

### Summaries

#### *Modernization practice*

CHUCHALIN A.I., PETROVSKAYA T.S., CHERNOVA O.S. NET INTERACTION OF INSTITUTIONS OF HIGHER EDUCATION AND VOCATIONAL EDUCATION WHILE IMPLEMENTING PROGRAMMES OF “APPLIED BACCALAUREAT”

“Applied” bachelor degree programs have to provide for the graduates practical training specific for vocational education and theoretical education specific for the programs of higher education on the level of the “academic” bachelor degree programs. The paper is focused on the potential trends and conditions of such programs implementation. The specific features of the structure and content of the educational programs are defined on the basis of the comparative analysis of requirements for learning outcomes (competences) of the graduates of “academic” bachelor degree programs, vocational education programs and “applied” bachelor degree programs.

*Keywords:* higher education, vocational education, “applied” bachelor degree program, “academic” bachelor degree program, adaptable learning trajectory, joint learning programs, net interaction

DOROZHKIN E.M., DAVYDOVA N.N. DEVELOPMENT OF EDUCATIONAL INSTITUTIONS WITHIN THE NETWORK INTERACTION

The paper describes the possibilities of using network-based approach in management of the development of modern educational institutions of general and vocational education, which enables to supplement competitive relations with cooperation and construct conjointly a regional educational network.

*Keywords:* networking, networking of educational institutions, science and research network, knowledge economy, model of educational institutions networking

MIRONOV V.V., GURTOV V.A., ILYASOV E.P. STATE MEASURES ON ORGANIZATION OF INTERACTION BETWEEN INSTITUTIONS OF PROFESSIONAL EDUCATION AND EMPLOYERS

Successful employment of graduates can be considered as a result of effective cooperation between educational institutions and employers. It can be ensured due to the necessary contents of the basic professional educational programs and high quality of graduates’ training. The article considers the existing measures aimed at better interaction between educational institutions and employers and the steps additionally taken by the Ministry of Education and Science of the Russian Federation.

*Keywords:* vocational training, employer, employment, graduate, state measures on strengthening interaction, educational organizations

#### *Sociology of education*

SERYAKOVA S.B., KRASINSKAYA L.F. REORGANIZATION OF HIGHER EDUCATION THROUGH THE EYES LECTURERS: STUDY RESULTS

The article shows the results of the opinion poll of university lecturers. The survey was aimed to reveal their attitude towards reorganization of higher education. There is presented the analysis of their opinion on restructurization of ineffective universities, the appearance of leading universities, implementation of level training system and competence-oriented educational standards etc. Special attention is paid to the problem of reform efficiency, and to the factors negatively influencing modernization of higher school.

*Keywords:* higher education reorganization, university lecturers, opinion poll, Internet questionnaire, university hierarchy, levels of professional training, competence-oriented educational standards, students’ competences

BOKHAN T.G., ALEKSEEVA L.F., YAZIKOV K.G., SHABALOVSKAYA M.V., MOREVA S.A. THE IMAGE OF PROFESSIONAL FUTURE IN CRISIS STAGES OF TRAINING

The article presents the results of the survey carried out by the chair of the general and differential psychology of the Siberian State Medical University. The aim of the survey was to reveal the substantial

and dynamic aspects of an image of professional future of medical students and to define their psychological readiness for professional formation at «crisis» stages of education process. The analysis of the specific features of the meaning content of the professional future image shows its complication and transformation from junior to senior courses, which is the evidence of the dynamics of personal and professional formation of students.

*Keywords:* medical students, image of the future; psychological readiness, education stages, crisis periods, personal and professional formation, self-realization, innovative activity

#### SHMURATKO D.V. STUDENTS' PARTICIPATION IN SCIENTIFIC RESEARCH

The article deals with the organizational, methodological and legal aspects of students' participation in fundamental scientific research. The analysis of scientific research areas, which students are involved in, is presented (for example, research projects in the framework of the strategic development of the Perm State Humanitarian Pedagogical University). Students' publication activity in Permian leading scientific journals in 2011 is shown.

*Keywords:* student's science, agreement for scientific research, Perm State Humanitarian Pedagogical University, strategic development program, fundamental scientific research

#### Jubilee

*Perm National Research Polytechnic University celebrates 60-years jubilee*

#### TASHKINOV A.A., PETROV V.YU., MAKAREVICH V.I. PRIORITIES AND PERSPECTIVES OF THE DEVELOPMENT OF THE NATIONAL RESEARCH UNIVERSITY

The article presents the results of the first stage of functioning of Perm Polytechnic University as a national research university in conditions of state support. Priority directions and spheres of NRU activity have been marked out. The goals and perspectives of university development have been outlined. The university develops its activities based on the unity of educational, scientific and innovational processes, participates in formation of a global education and research space, provides training for a new generation specialists adapted to socio-cultural conditions of Russia and first-rate countries, contributes to the success of its graduates in competitive environments.

