

Pedagogy and Psychology

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Development of Psychological Culture as a Factor of Successful Socialization of Students in Educational Environment

Key words and phrases: psychological culture; cognitive, affective, motivational, behavioral (activity), axiological, reflective-perceptive, creative components; system of psychological support.

Abstract: The paper considers the relevance of the study of such a phenomenon as “psychological culture” of a future teacher. The author highlights the diversity of psychological and pedagogical approaches to the study of this notion. The author proposes a definition of the concept of «psychological culture». The results of the research into the component composition of psychological culture of students of teachers’ training institute are described. The model of the system of psychological support aimed at the formation of a high level of psychological culture is described.

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Professional Training

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Professional Development of Secondary School Teachers as a Factor of Improvement of Their Professional Competence

Key words and phrases: qualifications; professional development of teachers; professionally important qualities of a teacher.

Abstract: The paper describes conditions conducive to the improvement of professional and pedagogical competence of a teacher. The author focuses on the main goal of professional training and development, as well as on directions of the development of the system of secondary school teachers’ training.

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History, Philosophy and Sociology

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Historical Review of Church-State Relations in Russia in the Period from the XIX to the beginning of XX Centuries

Key words and phrases: Chief Procurator; state; Church; local Council; Patriarch; Synod.

Abstract: The paper aims to track the dynamics and main stages of development of relations of the Russian Orthodox Church and the state in Russia from the XIX to the beginning of XX century, identify the objective and subjective factors influencing the changing nature of this relationship, analyze the ways of adaptation of the Russian Orthodox Church to changes in religious policy of the state.

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R.A. Savchenko

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The Research into Combat Activities of Separate Antiaircraft Artillery Divisions Formed and Recruited in Tatar Autonomous Soviet Socialist Republic in 1941-1943

Key words and phrases: antiaircraft artillery division, air defense, plane, combat training.

Abstract: The paper deals with the formation of separate antiaircraft artillery divisions formed and recruited in Tatar Autonomous Soviet Socialist Republic in the Great Patriotic War period. The author touches on the problem of military personnel recruitment, armament and special equipment supply. Special attention is given to tactical employment of divisions under study.

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Philology

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Extralinguistic Factors of Cumbria Oiconymy Formation of Norman Conquest

Key words and phrases: place-name; oiconym; oiconymy; oiconymic etymon; oiconymic appellative; oiconymy formation processes.

Abstract: The paper highlights oiconymy formation processes of Cumbria, the north-west county of England. Oiconym is a proper place-name of any kind of a settlement: a city, a town, a village, etc. The study of oiconyms has a great importance as the oiconyms have an inherent characteristic of keeping relict information fixed in appellatives of oiconymic etymons, which is lost in other strata of the vocabulary. Cumbria settlement names formation of Norman period is analyzed on the two levels: linguistic and extralinguistic ones. This paper focuses on extralinguistic factors of Cumbria oiconymy creation of Norman Conquest.

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L.M. Kalyanova

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The Use of Internet Resources in the Classes of Foreign Language

Key words and phrases: audio aids; integrated lesson; interactive board; information technologies; communicative competence; intercultural communication.

Abstract: The paper deals with some issues of methodology of teaching foreign languages with the use of modern information technologies that improve the effectiveness of learning material by students.

page 31-34

A.V. Fedorova

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The Idea of “Soul” in Russian Culture Images

Key words and phrases: associations; soul; idea; concept; figurative field.

Abstract: The paper deals with the key idea of ‘ ‘soul’ ’ embraced in the eponymous word-concept of Russian culture. Being implicate it is concentrated in the structure of the word meaning. The ‘ ‘hidden meanings’ ’ are detected through the analysis of poetic imagery. Poetic associations reflect the ethnic and cultural dependence of the investigated phenomenon.

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Engineering

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Vyatka State University, Kirov

Code-Synchronization of Pseudonoise Signals at Rayleigh Amplitude Fluctuations

Key words and phrases: pseudonoise signal; code-synchronization; non-linear filtering.

Abstract: The paper describes an algorithm for joint estimation of discrete parameter and Rayleigh amplitude of pseudonoise signal (PNS). The structure of the receiver for fast code-synchronization of PNS is developed.

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Mathematical Methods and Models

S.M. Biryukova

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Application of Polyharmonic Models for Vibration Analysis

Key words and phrases: polyharmonic models; vibration; vibrogram; nonlinear optimization; least square method.

