active cognitive process with understanding of the methods and purposes of knowledge usage. It was given reasoning of change of teaching cooperation with the implementation of distant teaching regime. For widening of cooperation of the teacher and students during preparation to the practical lessons it was proposed to perform consultations and coordination of distant learning process via telecommunication facilities, email or social networks.

Keywords: medical biophysics, educational cooperation, creative educational and cognitive activity, activity approach.

A MATHEMATICAL DESIGN IS IN PHYSICS

Filonenko Natalia, Kochenov Artem, Gnatyuk Irina

The article raised issue, that conducting practical classes with quantitative calculations associated with the properties of biological objects, require specific, conceptual, mathematical tools and application of informational

technologies. For a better understanding of the material by students, for each thematic block of biophysics is need to be created educational materials, which should reflect the most important aspects in compact and understandable form. That will help students gain systematic knowledge. Typically, for students that obtain medical specialties, solution of the biophysical problems in analytical form causes some difficulties, so, for obtaining solutions is better to use mathematical packages. The use of computer technology increases the efficiency of teaching fundamental disciplines in general and biophysics in particular. Computer graphics makes biophysical processes more illustrative and use of numerical methods allow changing biophysical parameters and thereby comprehensively investigate the phenomenon. To create models that are more close to reality must be taken into account that biological processes and systems are open and fixed, so for their description should be used models for non-equilibrium processes. When modeling processes that occurs in living tissues, in most cases used differential equations or even systems with initial conditions. For students of medical specialties methods and techniques that are considered in the study are quite relevant and comply with modern requirements. Implementation of practical tasks directed to a better mastering material by students, enhances understanding of the main principles and methods of solving problems in biophysics and provides maximum clarity, because allows to simulate and trace dynamics of real biophysical processes, this contributes to a greater understanding of their essence, what is relevant and modern in current time. During the execution of practical problems by students, it is essential to acquire skills, namely: understanding of theoretical material should be accompanied by the implementation of a large number of various practical problems. In the learning process cannot be gap in knowledge between lecture material and practical tasks. For the preparation of qualified specialists in medicine, in the structure of practical classes also should be available a motivational part and use of integrational approach.

Keywords: computer modeling, biophysics, differential equations and systems, mathematical packages of programs.

III. PROBLEMS OF TEACHING METHODS TECHNOLOGICAL DISCIPLINES

THE CONTENT OF FUTURE HOME ECONOMICS AND INDUSTRIAL ARTS TEACHERS' TRAINING FOR THE ORGANIZATION OF EXTRACURRICULAR ART AND TECHNICAL ACTIVITIES FOR PUPILS

Androshchuk Igor

The problem of future home economics and industrial arts teachers' theoretical training for the organization of extracurricular art and technical activities for pupils has been studied in the article. Based on the results of the analysis of future home economics and industrial arts teachers' training syllabi the one-way orientation of students' training for the educational process and the organization of classes in home economics and industrial arts are paid much attention. The need for taking into account the peculiarities of extracurricular activities in professional training of home economics and industrial arts teachers and creating the conditions for the students' realization in different directions of art and technical creativity in the process of their professional training in higher education institutions has been emphasized. It has been indicated that the current development of the content of future home economics and industrial arts teachers' professional training for the organization of extracurricular art and technical activities do not stipulate for widening their polytechnic and technological outlook, increasing technical creativity and obtaining experience in the organization of extracurricular art and technical activities. The opposition between a need of comprehensive and out-of-school educational establishments for appropriate specialists and the insufficiency of the syllabi in their training has been highlighted. Much attention has been paid to the need to study such disciplines as «Theory and Methodology of Out-of-School Education», «Methodology of Club Activities» and organize teacher placements in out-of-school educational establishments. It has been stated that the introduction of new modern theoretical and methodical foundations of syllabi and curricula that would be based on the above-mentioned principles is topical and necessary. The reasons of using a modular approach while developing the curricula for professional training of home economics and industrial arts teachers and defining main principles for the development of the content of theoretical training based on a modular approach have been justified. It has been found out that the theory of both modular learning and method is based on specific principles closely connected with general didactic ones. The content of such principles as modularity; extracting selected elements from the content; dynamics; activity, operativeness of knowledge and its systematicness; flexibility; realised perspective; variety of methodical consulting; partitiveness have been justified.

