АННОТАЦИИ

Abstracts

Using Big Data Processing Technologies in Law Enforcement Agencies

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Key words and phrases: predictive analysis; metadata; law enforcement agencies; repository; Big Data technology; data store.

Abstract: The purpose of the article is to consider Big Data technology from the point of view of its implementation in law enforcement agencies, taking into account the specifics of circulating information and the requirements for a set of tool environments and services. In the course of the study, methods of analysis, synthesis, analogies and generalization were used. A model of the system "information sources – data storage – OLAP analysis and Data Mining" is proposed for law enforcement agencies, which makes it possible to increase the efficiency of processing large amounts of information, to investigate crimes better and faster.

On Assessing the Effectiveness of Municipal Internet Projects through the Example of Borovsky District Administration Website

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Key words and phrases: sources for visiting municipal Internet projects; municipal sites; evaluating the effectiveness of managing Internet projects in local governments; goals of municipal Internet projects.

Abstract: The purpose of the study is to determine the key statistical metrics for evaluating the effectiveness of municipal Internet projects through the example of the Borovsky District Administration website based on the experience of commercial and information Internet projects.

To achieve this goal, it is necessary to complete the following tasks: to determine statistical metrics to assess the effectiveness of management of municipal Internet projects; to compare the main statistical metrics of the Borovsky district administration website with information and commercial websites; to identify problems and growth points for the effective management of a municipal Internet project.

The methodological basis is the following research methods: methods of analysis of specialized literature and scientific articles and publications, as well as comparative analysis of sites on other topics.

Implementation of the Optimal Structure of a Text Classification Processor Using Machine Learning Methods

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Key words and phrases: analysis of text information; indexing; text classification; machine learning; neural network; text preprocessing.

Abstract: The purpose of the paper is to study the structure of a processor that performs multiclass text classification. The task is to find the optimal structure of a text classification processor using machine learning methods. The following text processing methods are considered: stemmatization, lemmatization, "bag of words", N-gram accounting, TF-IDF. The following machine learning methods are considered: probabilistic, metric, logical, linear methods, as well as methods based on artificial neural networks. To find the most optimal structure of a text classification processor, 36 processors were considered using various combinations of the listed methods. It has been found that processors trained on data that has been processed using lemmatization and N-gram accounting are the most efficient. The processor which was built using stemmatization, N-gram counting and a convolutional neural network showed maximum accuracy in multi-class classification.

Measuring Installations for Quality Control of Memory Block Production

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Key words and phrases: DRAM; SRAM; memory block; measuring installations; stages of production.

Abstract: The purpose of this study is to analyze quality control installations for the production of memory blocks. Product quality control is control of the quantitative and qualitative characteristics of products, their compliance with established requirements. This article highlights the necessary steps of the process under consideration. A number of installations for creating and testing memory blocks that are used in microelectronic industry enterprises are analyzed. Conclusions are drawn about the need to use measuring installations to reduce the number of defective products produced.

Assessment of the Identifiability of Complex Technical Systems of Variable Structure Using the Theory of Probability and Mathematical Statistics

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Key words and phrases: probabilistic space; identifiability; systems analysis; stochastic dynamic systems; countable set; theory of probability and mathematical statistics; experiments.

Abstract: The article examines methods for determining the order of a system from noisy observations of part of its coordinates. The goal of the research is to assess the identifiability of stochastic dynamic systems. The methodology and research methods include methods of mathematical analysis, mathematical modeling; theory of probability and mathematical statistics, and system analysis. The study resulted in establishing the conditions for absolute continuity and singularity of probability measures corresponding to semimartingales.

A Mechanism for Multi-Agent Implementation of Information Search in a Corporate Digital Ecosystem

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Key words and phrases: search system architecture; user request; interface; information retrieval; multi-agent system; ontology; digital ecosystem.

Abstract: The purpose of the article is to develop the architecture of an efficient corporate information retrieval system based on the principles of multi-agent systems. The research objective is

the analysis of multi-agent technology from the point of view of its suitability for information retrieval in corporate information repositories. The hypothesis of the study is that the allocation of highly specialized agents responsible for performing specific actions when searching for information contributes to greater autonomy and flexibility in their behavior when choosing tasks and setting priorities, performing context-sensitive operations. In the course of the study, methods of system analysis, synthesis, analogies and generalization were used. The architecture of a corporate information retrieval system based on a multi-agent approach in a single digital ecosystem of enterprise activity ontologies is proposed.