*Keywords:* Perm National Research Polytechnic University, development strategy, status of national research university, priorities in PNRPU development, scientific schools, publication activity, center for technologies transfer, university "integration belt"

#### SHEVELEV N.N. STRATEGIC PARTNERSHIP BETWEEN UNIVERSITY AND ENTERPRISES AS THE BASIS OF INNOVATION ECONOMY DEVELOPMENT

This article discusses forms of interaction between university and enterprises, the models of partnership that enable to ensure the real influence of employers on the quality of specialists' training. Perm National Research Polytechnic University has elaborated the system of mutually beneficial interaction with the leading industrial enterprises in Perm region and in Russia, which includes traineeship for lecturers and university workers, attracting of noted scientists from research centers and institutions, experts from enterprises to learning process, participation of employers in tutorial councils, co-financing of university projects, organization of students' practical work and others.

*Keywords:* university and enterprises cooperation, employers, interaction models, partnership forms, innovative activity, employers' participation in learning process, students' practical work

#### STEGNY V.N. HUMANITARIZATION OF ENGINEERING EDUCATION

The paper describes the process of realization of the concept of engineering education humanitarization by means of a special organizational form – the faculty of humanities at technical university. The faculty has worked out the unified system of humanities and socio-economic disciplines such as economics, philosophy, sociology, political science, jurisprudence, domestic history, culturology, foreign languages, for all faculties and specialties. The article presents the main tendencies of faculty development, the results of its research activities, the place and the role of the faculty in university life during 20 years of its existence.

*Keywords:* humanization of engineering education, humanitarization of engineering education, humanitarian and socio-economic training of engineers and specialists

KOROTAEV V.N. THE RESULTS OF STATE SUPPORT OF RESEARCH UNIVERSITY AND REAL SECTOR OF ECONOMY COOPERATION

The article dwells upon the concept of science and innovation development at Perm National Research Polytechnic University, considers forms of interaction of science and innovation activities, reviews the main projects, realized at Perm Polytechnic University from 2010, considers creation of new elements of scientific and innovative infrastructure.

*Keywords:* science and innovations, cooperation between science and industry, science intensive projects, joint projects

ANOSHKIN A.N. THE PLACE OF MULTI-ACCESS CENTERS AND HIGH-TECH LABORATORIES IN INNOVATIVE INFRASTRUCTURE OF RESEARCH UNIVERSITY

The article analyzes the role of multi-access centers and high-tech laboratories in commercialization of technologies and developments of university, gives the examples of successful application of high-tech equipment in realization of innovative projects at Perm National Research Polytechnic University. Some proposals on promoting the innovative projects passing through the elements of innovative infrastructure of universities have been made by the author.

*Keywords:* innovation, commercialization, scientific development, research, experimental development, multi-access center, laboratory, high-tech equipment

LOBOV N.V. INNOVATION PROJECTS OF PNRPU IN THE SPHERE OF MA EDUCATION

The article views PNRPU innovative projects for MA courses' programs of engineering specialties. They are connected with the development of independently positionable education standard, the development of network education programs, the accreditation of MA education programs.

*Keywords:* MA courses' engineering programs, innovation educational projects, independently positionable educational standard, accreditation of MA education programs

TSAPLIN A.I. PROBLEMS OF STUDENTS' PHYSICAL AND MATHEMATICAL TRAINING IN CONDITIONS OF LEVEL EDUCATIONAL SYSTEM OF POLYTECHNIC UNIVERSITY

The article examines the organizational and methodological problems of training at the faculty of applied mathematics and mechanics in Perm National Research Polytechnic University. The author asserts that in conditions of two-level education it is possible to overcome the crisis of physical and mathematical training of university entrants and to graduate competitive specialists in conditions of innovation development of country's economy.

*Keywords:* innovation educational environment, student's undergraduate education, baccalaureate, MA course, problems of training organization

*Discussing a problem*

PETUKHOVA T.P. MODULE CONSTRUCTION OF EDUCATIONAL PROGRAMS ADJUSTED TO LABOR MARKET DEMAND

This article sets forth the technological aspects of modular educational programs construction on the basis of the existing Federal State Educational Standards of Higher Professional Education and Secondary Professional Education (FSES HPE SPE) taking into account professional standards and regional labor market demand. The research was supported by the Ministry of Education and Science of the Russian Federation within the state tasks for higher educational establishments for years 2012 and 2013 (projects: 10.205.2011 "Scientific and methodical basics development of competence oriented educational programs module construction according to FSES HPE SPE and 10.7062.2013 "Scientific and methodical provision elaboration of modular competence-oriented basic professional educational programs SPE according to labor market demands"). The result of the first stage of modular technology implementation is the chart of graduate's professional activities, which includes the goal, areas and tasks of professional activities and professional skills. The chart is the main tool for adaptation of the program for the labor market demand. The second stage includes designing of modules for competence-oriented educational programs. The described technology for designing of modular competence-oriented educational programs is being implemented and approved on two specialties at Orenburg State University.

