

Pedagogical Sciences

A.A. Kuznetsova

Shadrinsk State Pedagogical Institute, Shadrinsk

Psychological and Pedagogical Technology of Shaping Behavior of Pedagogically Neglected Teenagers by Means of Bibliotherapy

Keywords: aggression; art therapy; bibliotherapy; deviant behavior; music therapy; pedagogical neglect.

Abstract: The paper deals with the urgent problem of pedagogically neglected teenagers in modern school. The author analyzes a set of methods to reveal pedagogically neglected students and their personal qualities. According to the analysis of different approaches to the definition of pedagogical neglect, the author gives a definition of the concept “pedagogical neglect”. The paper generalizes and summarizes the research materials, reveals the interdependence of the level of pedagogical neglect of younger teenagers and their behavioral peculiarities. The analysis of the research results identifies the stages, peculiarities and urgency of the technology of shaping behavior of pedagogically neglected teenagers by means of bibliotherapy. The relevance of this technology is verified, the results of control experiment are presented.

page 5-11

N.G. Tsilke

Siberian State University of Physical Culture and Sports, Omsk

Forecasting Sports University Students' Readiness to Perform Gymnastic Exercises

Keywords: gymnastic exercises; special physical fitness; students; technical readiness; training.

Abstract: The author calculated and used the equation of regression to evaluate students' technical readiness, by substituting values (X_n) with individual indicators of special physical fitness.

page 12-14

D.S. Tsygankov, E.I. Fedak

Military University of the RF Ministry of Defense, Moscow

Current Problems of Raising Motivation for Professional Activity of MIA Internal Troops Officers of Russia

Keywords: moral and psychological support; professional activity of officers; creating motivation.

Abstract: The paper deals with the problems of building motivation for professional activity of internal troops officers of the Ministry of Internal Affairs (MIA) of Russia at the present stage.

page 15-17

R.A. Yafizova, A.R. Galikhanova, L.I. Kozhevnikova

Akmulla Bashkir State Pedagogical University, Ufa

E-Learning: Pros and Cons

Keywords: education through ICT; e-learning; computer science; distance learning; distance learning technology; independent work.

Abstract: The paper discusses positive and negative aspects of implementing e-learning. The authors attempt to separate the notions of “electronic” and “distance” learning.

page 18-20

Machine Building and Engineering

S.N. Bazykin, N.A. Bazykina, S.V. Kapezin

Penza State University, Penza

Ways of Further Improvement of Laser Interferometers

Keywords: laser interferometer; measurement; measuring system; phase of measuring signal.

Abstract: The questions of improving laser interferometers are considered from the perspective of measuring “absolute” measured value. The authors offered options of optical schemes using two coherent light waves of different wavelengths in an optical beam. We calculated the value of the period of uniqueness of the measured value of the object linear movement.

page 21-23

A.S. Vasilyev, I.R. Shegelman, P.O. Shchukin
Petrozavodsk State University, Petrozavodsk

Patent Search of Equipment for Disintegration of Rocks

Keywords: rock; crushing; cube-shaped rubble; patent search.

Abstract: Patent search showed the lack of new and innovative solutions enabling to move to a new level of technological development in crushing hard rock to produce cube-shaped rubble.

page 24-26

N.A. Koroleva, M.G. Tarabanov

Volgograd University of Architecture and Civil Engineering, Volgograd;

Scientific and Engineering Center of Ventilation and Air Conditioning Systems "Invent",
Volgograd

Improving Energy Efficiency of Air Conditioning Systems

Keywords: air conditioning systems; energy efficiency; local adiabatic humidifier.

Abstract: The paper describes a method to improve energy efficiency of air conditioning systems using a rotary plate heat and mass exchanger.

page 27-30

Information Science, Computer Engineering and Management

A.N. Anuashvili

Trapeznikov Institute for Problems of Management of Russian Academy of Sciences, Moscow

Software to Determine Psychological Condition of an Individual by Analyzing Face Image Using Wave Model of Brain

Keywords: diagnostics; computer program; model of brain; facial asymmetry.

Abstract: The paper describes a computer program based on the wave model of the brains. Psychological condition of an individual is determined by two parameters of the brain: which hemisphere is dominant and what is the consistency (coherence) between the hemispheres. The state of the hemispheres is reflected on the face in the form of facial asymmetry. Psychological condition of an individual is determined by analyzing the face image using a special algorithm. This algorithm is implemented in the form of automated computer software and hardware-software complex, consisting of a computer and special webcam. The developed program is used in counselling, as well as for the tasks of personnel management.

page 31-35

U.V. Zakirova, T.A. Osechkina

Perm National Research Polytechnic University, Perm

Implementation of Modified Two-Stage Algorithm for the Problem of Routing

Keywords: problem of collection; problem of transport routing; sales representative's task, temporary windows.

