

## Pedagogical Sciences

R.R. Avetisyan

### **The Impact of Stress on Students' Health**

*Key words and phrases:* anxiety; mental health; psycho-emotional disorders; stress; stressors.

*Abstract:* Stress is the condition of tension that occurs in the case of inconsistency of human adaptive capacity and the amount of load. For many students university training is connected with the need to adapt to new conditions of life and to develop new social roles. The aim of the study was to determine the main causes of stress in medical students using the test developed by Yu.V. Shcherbatykh.

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A.R. Alyusheva

### **Correlated Autobiographical Memory Parameters of Young Adults and Their Parents**

*Key words and phrases:* autobiographical memory; cultural life script; family history.

*Abstract:* The paper studies the tools used in research into autobiographical memory. It is proposed to consider parental macrostructure of autobiographical memory as an example of creating personal autobiography. It is shown that knowledge of family history is positively correlated with the level of personal autobiographical memory.

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N.L. Perevezentseva

### **Dynamics of Essential Professional Qualities of Assistant Drivers When Adapting to Professional Work**

*Key words and phrases:* essential professional qualities; personal and professional development; personal and psychological development; professional adaptation; professional duty.

*Abstract:* In the article, changes in the structure of essential professional qualities (EPQ) are reviewed, using an example of assistant drivers in the course of their adaptation to professional activities. Successful adaptation is a key condition for the development of EPQ for assistant drivers; also it is an important concept for psychological, personal and professional development. It was established that characteristics of essential professional qualities are closely interconnected in the framework of constitutional integrity of the body and its response to determinant training. An important finding was the fact that lack of correlation in the EPQ system or its components can result in poor adaptation and decrease in physical and mental health of professional workers. If a worker seems to be adapted to external environment and working conditions, but at the same time he/she demonstrates lack of job satisfaction we can talk about poor adaptation or lack of awareness, and the need for targeted assistance to improve physical and mental health of a worker. Thus, it seems absolutely necessary to organize systemic and targeted work on the development of essential professional qualities, taking in consideration their interconnection and the need for creating conditions for professional adaptation; obviously, such work has benefits and allows achieving high results.

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K.R. Khachaturova

### **Rationale for the Development of Creative Abilities of Secondary School Pupils: Considering Age Characteristics of Adolescents and Pedagogical Work of Teachers**

*Key words and phrases:* age characteristics; creative abilities; creativity; pedagogical creative work.

*Abstract:* This article discusses the problem of development of creative skills of students. Creativity is seen as the process of creating something new and requires the considering age characteristics of pupils and art teachers during the educational process.

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## Linguistics

A.V. Valieva

### **Transformations When Translating Different Scientific and Technical Texts**

*Key words and phrases:* scientific and technical style; translation transformations.

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*Abstract:* The article deals with the translation peculiarities of scientific and technical documentation. The author highlights the diversity of such documents and, as a consequence, specific types of transformations applied when translating such documentation. The study is based on the analysis of translated scientific and technical texts produced in coal industry. As a result, the author concludes that scientific and technological style is not so strict and uniform as it is believed to be. Translation of scientific and technical texts requires enhanced set of techniques, sometimes even reaching literary approach.

O.V. Flerov

### **The Main Linguistic Didactic Aspects of Intercultural Communication**

*Key words and phrases:* exercise; form; goal; intercultural communication; linguodidactics; objective; paradigm; principle.

*Abstract:* The article reveals intercultural communication influencing theory and practice of teaching foreign languages. Intercultural communication is presented as a paradigm of this process that touches on its theoretical basis and practical aspects.

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## **Economic Sciences**

V.D. Zharikov, E.S. Zhanalieva

### **Developing the Strategy of Socio-Economic Development of a Municipality**

*Key words and phrases:* municipality; potential; socio-economic development; strategy; SWOT analysis.

*Abstract:* The article describes socio-economic and territorial situation of the town of Uvarovo of the Tambov region as the object of study; we propose a systematic approach to the strategy development that is based on three capabilities: production, investment, and entrepreneurship. The choice of innovative ways of development will play an important role in the innovative potential of the municipality. The strategy is developed on the basis of the conducted SWOT analysis: strengths, weaknesses, opportunities and threats of the municipality. The possibility of implementing the strategy using inertial and innovative approaches was explored. The inertial approach implies the reduction in weaknesses and elimination of threats. The innovative approach requires the creation of attractive conditions for investment.

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I.A. Naugolnova

### **An Organizational and Economic Mechanism of Costs Reduction**

*Key words and phrases:* organizational and economic mechanism to reduce costs; principles of costs reduction; tools to reduce costs.

*Abstract:* Effective cost management and high quality of products determine the level of competitiveness and sustainability of industrial enterprises of the Russian Federation, and therefore, there is a need to build a universal organizational and economic mechanism to reduce costs, the main part of which is a set of tools.

The author of the article created an organizational and economic mechanism to reduce costs of industrial enterprises; its main elements have been considered.

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T.A. Osechkina, N.S. Drevetnyak

### **Simulation Modeling of Bank Credit Policy**

*Key words and phrases:* Monte Carlo method; mortgage; simulation modeling.