Business Analytics Systems as a Method for Making Management Decisions at a Manufacturing Enterprise

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Key words and phrases: automation; cloud computing; resource planning; analytics; software.

Abstract: The purpose of this article is to analyze business analytics systems, their key and potential technologies aimed at helping the person responsible for making management decisions at a manufacturing enterprise. The article is devoted to the problem of making management decisions at a manufacturing enterprise. The toolkit of business intelligence systems aimed at data analysis is also considered. The analysis of the tools of such systems allows us to conclude that it is logical to use them in production, because all the goals of the systems are aimed at helping in data analysis.

Application of Human Pose and Gesture Estimation in a Building's Digital Twin

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Key words and phrases: artificial neural network; computer vision; human pose assessment; digital twin of the building.

Abstract: The purpose of the article is to assess the possibility of integrating a computer vision task into the functionality of a digital twin model of a building. To achieve the goal, the following tasks were set: to consider the existing neural network methods for assessing human pose; to develop a neural network algorithm for assessing human gestures. The following general scientific methods were used: analysis, synthesis, comparison and generalization. As a result of the research, an effective method for assessing human posture and gestures was identified, which can be considered as a source of information to obtain more consistent, accurate and useful information in the digital twin of the building.

Methods for Integrating Monitoring and Debugging Tools into a Complex Multi-Level Architecture

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Key words and phrases: debugging, analysis of program behavior; integration; software architecture; system programming; code analysis; implementation tactics; registration and logging of information.

Abstract: The study is aimed at finding methods for integrating additional debugging and analysis tools into the architecture of complex software projects in compliance with its limitations. For this, an analysis of existing tools and methods for debugging software was carried out; a list of debugging and analysis tasks that cannot be solved by existing tools was compiled; describes ways to implement and

integrate additional debugging tools. Thanks to the capabilities of modern programming languages, it becomes possible to integrate additional debugging tools into the architecture and source code of existing software products, improve the convenience of debugging, maintenance and software development in general.

Virtual Modeling as an Effective Tool for Research and Optimization of Business Processes

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Key words and phrases: virtual modeling; data virtualization; information technology; optimization of business processes.

Abstract: The article is devoted to the issue of optimizing business processes through virtual modeling. The purpose of this article is to consider the main aspects of virtual modeling as an effective tool for research and optimization of business processes of enterprises. The objectives of the article are scientific and theoretical generalization of research results on the use of data virtualization; identification and reasoned justification of the key advantages of virtual modeling for optimizing business processes. The hypothesis of the article is as follows: virtual modeling is an effective tool for research and optimization of business processes.

Formation of Promising Information Technology for Improving Frequency-Time Support of GLONASS

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Key words and phrases: GLONASS; request-free measuring station; global navigation satellite systems; PVP; navigation spacecraft.

Abstract: The purpose of the article is to create a foundation for information technology that ensures the improvement of GLONASS time-frequency support in terms of the accuracy of comparison of time scales of navigation spacecraft. The problems of developing models for measuring ranges between spacecraft and ground stations and testing the proposed models when processing collected real measurements are being solved. The main processing method is the least squares method using a full sample of measurements. The results are as follows: estimates of delays in the receiving and transmitting paths of spacecraft were obtained, demonstrating their high accuracy and reliability.

Reengineering of Business Processes Using CRM Systems

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Key words and phrases: CRM system; business; buisness process; optimization; planning; software; control.

Abstract: This article reveals one of the important problems in sales management – working with clients. The purpose of the study is to compare two business processes: before and after the implementation of a CRM system. The result of the article is the reengineering of the business process "Analysis of the market and consumer needs."

Automation of Customer Service Using AIS

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Key words and phrases: automation; automatic identification system; production.

Abstract: This article is devoted to the problem of competitiveness and automation of amusement parks. The goal is to develop an automatic identification system (AIS) that can effectively analyze and predict future income. For this purpose, it was proposed to develop AIS templates and functions.

Automation of Intra-Shop Operational Planning for Single and Small-Scale Production

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Key words and phrases: intra-shop operational planning; dynamic method; single production; calendar method; volumetric calendar method; volumetric method; operational planning.