Abstract: Any enterprise seeks to reduce the expenses and bank rendering service of collection. Today the network of ATMs and clients promptly grows, but service needs to be made according to the contract. The paper describes the algorithm on finding approximate routes which consider some possible additional restrictions. The flowchart of algorithm is presented and a real example is reviewed.

page 36-40

G.A. Pushkarev, E.Yu. Vorobyeva

Perm National Research Polytechnic University, Perm

About Solvability Conditions for one Particular Case of the Two-Point Valle-Poussin Problem

Keywords: bounded linear operator; boundary value problem; functional-differential equation method of monotone operators.

page 41-46

Abstract: The work is devoted to the study of solvability and conditions of the negativity of Green's function in the two-point Valle-Poussin problem

$$(\Delta x)(t) = y(t), \quad t \in [a, b], \quad x(a) = x(b) = 0,$$

where operator $\Delta: W^2 \rightarrow L$ is defined by equality $(\Delta x)(t) = x''(t) + \int_a^b x(s) d_s R_1(t, s)$, function

$R_1: [a, b] \times [a, b] \rightarrow R^1$ is measurable in the square $[a, b] \times [a, b]$; the total variation $\int_a^b R_1(t, s)$ is integrated in $[a, b]$; these results can be applied to the conditions of solvability of a nonlinear problem "with monotone nonlinearities, namely, the boundary problem for a quasilinear functional differential equations

$$(\Delta x)(t) = f \left(t, \int_a^b x(s) d_s R_0(t, s) \right), \quad t \in [a, b], \quad x(a) = \alpha, \quad x(b) = \beta$$

in assumptions: $R_0: [a, b] \times [a, b] \rightarrow R^1$ is measurable in the square $[a, b] \times [a, b]$; the total variation $\int_{s=a}^b R_0(t, s)$ is integrated in $[a, b]$; $R_0(t, s)$ does not decrease on s in almost all values of $t \in [a, b]$.

E.O. Rudneva

Lipetsk State Pedagogical University, Lipetsk

Questions of Efficiency and Safety of Information Management Systems of Higher Education Institutions

Keywords: information; information system; management; network; technology.

Abstract: The author explores information processes in university management system, the problems of ensuring integrity and safety of information in these processes, and proposes ways of increasing data security.

page 47-49

Culturology

R.Sh. Abakarova

Dagestan State Institute of National Economy, Makhachkala

Economic Affordability of Food

Keywords: economic accessibility of food; food security; physical availability of food; income of population; quality of food.

Abstract: The affordability of food is an essential aspect of food security of the country; its high level enhances the ability of the state to guarantee the satisfaction of needs of the population in food at levels that ensure its normal functioning. The article reflects the relationship of income and economic availability of food in Russia.

page 50-52

I.D. Bulikin, A.E. Cherepovitsin

National Mineral Resource University "Gorny", St. Petersburg

Joint Ventures as the Basis for Innovation Development in Russian Oil and Gas Industry

Keywords: foreign investments, joint ventures, innovations, shale oil.

Abstract: The paper is dedicated to the subject of the Russian oil and gas industry innovative development. The authors describe the potential of joint ventures between Russian and international oil & gas companies for the development and application of new technologies. In particular, a joint venture for exploration and production of shale oil is analyzed.

page 53-56

Z.O. Gukasyan

Kuban State Technological University, Krasnodar

Rating of Large Oil and Gas Companies as the Basis of Quality Assessment of Corporate Management

Keywords: assets; business activity; corporate management; financial stability; liquidity; profitability; rating; turnover.

Abstract: The paper assesses financial stability, liquidity, business activity and profitability of the three largest oil and gas companies: JSC "Gazprom", JSC "Lukoil" and JSC "Rosneft". The author has identified and compared the ratings of their financial condition as a necessary element in assessing the quality of corporate management.

page 57-63

V.V. Krupenkov

Moscow State University of Economics, Statistics and Computing, Moscow

The System of Developing Business Structures in Single-Industry Cities in the Russian Federation

Keywords: single-industry city; single-industry municipality; urban development enterprise.

Abstract: The paper is devoted to systematization of Russian and foreign normative approaches to the definition of single-industry cities on the basis of the adopted sub-program "Development of single-industry cities" within the governmental program "Regional policy and federative relations".

page 64-68

Economic Sciences

A.F. Akhmetshin, T.Ya. Danelyan

Moscow State University of Economics, Statistics and Computing, Moscow

Company Performance Evaluation by Structural Modeling Method

Keywords: consistency; efficiency; expert evaluation; factors; mathematical approach; structural modeling; system approach; performance.

Abstract: The paper presents a company performance evaluation using the structural modeling method, based on the use of the systemic and mathematical approach. This type of modeling allows for the analysis of the organizational structure of the enterprise, as well as assessment of the structure and relationships between its elements. The authors describe the instrumental implementation of the structural modeling method.

page 69-74

O.I. Zhuleva

St. Petersburg Humanitarian University of Trade Unions, St. Petersburg

Development of Integrated Structures in Fishing Industry (Case Study of the Murmansk Region)

Keywords: consortium; fleet modernization; fishing fleet; group of companies; integrated structures; non-profit association; northern fishing industry pool.