*Abstract:* The paper presents the feasibility study of simulation and its advantages over analytical models. The original data were collected and analyzed, a conceptual model of the commercial bank in mortgage lending was built; the model determines the composition and structure of the system, the properties of the elements and cause-and-effect relationships. Using a stochastic simulation model, the work of commercial banks in mortgage lending has been forecasted.

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K.O. Furina, T.A. Osechkina

### **Probabilistic Model of Investor's Behavior When Choosing Long-Term Deposits**

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*Key words and phrases:* consumer behavior; deposit; Markov's chains; probability.

*Abstract:* The paper describes a modified M.M. Voronovitsky model of probabilistic behavior of a consumer; the factor of external influences has been added to the model. The example confirming the conclusions is analyzed.

V.A. Sokolov

#### **Boundary Value Problem for Dynamic Microeconomics Model**

*Key words and phrases:* boundary value problem; integral equation with degenerated kernel; piecewise constant delay; W-substitution.

*Abstract:* The boundary value problem for linear dynamic Walras-Evans-Samuelson model of a single product market with a piecewise-constant coefficient of bid price adjustment. The approximate solution of the boundary value problem with guaranteed accuracy has been built.

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## **Biotechnology and Medicine**

L.V. Belskikh, I.A. Vasilenko, A.V. Vatazin

#### **Real-Time Visualization of Platelets by Computer Laser Phasemeter in Assessing Breaches of Platelet- Coagulation Potential in Pancreonecrosis**

*Key words and phrases:* disseminated intravascular coagulation; pancreatic necrosis; platelets.

*Abstract:* The article presents the results of comprehensive examination and treatment of 70 patients with moderate and severe acute destructive pancreatitis in early (enzyme – 50 patients) and late (sequestration and septic complications – 20 patients) phases of disease development.

We described the ways to quantify the level of violations of thrombocyte hemostasis in different phases of pancreatic necrosis using the indicators of morphofunctional state of circulating platelets by computer laser photometry.

The data showed that morphometric characteristics of platelets were informative and objective criteria for the condition of platelet hemostasis; they have diagnostic and prognostic value in assessing the severity of hemostasis disorders, degree of endogenous intoxication, development of septic complications and risk of death disease.

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G.M. Krivonosova, T.I. Legonkova, T.V. Kosenkova

#### **Peculiarities of Time Conception in Preschool Children with Bronchial Asthma and Effects of Perinatal Hypoxic Damage of the Central Nervous System**

*Key words and phrases:* bronchial asthma; central nervous system; effects of perinatal damage; time conception.

*Abstract:* The article presents the results of the study of the time conception peculiarities in preschool children with bronchial asthma and the effects of perinatal hypoxic damage of the central nervous system. A significant reduction in the parameters "Days of the Week" and "Months of the Year" is observed in children with long-term effects of perinatal damage of the central nervous system.

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## **Historical Sciences and Archeology**

D.A. Brazhnikov

#### **Analyzing Approaches to Human Rights**

*Key words and phrases:* individual; law; natural law; positive law; protection of human rights; state.

*Abstract:* Human rights have evolved and continue to evolve in the conditions of aggravation of conflict between individualism and socialization. The article deals with natural and positive law in interaction.

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E.A. Istyagina-Eliseeva, E.E. Barienikova

#### **Basic Principles of Physical Education and Sports Promotion in the 1970–80s**

*Key words and phrases:* mass sports; nation; physical education; promotion (propaganda); "Ready for Labour and Defence of the USSR" (GTO) programme.

*Abstract:* The 1970s are considered as the Golden Age of Soviet sports and the pinnacle of

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Soviet physical education system. The 1980s are viewed as the years of stagnation in the physical education movement. However, the facts indicate high efficiency of sports and physical education promotion throughout the 1970 and 1980s. In the early 1990s there was no success in overcoming the crisis in the promotion of physical education.

A.I. Pavlovsky

#### **Expression of the Basic Values of Indian Culture through the Figure of the Hero: Arjuna**

*Key words and phrases:* basic values; culture of service; figure; hero; hierarchy; ideal; individualism.

*Abstract:* The paper demonstrates how the basic values of Indian culture: hierarchical, individualism and focus on service are reflected in the epic hero Arjuna. The author identifies these values through the analysis of the hero's beliefs and views, his choices, assessments and preferences.

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T.V. Semina

#### **The Concept of Social Status and Social Role of a Doctor in Russia**

*Key words and phrases:* concept; doctor; factors; patient; positive influence; social role; status.

*Abstract:* The article examines the social role and status of a doctor in modern Russia. Factors which lower the status of a doctor among the population and lack of motivation for physical and psychological treatment of patients have been analyzed.

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## **Construction and Architecture**

A.A. Gera, N.V. Gera, R.A. Kharisov, M.E. Dusalimov, A.A. Yakusheva

#### **Using Alkalinity Method to Strengthen Saturated Soils of a Tank Base**

*Key words and phrases:* alkalization; reservoirs; soil strengthening; tank base.