Keywords: home economics and industrial arts teacher, content of training, syllabus, curriculum, modular approach, principles of content development.

SECURITY ESSENTIALS INFRASTRUCTURE FOOD TECHNOLOGIES

Bogomaz-Nazarova Snizhana, Puliak Olha

In the article the requirements of safety of realization of laboratory and practical employments are analysed during the study of educational discipline of «Equipment of establishments of restaurant economy and equipment of food industry». Importance is marked for the future specialists of knowledge and abilities on questions of accident

prevention during work with a corresponding technical equipment and equipment at implementation of laboratory and practical works, making of evidences and implementation of individual tasks. Basic kinds are considered instructing: introductory, primary, repeated, not provided for by the plan and having a special purpose. Introductory instructing from carries acquainting character. The primary instructing in the workplace is conducted before the study of every new theme. The repeated instructing is conducted during realization of practical works of the same type equipment. The fact of realization of instructing is fixed in corresponding documentation. An aim, features and methodology of realization of instructing, is described. Instructing of students and students from accident prevention is examined as one of methods of realization of the intersubject going near professional studies. Text of instruction must contain the list of reasonable and convincing binding overs at implementation of that him the safe and harmless terms of labour are avouched for. Such document is developed by administration of educational establishment. Instructing is conducted as a lecture, conversation of cabinet a manager or by a teacher. Instructing in the workplace is completed by verification of knowledge and acquired habits of safe methods of work. Abilities, that the graduating student of higher educational establishment, people related to providing of safety must purchase on a production, are analysed. The features of study of requirements of safety are certain in the system of professional preparation of future specialists.

Keywords: safety, food technology, infrastructure, briefings.

KEY ASPECTS OF TEACHING BUSINESS UKRAINIAN LANGUAGE FOR STUDENTS OF TECHNICAL AREAS

Bogoslavets Lyubov Zhyteneva Lyudmila

The article discusses the main aspects of teaching the course «Business Ukrainian language» at the Technical University, clarified and professional aspects of teaching students of different disciplines and areas of training. The current state of teaching professional terminology, editing, correction, translation of scientific texts and the foundations of business communication. A consistent use in the process of studying the course «Business Ukrainian language» active learning methods and in particular the elements of modeling and solving linguistic problems. The experience improving teaching methods that can increase the effectiveness of different types of classes, efficiently and with higher intensity prepare students for professional careers.

Key words: aspects of teaching, learning outcomes, professional terminology, the basics of business communication, active learning methods, modeling, linguistic problems.

*SOME ASPECTS OF DISTANCE LEARNING TECHNOLOGIES OF THE FUTURE TEACHERS ON THE
SUBJECT OF CONSTRUCTION MATERIALS PROCESSING*

Grin Denis

The article is devoted to the introduction of distance learning in higher education in the preparation of the future teachers of technology. distance learning capabilities are fully correspond to the social order to train future professionals, which in turn is reflected in the legal documents of the last time in Ukraine, such a development of affairs is a result of the sustainable development of distance education in the leading countries of the world. The article made an analysis of the literature the authors on this subject. Analyzed approaches and distance learning principles not only in Ukraine but also abroad. There are various forms of distance education that was started with this method of training as a correspondent and developed to this day. Distance Learning Course is an artificial, dialogical learning opportunities, in which the bridge between the student and the institution serves as an artificial carrier signal. The vocational school distance education is an integral part-distance learning training of skilled workers and junior specialists, retraining and advanced training. Informatization of Education in Ukraine – one of the most important mechanisms that affect the main directions of modernization of the educational system. Modern information technology has opened up new prospects for increasing the efficiency of the educational process. It is changing the very paradigm of education. Big role of active learning methods, self-education, distance education programs. Highlighted aspects of the development and direction of the further implementation of this direction of education, which is more development in Ukraine. The most important components of distance learning are: the creation of practical situations during the training process, the opportunity to express themselves, self-actualization, the clarity of the educational process, individual approach. Proposed options for enhancing the independent work of the future teacher of technology through the activation of search and a creative approach to teaching by the example of the technical treatment of the subject of structural materials. The findings on the processed material and the proposed options for further development of such ideas. Interest grows in remotely obtaining a degree, and the qualitative characteristics of experts differ only positive aspects: confidence in their own strength, easy adaptation to the team, the ability to educate themselves.

Keywords: information technology, distance learning, teacher of technology, self-actualization, search and creativity, technology, processing of construction materials.