Abstract: This paper describes the current state of integration of fishing industry enterprises as a strategic trend of industry development.

page 75-77

N.R. Ispravnikova

Lomonosov Moscow State University, Moscow

Dollar Economy of Russia: Main Scenarios

Keywords: dollar economy; dynamics of oil prices; fiscal rule; foreign exchange costs; import displacement; import substitution; Stabilization Fund; National Welfare Fund; ruble depreciation.

Abstract: Russia has created the model of economic growth focused on transformation of the oil and gas superprofits (their total amount for 2000–2013 exceeded 2 trillion dollars) in domestic demand. It provided rapid growth of production, record increase in salaries in all branches and social transfers, increase in macroeconomic stability. However, business strategies were focused on production expansion, while increase in efficiency didn't become a priority task. In the coming years it is impossible to hope for the return of ideal conditions in which such a model was created. Respectively, there are no chances of an exit of the Russian economy from stagnation without creating a new model of growth. The new model of growth has to be based on raising motivation to increase efficiency both for business, and for the system of public administration. It is required to weaken considerably the burden of state regulation and to protect the property rights. It is necessary to provide rigid and equal market responsibility of all companies for the results of the activity irrespective of their accessory and eliminate "industrial paternalism".

page 78-85

I.A. Naugolnova, L.P. Bazhutkina

Samara State University of Economics, Samara

The System of Performance Evaluation Criteria of Lean Manufacturing

Keywords: algorithm of development; evaluation of lean production; lean manufacturing; method of performance system of indicators.

page 86-92

Abstract: The paper substantiates the author's definition of lean manufacturing. The author proposes an algorithm for the development of lean manufacturing and methodology for its evaluation on the basis of developed indicators.

T.A. Novikova, A.Yu. Petrov

Branch of University of Finance under the RF Government, Vladimir

Branch of Moscow University of Finance and Law, Vladimir

Leasing Capital and its Place in Logic Structure of Credit Capital

Keywords: credit capital; leasing capital; law of logic whole trinity; loan capital; rent capital.

page 93-96

Abstract: Leasing capital is analyzed in the light of innovative general scientific and philosophical law of the logic whole trinity. It is proved that leasing capital represents borrowed personal property, which is in the logic relation between loan and rent capitals, being one of three forms of the credit capital as a patrimonial concept.

T.A. Osechkina, A.V. Baryshnikova

Perm National Research Polytechnic University, Perm

About Modification of L.E. Sokolovsky's Model of National Debt

Keywords: L.E. Sokolovsky's model of national debt; national debt; scenarios of social and economic development.

page 97-101

Abstract: The authors analyze the interrelation of the size of national debt and economic condition of the country. They propose the modification of L.E. Sokolovsky's model given the changes in the budgetary policy of the Russian Federation, namely, the emergence of the stabilization and reserve funds of the country. Various scenarios of the dynamics of internal and external debt of the Russian Federation according to the proposed model are considered.

V.P. Pervadchuk, E.K. Krivonosova

Perm National Research Polytechnic University, Perm

Application of Multifractal Analysis to Predict Crises in Economic Systems

Keywords: crisis of the system; critical points; Hölder exponent; Hölder seminorm; multifractal analysis; time series.

page 102-105

Abstract: In this paper, we developed an algorithm to determine the critical points of the real financial time series using the tools of multifractal analysis. It is based on determining of "predictive" local Hölder exponent and identifying deviations from its normal state. On the example of real time series of stock price the analysis using this algorithm was conducted, it allows identification of the point of trend change or points preceding sharp jumps.

M.A. Sevodin

Perm National Research Polytechnic University, Perm

On Establishing Equilibrium Prices in the Substitute Goods Market n

Keywords: balance of supply and demand; price fluctuations; speculator; strategy.

page 106-110

Abstract: On the basis of the "cobweb" model of substitute goods market n the author studied the role of speculative operations. For different strategies a speculator sets the conditions under which such operations contribute to the balance of supply and demand.

V.A. Sokolov, E.N. Matveeva

Perm National Research Polytechnic University, Perm

On a Boundary Problem for Allen Model of One Product Market

Keywords: boundary value problem; integral equation with degenerate kernel; piecewise constant delay; W-substitution.

page 111-116

Abstract: The author studied a boundary value problem for linear dynamic Allen model of a single product market given a delayed supply. An approximate solution of the boundary value problem was built with guaranteed accuracy.

A.V. Tsarev

Moscow State University of Economics, Statistics and Computing, Moscow

Organizational Features of Bank Marketing

Keywords: banking sector development strategy; command-oriented model; credit institutions; customer-oriented approach; divisional model; functional model; marketing strategy of bank

page 117-123

development; multidimensional matrix model; two-dimensional matrix model; three-dimensional matrix model.

Abstract: A comprehensive market research, demand generation, sales promotion are the basis of its components – production and sales. The possession of marketing methods is crucial in a competitive environment. In Western countries the costs of marketing activities make up to 60 % of the final cost of a product. Establishing an effective system of organization of marketing will allow for effective management of product supply.