Abstract: The purpose of this paper is to develop an algorithm for increasing the efficiency of operational planning in automated process control systems (APCS), at the intra-shop level, by automating additional verification of the plans being developed for their feasibility in terms of the number of working personnel. For this purpose, the features of the volumetric, calendar, volume-calendar and dynamic methods of operational planning used in automated process control systems for single and small-scale production (SMP) were determined. The level of the system in which the developed algorithm can be used has been determined. Target indicators for analyzing the developed algorithm have been determined. Options for the operation of the automated process control system with and without the use of an improved algorithm were considered, an analysis of these options was carried out, and based on the results obtained, an increase in the efficiency of operational planning in the automated process control system was demonstrated.

Machine Vision for Detecting Objects along the Trajectory of Movement

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Key words and phrases: image processing algorithms; motion analysis; object detection; classification of objects; machine vision; neural networks; trajectory of movement.

Abstract: The article is devoted to the development of a block diagram of an algorithm for generating the trajectory of an unmanned vehicle using computer vision. This paper describes the main aspects of this field, including object classification, image segmentation, motion analysis and the use of filtering methods, and also describes a computer vision algorithm that can be used to estimate the size of a target in an image frame and a route planning algorithm based on the RRT algorithm presented in block diagram. Scientific novelty is provided by the extension of the basic RRT algorithm for planning trajectories subject to turning constraints.

Implementation of an Unmanned Vehicle Using Arduino

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Key words and phrases: servos; range finder; block diagram; unmanned aerial vehicle.

Abstract: The goal of the work was to develop a circuit design and block diagram that would allow the movement of an unmanned walking vehicle to be realized with minimal power consumption to ensure long-term autonomous operation. The novelty of the work lies in the use of a unique algorithm for moving the apparatus. The practical significance of the work lies in the possibility of using such equipment to solve a wide range of tasks – from reconnaissance and rescue activities to cargo delivery operations.

Asymptotic Model of the Spectral Problem

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Key words and phrases: asymptotic model; localization of eigenfunctions; spectral problem.

Abstract: In a two-dimensional spectral problem, an asymptotic reduction of the original system of eighth-order equations is performed based on the expected form of the solution, which is assumed to be localized in the vicinity of certain lines. The purpose of the study is to construct an asymptotic model of the spectral problem. The objective of the study is to reduce the original general model to a model of lower dimension. The research hypothesis is as follows: smallness of the parameter at the highest derivative, localization of the eigenfunction near the weakest generator. Research methods include asymptotic separation of variables using V.P. Maslov's method, asymptotic expansion of the original operator into a sequence of simpler operators. The results are as follows: based on the constructed asymptotic model of the spectral problem, two-dimensional eigenfunctions were obtained.

Behavior Model of Deformed Optical Fiber

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Key words and phrases: curved fiber model; refractive index of bent fiber.

Abstract: The purpose of the paper is to study the mathematical model of curved fiber. The objectives are to develop a mathematical model of a curved fiber, to conduct a computational experiment on the resulting model, interpreting the results obtained. The study uses mathematical modeling methods. The hypothesis of the study is the difference in the refractive index of the bent fiber in the direction of the coordinate axes. The result is a detected feature of light propagation in a deformed fiber.

Development of a System for Processing and Storing Climate Data Using Radio Modules NRF24L01+

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Key words and phrases: data storage; environmental parameters; temperature; relative humidity; control and automation systems.

Abstract: The goal of the study was to increase the efficiency of home automation systems for climate control equipment. The use of several climate parameter sensors will increase the efficiency of the automation system. It was necessary to solve the problem of designing a system for storing and

processing data from several temperature and relative humidity sensors. The research methods include analysis, generalization and testing. The resulting system makes it possible to increase the efficiency of the climate control equipment automation system and increase the accuracy of forecasting changes in air parameters in the room.

Ensuring Safety on a Construction Site Using Technical Construction Equipment

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Key words and phrases: automation; safety engineering; construction; robotics; intelligent systems. Abstract: This article examines technical construction equipment to ensure the safety of workers and more efficient implementation of tasks during the construction of structures. The goal is to analyze existing equipment that can replace or improve the work of workers in various specialties. To do this, it is worth considering modern technologies that are capable of "taking the hit" in the event of safety costs. The following options for implementing such tasks are proposed: the use of drones, robots (robot masons, robotic lifts, and robotic destroyers).

Selection and Optimization of the Location of Sound-Absorbing Panels for a Pharmaceutical Enterprise

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Key words and phrases: sound-absorbing cladding; optimization; labor protection; harmful production factors; reducing occupational risk.