*THE IMPLEMENTATION METHODOLOGY OF INFORMATION-ANALYTICAL SYSTEMS FOR UNIVERSITY
MANAGEMENT*

Grycenko Valeriy

The aim of the paper is to reveal the meaning of the implementation methodology of information-analytical systems for university management. The main components singled out and peculiarities of their interaction are determined. Based on the analysis of existing implementation methodologies of information systems (IS). The main problems of IS design, creation and implementation are determined. The need to respect the principles of generalized project IS implementation is specified. Expediency and IS creation by IT specialists of the University are specified. The technological and methodological aspects of IC design for university using structural and procedural approaches are revealed, the advantages of the latter are shown.

Keywords: information system (IS), information-analytical system of university, IS implementation methodology, project management, structural approach for IS design, procedural approach for IS design.

FORMATION OF CREATIVE IMAGINATION AND ART ABILITIES AT FUTURE TEACHERS OF CRAFT

Gurianova Oksana

In this article the attention paid to the need of studying the subjects which promote the development of art and creative abilities in students, who are going to be the professional sewers. The author of article considered features of forming the creative imagination and art capabilities of future teachers of technology in the course of studying the course «Suit composition». In this course the purpose, the subject and the object are formulated as well as requirements to knowledge and abilities of students are analysed. The main sections of this course, subject and a technique of their development are also listed. The author marked the valueness of logical sequence of this course, its importance in development of the future specialists' competence. In productive activity of the technology teacher there is often arises a need both for the evident image of projectable garment and correct sketch reading skills. It's obviously obligating to see the proportions of future product, to understand properties of material. These skills could be received, either while studying the theoretical material on a subject discipline «Suit composition», or, first of all, during the process of performing practical tasks on this discipline. The primary stage of students' acquaintance with this course is studying of an external shape of a body of the person and his proportions. During practical training students seize the skills of drawing of the person with the help of several types of practices like conditional and proportional schemes, stylized solution of a figure of the person, rules of creation and execution of sketches creation of two-, three-figured compositions. They also get acquainted with pictorial means of a graphics, create compositions from different forms, carry out stylistic row; learn how to choose a creative source and to carry out its natural sketches, using transformation acceptances, to subject a source to the transformation from the natural sketches to the suit forms. Students get acquainted with wholeness of composition, contrast and nuance as means of composition, proportions, types of symmetry and asymmetry, a rhythm in clothes, the composite center in suit composition, clothes styles, a chromatics, the invoice and texture, rules of the image and methods of imitation of different types of invoices, requirements of accomplishment of different types of sketches during the studying of this course. The final stage of studying of a course is creation of sketches of a collection of clothes. There are also determined perspectives of researches in this direction (which, in particular, is development of a set of exercises on classes in craft according to the author), promoting development of creative imagination, art capabilities, esthetic and art taste.

Keywords: creativity, creative imagination, art abilities, creative source, suit composition, future teacher of craft.

*METHODS OF TEACHING TECHNOLOGICAL EQUIPMENT OF FOOD INDUSTRY OF THE FUTURE
TEACHERS OF VOCATIONAL TRAINING IN HIGHER EDUCATION*

Ischenko Svitlana

This article is devoted to the study of modern methods of teaching technological equipment food industry process of teaching future teachers of vocational training in higher education is not possible without the active use of innovative technologies. The development of modern trends in educational resources meets the aspirations of progressive educators to create conditions for the formation of scientific and technological process in their work. Garrison of the teacher is successful in its quest for self-education and acquisition of new modern methods and forms of teaching. Knowledge and skills teachers need constant updating, so possession of the latest and modern techniques need to communicate in one language with the students. The study of modern technological equipment of food production becomes rapid development in the food industry. This provides a significant effect on the quality of learning tools used in the classroom.

Keywords: food industry, technological equipment, training, learning content, innovative equipment.