Abstract: The paper discusses the possibility and benefits of polyharmonic models with incommensurable harmonic frequencies for vibration analysis of mechanical equipment to diagnose malfunction.

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A.L. Itin, Yu.L. Kolesnikov

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The Model of Integrated-Optical Sensors Based on Acrylic Hydrogel

Key words and phrases: acrylic hydrogel; environmental impact assessment; integrated optical sensor; interferometer; optics; simulation model.

Abstract: The aim of this work is to study the potential use of an optoelectronic chemical sensor

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based on integrated - optical sensing element for detecting a change in concentration of a substance as a result of interaction with the environment. We calculated and estimated the threshold sensitivity of the sensor. Polyacrylic film was used as a sensitive layer. For the study a simulation model of the sensor in the software environment Matlab was created. As the input data we used the experimental data obtained by measuring the optical properties of the acrylic hydrogel. In an integrated optical sensor was used planar dielectric waveguide optical range, consisting of a glass substrate, the waveguide layer of glass with a high refractive index layer and sensitive hydrogel. Simulation model was based on the dispersion equation, which established the connection between the effective refractive index and structure parameters. In a proposed scheme we used prism input. In electronic data processing system sensor values were received from the receivers, which were compared with the data obtained by the simulation model, and then the resulting value of the refractive index and the concentration of the substance were produced. These results proved that the acrylic and hydrogel schematic bid sensor can be used as a recording device for the detection of analytes.

Electronics, Measuring Equipment, Radiotechnics and Communication

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The Effect of Coherent Amplification of Information Signal about Low Observation Mobile Object

Key words and phrases: coherence; low observation phenomena; coherent amplification; background principle; mathematical description; background radiation; coherent detection; time averaging.

Abstract: Previously unknown effect of coherent signal amplification on the object mobility consists in the fact that the time-varying signal of a mobile object appears in the interaction of a mobile object with constant time coherent radiation from other fixed objects (background) and is enhanced in proportion to the intensity of this radiation. The effect of the signal amplification on the object mobility in the stationary coherent background is exemplified by long waves, which are characterized by the conditions, when the size of the object smaller than the resolution element in the background. The numeric evaluation of the effect of coherent amplification was obtained.

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Management, Computer Engineering and Information Science

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Khakassia State University named after N.F. Katanov, Abakan

The Main Problems of Programming “Smart Home” Systems

Key words and phrases: smart home; smart environment; programmable space; software development.

Abstract: The paper describes basic problems of programming “Smart Home” systems and a way to solve this problem.

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A.Yu. Korovyakovskaya

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St. Petersburg Network Structure Designing With Power World for St. Petersburg

Electrical System

Key words and phrases: digital map; electrical grid; network model; PowerWorld.

Abstract: The paper deals with modeling and analyzing current electrical topology in St. Petersburg with Power World tools. The developed model can predict system's behavior, discover assailable parts into the system and reduce damage costs. Official information from the Government Resources was used to complete the analysis (power of electrical generators, level of electrical consumption, etc.). The model considers existing and plan ned power lines, electrical flood from the external sources into the Leningradskaya district like Leningrad Nuclear Power Plant and Kirishi electrical station and other power sources from neighboring countries (Finland, Estonia, Latvia). The weakest part in the system was discovered by analyzing the affected area for the water flood. If the object is allocated inside this area it will be disconnected from the grid and power flood will be recalculated. The main goals for this research were to create an interactive electrical system model, perform power flood calculation

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for the current electrical grid and give recommendations about the ways of protecting the existing electrical system in St. Petersburg.

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Physically Non-Clonable Functions and Their Application in Data Protection Tools

Key words and phrases: information security; cryptography; key; physically non-clonable functions; breaker, chip; model.

Abstract: This paper describes a new promising technology of building information security tools which are physically non-clonable functions (PNF). This technology is based on the irregularities, various errors which arise in the production of computing elements, mostly, semiconductor devices. In most facilities and systems of information protection cryptographic technologies are used, where the basis of security is that an infringer is ignorant about the secret key. The problems of using the key technology of cryptographic tools, in particular, the problem of secure key storage are considered at the beginning of the paper. Then the article the author described the properties of information security based on PNF, showed their classification and requirements for information protection means based on the physically non-clonable functions. Directions for further research were proposed.