*Keywords:* competence-oriented module, modular competence-oriented educational program, module technology, module specification, federal state educational standards

**DOROFEEV A.A. DIDACTIC CONDITIONALITY OF BLOCK-MODULE TEXTBOOK STRUCTURE**

The article describes didactic macrostructure of a textbook that can be viewed as a communicative tool used for cognitive purposes. The didactic qualities of a textbook are determined by the structure of the main parts of the book. Block-module structure is oriented on subject-subject educational technologies and corresponds with the pedagogical objective as an aggregate of acquired professional competences.

*Keywords:* didactics, textbook, textbook structure, didactic unit, didactic byte, competence, modules, block-module learning, subject-subject educational technologies

**KISSELMAN I.F., YUDINA M.G. EDUCATIONAL SOFTWARE IN TEACHING**

This paper stands as an argument for employing educational software in teaching and evaluating skills and knowledge in higher education. The authors' main goal is to pinpoint and focus on strategies of teaching through the use of modern means, namely educational software.

*Keywords:* educational process, calculated and designing course, settlement module, processes and devices of chemical technology, special educational software, algorithm

**TROFIMENKO YU.V., SAZONOVA Z.S., FEDYUKINA T.V. THE ROLE OF ENGINEERING PEDAGOGY IN THE SOLUTION OF SECURITY PROBLEMS ON AUTOMOBILE TRANSPORT AND IN THE SPHERE OF ROAD MAINTENANCE**

An important factor in providing security in technosphere is the level of professional competency of the engineers - Bachelor's, Master's and Specialist's degree holders, - who design, create and operate objects of the infrastructure. In the paper we analyze the role of engineering pedagogy in the processes of preparation of competent engineers at technical university MADI to solve the tasks of providing security in technosphere and of subsequent improvement of their qualifications.

*Keywords:* engineering pedagogy, security in technosphere, automobile transport and road maintenance, professional preparation and competency, risk-management in security

***University life***

**SHILOV S.P. THE MOST IMPORTANT TASKS OF DEVELOPMENT OF A REGIONAL TEACHERS' TRAINING**

The article deals with the main problems, priority directions and means of improving the process of training future pedagogues in a regional higher educational institution.

*Keywords:* system of teachers' professional training, scientific and innovative activity, employment of students, human resources, bringing-up activities, system of career guidance and graduates' employment

**VEDERNIKOVA L.V., POVOROZNYUK O.A. THE INTERACTION OF COMPREHENSIVE SCHOOL AND TEACHERS' TRAINING COLLEGE IN CONDITIONS OF FORMING A COMPLETE SOCIAL AND CULTURAL ENVIRONMENT OF A REGION**

The article is devoted to the problem of creating a complete social and cultural environment of a region by means of organizing interaction of comprehensive school and pedagogical practice, which is accomplished on three levels of the process: a research one, an innovative and practical one, and the level of professional development.

*Keywords:* social and cultural environment, social culture, family culture, personal culture, interaction of social institutions, innovative activity

**POLISCHUK V.I. WORLD OUTLOOK POTENTIAL OF CULTUROLOGY**

The article presents the reflections on the importance, value, and the content of today's Russian youth outlook. The culture studies as a complex of various disciplines and self-consciousness of modern culture can serve as a basis and means for formation of students' necessary outlook. Knowledge

of any type is knowledge about culture. Culturological approach as an alternative to technocratic thinking focuses on research activities and contributes to formation of holistic outlook.

*Keywords:* outlook, belief, consciousness, self-consciousness, culture, culturology, tendencies of modern culture, world outlook, reference points

#### LEVYKH A.YU., VEDERNIKOVA L.V. THE ROLE OF THE RESEARCH AND EDUCATION CENTER IN INNOVATION DEVELOPMENT OF A HIGHER EDUCATIONAL INSTITUTION

The article ascertains the role of a research and education center in providing and developing an innovation activity of a regional teachers' training higher educational institution. The activities of this center is based on the integration and social partnership and is aimed at elaboration of the strategy of social development of the regional educational space and providing high quality of teachers' training. The article describes the structure, main tasks of the research and education center, and the functions of the constituent laboratories.

*Keywords:* research and education center, innovation activity, stable development, social partnership, integration

#### KULYAPIN A.I. ON INTEGRATION OF SEMIOTIC RESEARCH OF SCIENTISTS FROM THE WEST SIBERIAN REGION

The review of the two journals *Discourse* and *Critics and Semiotics* published in Novosibirsk allows to state that the west Siberian Region has become one of the leading centers of the Russian semiotics studies. The establishment of the research and development laboratory on semiotic research of literature and arts in the Ishim Ershov Teachers Training Institute gave the lecturers an opportunity to participate in studying of the actual problems, helped to understand the perspective trends of modern humanitarian science.