*FORMATION OF METHODOLOGICAL FRAMEWORK OF RELATIONS BETWEEN THE ELEMENTS OF THE
THEORY OF KNOWLEDGE IN THE PROCESS OF PREPARING TEACHERS OF TECHNOLOGY*

Manoylenko Natalia

The article is devoted to the determination of the relevance factors and the strengthening of the role of integration of mathematics and science and relevant disciplines for the training of teachers of technologies. Of

particular importance in the preparation of future teachers of technologies is on the study of natural-mathematical disciplines, in particular physics teaching as an integral part of the General culture of modern high-tech environment. Technical skills, knowledge is transmitted from teacher and master to apprentice, from engineer to technician from the scientist to the engineer in the time frame from an artisan workshop specialized and higher education. Physics grew out of the needs of the machine and continuously uses her experience. Technique largely determines the topics of physics research and physics creates a need for devices and adaptations. However, it was noted that the technique stems from physics, physics labs are a new branch of technology and new methods of solving technical problems. The article lists examples of tasks applied areas for students is mgprednisone connections. The main purpose of scientific research, development and improvement of methodological bases of teaching natural Sciences future teachers of technology is a presentation of the main ways to increase the effectiveness of linkages physical and technical pictures of the world, the integration of fundamental and professional scientific and technical knowledge.

Keywords: method of scientific knowledge, logical connections, physical world, the technical picture of the world, Polytechnical education, applied knowledge.

INFOGRAPHICS IN EDUCATION

Panchenko Lyubov, Razorjonova Maryna

The article discusses the potential of infographics, its functions to solve educational problems (presentation, informational, explanatory, reconstruction, prognostics, organization, facilitation), principles of use, modern trends in education. The main principles are defined: brevity, creativity, information visualization, organization, transparency, relevance, simplicity. The main opportunity to use infographics in the following areas in the education: increasing motivation for learning, immersion in the topic, explaining and consolidation of educational material; presentation of the institution, profession, teacher, textbook, course; presentation of scientific and research faculty and students, graduate and doctoral students, research laboratories and teams; presenting the results of research in the sociology of education, including content analysis and survey; presentation of the analysis of educational reforms. Varieties of infographics software and Internet resources are compared. Infographic tools includes a wide range of computer tools and Internet resources: online resources with data visualization, tools to create a cloud of words, data visualization software, tools of design infographics online, image editors, presentations, mind mapping, data sources and depositories, free storage of images, icons, means of constructing mental maps and visualization resume. The content of course «Basic of Infographics in Education» for teaching staff and trainers is discussed. The examples of practical tasks are proposed too.

Keywords: infographics; visualization of information; data visualization, computer visualization; education; scientific and teaching staff training.

TEACHING CHARACTER DATA ENCRPTION IN THE SYSTEM OF AN APPLIED LINGUIST TRAINING

Riezina Olga

Cryptography and encryption were used for a secret communication for thousands of years. Historically, the necessity to transmit secret data produced the greatest impact on cryptography development in the military field. In the information age, which began in the 80s of the 20th century, security of commercial and personal communication has become extremely topical. Transmitting data via e-mail or World Wide Web service is instantaneous but susceptible to outside interference. The use of mobile phones and e-mail, payment for purchases in ordinary or online stores by credit cards, bank transactions via the Internet are safe and confidential on condition of encrypting data. Understanding the basics of cryptography and encryption makes it possible to develop effective personal and corporate data protection. In such modern conditions professional training of future specialists in Applied Linguistics involves the acquisition of competences in understanding the data encryption principles and techniques, the ability to write computer programs which apply algorithms of encryption and decryption. The development of such competences is possible in the process of teaching the theme «Encrypting character data» included into the syllabus of one of the computer science subjects for the specialty «Applied Linguistics». It is expedient for the learning content to include the matter that highlights the essence of some encryption methods. At the initial stage of training, it is possible to start learning Symmetric Ciphers such as Classical Substitution Techniques and Classical Transposition Techniques. The Python programming language is an effective tool for applying encryption and decryption algorithms. The Python Standard Library contains modules, String in particular, that provide a wide range of string manipulation operations and other text processing services. Teaching students to encrypt character data is realized while studying the subject «Programming and calculating» at the Foreign Languages Department (specialty «Applied Linguistics») in KSPU named after Volodymyr Vynnychenko. This theme is both ideological and practically significant. It allows students to learn the important principles of data encryption and decryption, to generate knowledge of their application algorithms, to improve programming skills and the skills of using various data types.

Keywords: teaching methods, plaintext, ciphertext, encrypt, decrypt, secret key, substitution cipher, transposition cipher, Python programming language.