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Ecology and Nature Management

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Development of Studies on Dehydration of Wood and Bark by Gyroscopic Method

Key words and phrases: wood; bark; dehydration; technical solutions.

Abstract: The paper deals with the research into dehydration of wood and bark by gyroscopic method. The author offers technical solutions developed in Petrozavodsk State University for this method of wood dehydration.

page 81-84

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Intellectual Property as a Factor of Development of Bioenergy Clusters

Key words and phrases: bioenergetics; intellectual property; energy wood harvesting.

Abstract: For the effective exploitation of woody biomass energy it is necessary to create a new technology for its harvesting, based on new intellectual property objects.

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Economic Sciences

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The System of Innovation Life Cycle and Comprehensive Model for Determining the Value of the Stages of the Innovation Process

Key words and phrases: innovation life cycle; process of innovation; research and development activities.

Abstract: The paper describes the system of innovation life cycle, allowing on the basis of the identified interdependencies between the level of costs for a certain period of time and the effectiveness of the performed research and work measured in points, determine the effectiveness of a gradual process of innovation. The system includes the algorithm to identify areas of reinvestment depending on the level of sales through demand-driven innovation. The paper presents a comprehensive model for determining the value of scientific, technical, technological and operational phases of the innovation process, which enables to determine the amount of current and capital expenditures on research and works with the fiscal (tax and customs) payments and foreign trade activities of innovation-active businesses.

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Evaluation of the Effectiveness of Investment in Innovation (Case Study of the Lipetsk Region)

Key words and phrases: innovation; investment; innovation and investment project; economy; efficiency; innovation and development.

Abstract: The paper describes the evaluation of the effectiveness of investments in innovation in Russia through the example of the Lipetsk region. In recent years, innovative development has become a priority for the economic systems of different levels. a number of legal acts, as well as targeted programs that contribute to stimulating innovation have been adopted.

M.A. Guryeva

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Evolution of the Concepts of “Greening” and “Green Economy”

Key words and phrases: “green” economy; low-carbon economy; greening; evolution of concepts.

Abstract: The paper presents a retrospective analysis of evolutionary concepts of “greening” , “lowcarbon economy” , “green economy” ; the prospects of development of low-carbon economy and greening were considered.

page 100-105

E.K. Ziyaev

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Market Valuation of Diversified Company of Holding Type

Key words and phrases: corporate center; market value; discount rate; financial flows; holding company.

Abstract: The paper describes the features of the market valuation of the diversified company of holding type. The feature of this type of companies is unified control of assets and cash flows of companies with differentiated activities. The main approaches to valuation, which can be used in the valuation of the holding company, were described; the advantages and disadvantages were identified. The recommendations in the valuation of the corporate center of the holding company were given.

page 106-109

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Tyumen State Academy of World Economics, Management and Law, Tyumen

Informal Assessment of the Conditions of Doing Business in the Region (Case Study of the Yamal-Nenets Autonomous District)

Key words and phrases: institutional environment; informal institutions; business environment; region; business environment.

Abstract: The paper describes the results of the study of informal conditions for doing business in the Yamal-Nenets Autonomous District. It is concluded that the impact of informal institutions on the business environment of Yamal-Nenets Autonomous District manifests itself in a much greater degree than that of formal institutions.

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A.V. Komarova

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South Korea Experience to Improve Assessment Methodologies of State Programs Effectiveness

Key words and phrases: indicative planning; key performance indicators of effectiveness; methodology of state programs effectiveness assessment; targeted programs.

Abstract: A comprehensive assessment of the effectiveness of federal, regional and municipal target programs is currently conducted. However, the existing approaches to the assessment of the effectiveness can be optimized using the experience of South Korea.

page 114-117

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The Impact of the 2008 Crisis and Increased Competition in the Publishing Market

Key words and phrases: publishing market; e-books; electronic format; economic crisis.

Abstract: Since 2008 the Russian publishing market, especially book printing has rapidly changed its structure under the influence of socio-economic indicators, such as GDP, inflation, the level of income and employment levels, retail trade turnover.

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Political Science

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Modern Mass Communications as “Information War” Technologies

Key words and phrases: communication; media; politics; information war.

Abstract: The paper analyzes modern mass media as “information war” technologies. The author provides an overview of the results of Russia’s participation in the “information wars” of the last decades. Particular attention is given to the information component of the conflict in August 2008, and its results and consequences. Also, the basic methods of “information wars” between sovereign states in modern times were explored.

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