*Keywords:* semiotics, journals of semiotics, neo-semiotics, poetics, sign system, philology, cultural studies, literature, arts

#### YELANTSEVA S.A. PSYCHOLOGICAL ASPECTS OF TEACHER'S PROFESSIONAL TRAINING

The article dwells upon the psychological aspects of teachers' professional training. The system aimed at formation of teacher's psychological competency was worked out at Ershov Ishim Teachers Training Institute. Teacher's psychological competency includes such components as knowledge of psychological patterns and age-related peculiarities, skills in applying psychological knowledge in pedagogical activities, and personal traits necessary for organization of effective professional communication. These components are formed by stages within the proposed system.

*Keywords:* psychological aspects of teacher's professional training, psychological competence of a teacher, practical orientation of educational process, professionally important qualities, professional motivation, psychological readiness for critical life situations, reflection abilities, abilities for self-development

#### TENYUNINA I.A. THE STAGES OF FORMATION THE TRAJECTORY OF PROFESSIONAL DEVELOPMENT OF STUDENTS OF PEDAGOGICAL INSTITUTE

This article presents the results of scientific and practical research on the problem of professional formation and development of students during the period of training at pedagogical institute. The article suggests describes stages of formation the trajectory of professional development of future teachers. The analysis of practice of pedagogical colleges shows that the educational process is aimed at improving the professional competence of the future specialist, while the individual identity of professional formation and development of a student during the whole period of his training is not sufficiently taken into account. The author in the course of the research work has made an attempt to create an educational environment conducive to intensification of personal, creative and professional potential of the student. Elucidation of the problems connected with the professional formation and development of students will give impetus to further research in the area of professional preparation of future teachers.

*Keywords:* student of pedagogical college, professional development, trajectory of professional development, stages of professional development trajectory formation

---

**POLIVAEV A.G. THE IMPROVEMENT OF PHYSICAL CULTURE TEACHERS TRAINING SYSTEM**

The article analyzes the problem of raising the quality of training students at faculties of physical education of pedagogical colleges. The paper presents the experience of organizing training process at the faculty of physical education of P.P. Ershov Ishim State Teacher's Training Institute considering individual psychological peculiarities of students and their suitability for the requirements of teacher's profession. The article suggests the ways of improving the education quality of teachers training based on selection and organization of learning process considering students' personal characteristics.

*Keywords:* physical culture teachers, teachers training system, competence, quality of teachers training, individual psychological peculiarities, practice-oriented character

***Research debut***

**PUKHALSKAYA V.G., KULINKOVICH A.YU. THEATRICAL TECHNOLOGY IN TEACHING**

The article highlights the important aspects of a lecturer's work on the text of a lecture including pronunciation, diction, vocal variety, and gestures. The article adduces advice of the renowned stage masters and public speakers on the rules for preparing a successful public speech.

*Keywords:* university lecture, diction, intonation, gesture, speech arts technique, public speaking, theatrical technology in teaching

**RYBAKOVA S.B. DEVELOPMENT AND REALIZATION OF STUDENTS' SUBJECTNESS IN EDUCATIONAL ACTIVITIES**

The article dwells on a problem of genesis and realization of students' subjectness in educational activity. The questions concerning practical organization and the content of subject-subject relations in higher school are considered. The article also touches upon the issue of criteria of subjectness and pattern of its development in educational activities.

*Keywords:* educational activities, subjectness, subject-subject relations, criteria of subjectness, development of subjectness, subjectness genesis

***Facts, comments, notes***

**PRIKHODOVSKY M.A. HOW TO STIMULATE STUDENTS TO REGULAR WORK DURING THE SEMESTER**

We consider a set of specific incentives to encourage regular, systematic learning by students an educational material during the semester. Among them are the following: more liberal, friendly atmosphere, possibility of pre-term examination, taking into account the results of student's work during a semester, invariability of the requirements, feedback between lecturer and student.

*Keywords:* semester, exam, regular, systematic learning, study of material

**YELUNIN M.N., PIYAVSKY S.A. MATRIX STRUCTURE FOR MANAGEMENT OF THE ACTIVITIES OF STUDENTS' RESEARCH GROUPS**

This paper describes an information technology (matrix structure) that enables to generate mixed students' research groups. The pivot of the matrix structure is the interdisciplinary course "The technology of vocational activities". Student's research work consists of two parts: an individual task and participation in teamwork under the guidance of a team leader, so that his work is closely connected with the leading research areas of the department.

*Keywords:* management, research group, matrix structure, information technology, automated information system, science, individual research