LEARNING PROBLEMS NONEQUILIBRIUM PROCESSES

Sadovyi Mykola

The article is devoted to the important problem of equilibrium study, open, non-isolated systems. Equilibrium processes analyzed, the four principles of thermodynamics. Defined limits their use. The article revealed that over the last few decades, physicists, chemists and biologists were able to approach the understanding of the formation of structures in open systems, that systems that exchange matter and energy with the environment. The answer to the question about the causes and general laws of self-contained thermodynamics of irreversible processes, or as it is called, nonequilibrium thermodynamics. The great merit of nonequilibrium thermodynamics is the awareness of the fact that nonequilibrium can cause order. The article shows the comparison of equilibrium and nonequilibrium systems, the mechanism of local linear nonequilibrium systems and their development prospects. Nonequilibrium can serve as a source of order and based on a mathematical model of independent nonlinear functions of time describing the exchange with the environment energy and matter and spontaneously bring themselves out of balance. This conclusion found its use in organic chemistry, and is known as Benard instability when layers are easily movable liquid medium heated from below. For high temperature gradients is transmitted through the liquid heat and a large number of molecules of liquid forming shapes that resemble honeycombs. In another experiment examined the reaction mixture with ferroics, which involved red and blue molecules. From classical physical point of view is chaotic motion of molecules, and the concentration of blue and red molecules will range from the middle. Then color is purple with infinite transitions towards blue and red. But there was more. Pure blue color changes dramatically for pure red, then blue. There is a concerted chemical transformations that create so-called chemical clock. Thermodynamics Prigogine emerged from the study of open systems where matter or energy or both matter and energy exchange with the environment. It was the idea of rising research. Studied the phenomenon when the amount of matter and energy over time increases or decreases.

Keywords: nonequilibrium, equilibrium, thermodynamics, open system, the history of research.

*THE DESIGN OF MODERN EDUCATIONAL ENVIRONMENT ON THE BASIS OF PERSONALITY-ORIENTED
AND COMPETENCY-BASED APPROACHES*

Stuchynska Natalia, Novikova Irina

The article is devoted to the question of psycho-pedagogical precedent conditions of designing, and analysis of different models of educational environment on the principles of a competent personally-oriented approach. In this article the authors have carried out a thorough theoretical analysis of interpretation of concepts «educational environment», «information educational environment» and «safe educational environment». Modern approaches to design of safe educational environment were reviewed. The special features and principles of educational environmental construction and methods of its creation, quality criteria and evaluation were defined. The conditions of the improvement of educational process, creating an intellectually rich environment and the humanization of educational process were analyzed. The analysis of conditions that promote a safe educational environment on the basis of competent approach of medical and biological physics was made as well. According to the analysis of the relevant psycho-pedagogical and methodological literature it was concluded that the educational environment is a set of conditions that are necessary for successful development of the individual. It is determined that the optimization of the educational environment is a multiple process, therefore, it requires introduction of modern progressive technologies, upgrading of scientific-methodological and informational support, filling the content of education with universal values, and as a result introduction of competency-based approach. Meaningful theoretical analysis is supplemented with long-term results of pedagogical experiments in secondary and higher education. During the experiment, the state of the problem was defined in practice within the educational training; progressive teaching experience was studied in secondary and higher education. The research of the most effective conditions that will contribute to the psychological security, comfort and health safety of the individual, forming of professionally relevant competencies of medical students and high school students was carried out. The results of the experiment are reflected as components of educational environmental safety that facilitate further development of individual students, and the dangers and risks that affect the quality of education. Based on the conducted research, was developed a model of educational environment on the basis of personality-oriented and activity competent approach that focuses on organizing students' work during the practical training and, which is the most important, the outside audience independent work. It was proposed to medical students on the course of medical and biological physics to use modern scientific and methodological support in order to help implement pilot activities, forming generalized experimental skills, and it meets the chosen technology training. The model and educational software is being implemented in the classroom according to the credit-modular system of training in medical and biological physics at the Donetsk Medical University. Gorky (m. Kramatorsk during 2015-2016 and 2016-2017). Further areas of research are the improvement of the stages and components of designed educational environment and their relationships, improvement of informational and methodological support of teaching medical and biological physics on the basis of personality oriented, action-competence approach.

Keywords: medical and biological physics, educational environment, informational educational environment, safe educational environment, pedagogical technology, approach to the educational environment as educational technology, personality-oriented approach, competence based approach, professionally oriented competence, model of educational environment.