*Abstract:* The article describes the experience of using sodium hydroxide solution to strengthen the foundations of clay soils (alkalinity method) of the reconstructed tank.

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S.A. Sychev

#### **Using Complex-Block Building Systems with Increased Degree of Structure Prefabrication**

*Key words and phrases:* block-rooms; modular buildings; modules; prefabricated building blocks; prefabricated structures; rapid construction; transformable structures.

*Abstract:* The paper explores the three-dimensional module structures of various types and modifications manufactured by industrial methods, including "sandwich" or combined structures depending on the variability of construction projects. The choice of the method of installation consists in finding sustainable solutions through a continuous analysis of the components of the organizational and technological structure. The quantitative description of these components has been made, and the selection process in accordance with the adopted criteria has been formalized. The study of the materials showed that statistical methods, which are complicated and unreliable in conditions of the construction site, are used for the evaluation of technical and economic efficiency of methods of installation methods and equipment. Using the energy method of installation of prefabricated modules allows obtaining objective and stable results based on the study of energy models of the studied objects.

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## **Machine Building and Engineering**

I.A. Proshin, R.D. Proshina, M.V. Shepelev

#### **Method of Forming Component Portrait of Electric Energy Quality**

*Key words and phrases:* component portrait; electricity; quality indicators.

*Abstract:* The paper considers the application of the models proposed by the authors, and component portrait in assessing the quality of electrical energy.

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M.A. Sevodin, I.V. Gordeeva

### **Considering Some Types of Costs in the Distribution of Production Capacity between Enterprises**

*Key words and phrases:* capacity distribution; game model; non-convex payoff function; solution in pure strategies.

*Abstract:* The paper considers the game approaches to the determination of production capacity distribution between enterprises. Compared with the existing game models special attention is paid to the situation, in which calculation of production costs leads to the loss of convexity of payoff function. In this paper the tensions which are alpha-convex functions have been studied. On the one hand, it allows using the existing methods of problem-solving, but on the other hand, we can consider some types of costs.

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## **Information Science, Computer Engineering and Management**

A.R. Davydov, N.V. Mekhanoshina

### **The Study of Criminal Level Statistics in the Russian Federation Regions**

*Key words and phrases:* level of criminality; regional economy; regression-correlative analysis; socio-economic development; statistic methods.

*Abstract:* This article is devoted to the study of factors which influence criminality level in the Russian Federation regions, using statistic methods of analysis.

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E.Yu. Vorobyeva, G.A. Pushkarev

### **Application of the Method of Monotone Operators to the Solvability of a Boundary Value Problem**

*Key words and phrases:* boundary value problem functional differential equation.

*Abstract:* The paper considers the boundary value problem for a quasilinear functional differential equation

$$(\Delta x)(t) = x''(t) + \int_a^b x(s) d_s R_1(t, s) = f \left( t, \int_a^b x(s) d_s R_0(t, s) \right), \\ t \in [a, b], \quad x(a) = \alpha, \quad x(b) = \beta$$

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in the following assumptions: function  $R_0 : [a, b] \times [a, b] \rightarrow R^1$  is measurable in the square  $[a, b] \times [a, b]$ ; total variation  $\int_a^b R_0(t, s)$  is integrated on  $[a, b]$ ;  $R_0(t, s)$  does not decrease  $s$  on in almost all  $t \in [a, b]$ ; function  $R_1 : [a, b] \times [a, b] \rightarrow R^1$  is measurable in the square  $[a, b] \times [a, b]$ ; total variation  $\int_a^b R_1(t, s)$  is integrated on  $[a, b]$ .

## **Legal Science**

R.O. Ibragimov

### **Criminal Law Characteristics of Convicts Released from Prison for Medical Reasons**

*Key words and phrases:* convicts released for medical reasons; criminal law characterization; personality of a convict; public danger of convicts released due to illness.

*Abstract:* The article is devoted to the characteristics of people released from prison for medical reasons. It raises the issues of public danger that such groups of convicts possess. We consider such concepts as "convict", "multiple convict", "mental abnormality of convicts", etc.

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# Political Science

N.A. Medushevsky, M.A. Gordeeva

## **Tolerance: from World View to Ideology**

*Key words and phrases:* conservative values; democracy; humanism; liberalism; tolerance.

*Abstract:* Tolerance in the context of pan-European historical development created a new socio-political ideological model, which was laid in the foundation of the "united Europe" and at the beginning of the XXI century came into conflict with the conservative approach to the organization of society and inter-ethnic relations. This confrontation, in turn, has put Europe on the brink of political and cultural division, signs of which are manifested in various spheres of life of European society.

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M. Naderi

## **Structural Positions of Afghanistan and Foreign Policy of NATO Countries, the United States, and Russia**

*Key words and phrases:* Afghanistan; geopolitics; military presence; Pakistan; war.

*Abstract:* The invasion of US troops and their allies on the territory of Pakistan caused a negative reaction in Islamabad. This is by far the nature of the relationships between the United States and Pakistan, in the context of military operations by Washington and its allies in neighboring Afghanistan.

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