PREVENTION AND OVERCOMING OF THE SYNDROME OF PROFESSIONAL BURNOUT

Tsynovnik Tetiana, Stets Maryna, Averyanova Tetiana

The article is devoted to the prevention and overcoming of the syndrome of professional burnout that appears as a result of uncontrolled stress caused by interpersonal communication, the amount of work to be done and tense atmosphere in professional activities, physical and mental health. The actuality is that the syndrome has become a familiar phenomenon not only at schools but also in higher educational establishments. Constant fatigue, emptiness, lack of social support, constant reproaches, dissatisfaction with the profession – many teachers have all these syndromes. The syndrome of professional (emotional) burnout is a serious illness that has been recently added to the International Classification of mental illnesses. It threatens to professionals of all sectors, but teachers suffer most. To investigate the syndrome among the teachers of the Dniprodzerzhynsk Energetic Technical College we made the list of teachers-curators – 22 persons aged 23 to 72 years old. Their teaching experience ranged from 1 to 31 years. We conducted a series of studies to determine the psychological balance, the threat of emotional burnout and emotional mastery of anti-stress techniques. While studying the features of professional burnout of the teachers we noticed that the rate of emergence of professional burnout depends on the personal characteristics of teachers, work experience and the use of self-regulation methods. In this situation it is extremely important to take measures aimed at the prevention and elimination of the syndrome: psychotherapy, psychological training; constructive evaluation; novelty (change of activity, the introduction of technical innovations, program updates, change of residence and work can be quite a productive way, avoiding quarrels, conflicts, uncertain circumstances (especially that go beyond job responsibilities), excess liability.

Keywords: syndrome, stress, prevention, emotional burnout, balance, self-regulation, psychological training.

EDUCATIONAL ASPECTS OF SUSTAINABLE DEVELOPMENT IN UKRAINE

Shakhovska Anastasia

In the article the theoretical aspects of sustainable development in education, higher education, defined the genesis of sustainable development outlined are priority objectives of higher education. We consider the ideology of environmentally conscious Education and Science are turn the major prerequisites goals of formation and reproduction of intellectual potential of the nation, a new system of values and worldview of spirituality nationals. Definition of the key tasks of education – environmental awareness, the ability to see the world in all its relationships. The priorities of sustainable development in education are the development of special educational programs for sustainable development; implementation of educational conditions create models of new pedagogical culture and pedagogical content; continuous improvement and knowledge base to ensure constant awareness of sustainable development issues. Basic principles laid in pedagogy, the learning environment to ensure system sustainability. Also explored theoretically basic principles of the global strategy of sustainable development in education: The analysis of current research, methodical and scientific literature.

Keywords: sustainable development, higher education, educational system, the environmental consciousness of society.

*NEW TECHNOLOGIES TRAINING FUTURE PROFESSIONALS FOR TECHNOLOGICAL EDUCATION
PROFILE EDUCATION GRADUATES OF ORPHANAGES*

Yakovlyeva Viktoriya

The article analyzes the causes of dissatisfaction in society existing system of labor training offered by the latest technologies of the future experts of technological education to professional activity in general secondary schools, especially in secondary schools - boarding. Fundamental changes in the content of secondary education and labor training, introduction of profiling in upper secondary schools necessitate rapid take measures to develop a new methodology methodical preparation of future teachers of labor training and the creation of appropriate scientific and methodological support of educational process in higher educational institutions. Uncertainty direction of labor education students destabilize approaches to determining the content of modern teacher of labor studies. In conditions of uncertainty teacher training takes place without any focus on the needs of the school, does not take into account the changes that happen gradually and steadily to channel labor education students. The appearance of an updated version of the educational and professional programs give reason to put an end to certain opposition to overcome existing stereotypes and unwillingness to see irreversible changes in approaches to labor education students of secondary schools, which are directly reflected in the preparation of future teachers. By updating the educational process of training future teachers of labor training and technology through the introduction of new learning technologies allows you to create in them the ability to play its role of a qualified, reputable consultant on a range of issues. The introduction of business games, simulations of practical situations, the use of computer technology, collective learning methods are today among his supporters creative, enterprising university teachers. The main tasks in implementing new technology training to prepare students of preschool education and technology to profile education is to develop professionally significant personal qualities that will help them to successfully adapt to future performance and creatively to develop, to be professional.

Keywords: technological education, specialized education, graduates of boarding schools, new technologies