Abstract: The purpose of the paper is to optimize the location of sound-absorbing panels in the production premises of a pharmaceutical enterprise in order to reduce the required cladding area. The hypothesis is that sound absorbers can operate more efficiently when the cladding is divided into separate sections. The results of calculations of the efficiency of the sound-absorbing cladding of a room are presented and options for optimizing the location of sound absorbers using the ANSYS software package are considered. A cladding method has been identified that ensures maximum efficiency. The choice of material for sound-absorbing panels is justified taking into account the peculiarities of technological processes in the industry.

A Systematic Approach to the Functional and Planning Organization of Production and Warehouse Complexes as Part of Urban Formations

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Key words and phrases: industrial function; urban structure; influencing factors; architectural space; systems approach.

Abstract: Industrial complexes and warehoused as an object of research are a noticeable architectural and urban planning element of modern cities. The purpose of the research is to analyze the conditions for the formation of the architectural space of industrial complexes and warehouses as part of the urban landscape. The research was carried out on the basis of analytical processing of available information and system analysis of the design results of the PSK.

The research hypothesis includes the assumption of the need for a systematic approach to the conditions for the formation and functioning of the architectural space of the industrial complexes and warehouses.

As a result of the research, a structural diagram of the interaction of the industrial complexes and warehouses with the main elements of the system of the modern urban environment was developed, as well as an analytical relationship that allows for a quantitative assessment of design solutions taking into account various influencing factors.

Technological Design of a Service to Ensure the Inventive Activity of University Students

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Key words and phrases: technological design; protection of technical solutions; patent application; engineering creativity; inventive activity of students; process automation service.

Abstract: The relevance of the topic of the article is due to the need to intensify innovation activity at domestic industrial enterprises to ensure accelerated technological sovereignty.

The research hypothesis is that service design will ensure an accelerated reduction of the gap between the level of methodological support for a university student in the field of industrial engineering creativity (including inventive activity) and the needs of modern industrial enterprises focused on innovative development.

The purpose of the article is to present the results of the technological design of a service to ensure the inventive activity of students at the university. To achieve the goal, the following tasks have been set in the article: a step-by-step algorithm for the process of filing a patent application has been developed and the possibilities of its automation using the service have been assessed; the main functions of the service are formulated; Qualification requirements for the service development team have been identified and structured in the form of necessary knowledge, skills and practical experience.

The presented results will allow the development of a service to support the inventive activities of university students and other novice inventors.

Development of Integrated Engineering Technologies in Construction

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Key words and phrases: construction; integrated engineering; new technical solutions; methods of invention; patentable solutions.

Abstract: The relevance of the topic of the article is due to the need for the development and large-scale application of complex engineering in construction. Research hypothesis: the development of integrated engineering in construction can be carried out through the introduction into practice of technologies for solving industry-specific creative problems by the methods of invention. The purpose of the article is to demonstrate the possibilities of technologies for solving industrial inventive problems using the "direct" and "reverse" paths. To achieve the goal, the article presents the schematic diagrams of the implementation of the technology of "direct" and "reverse" ways of solving the inventive problem. An example of solving a current industry problem is given. The result of the study: the practical application of the presented technologies will allow not only to obtain solutions that meet the criteria for effective engineering, but also to develop new patentable solutions, the implementation of which will accelerate the process of achieving technological sovereignty of domestic construction.

Development of Compensatory Competence among Students in Classes of Russian as a Foreign Language

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Key words and phrases: listening strategies; reading strategies; text comprehension; compensatory skills; compensatory competence; cognitive-synergetic approach; Russian as a foreign language.

Abstract: The purpose of the study is to identify the pedagogical conditions for the development of compensatory competence among students studying Russian as a foreign language (RFL). In a state of psychological and emotional stress, listening and reading foreign texts is associated with a number of difficulties. The hypothesis of the study is that the development of compensatory competence contributes to a deep understanding of professionally oriented texts by foreign students in Russian as a foreign language classes. Mechanisms for compensating for difficulties that arise when working with text greatly facilitate communication and understanding of texts of various styles and genres. Research methods included theoretical analysis of scientific sources, questioning, interviewing, experimental methods, statistical processing and interpretation of research results. The result of the study is a meaningful analysis of the linguistic psychological-pedagogical and educational-methodical literature on the research topic, experimental confirmation of the research hypothesis.

Phraseologisms as a Means of Linguistic Support for Intercultural Communication of Students

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Key words and phrases: phraseology; intercultural communication; method; native language; speech.

Abstract: The purpose of our article is to consider phraseological units as a means of linguistic support for intercultural communication of university students. In connection with the above, the work sets the following objectives: to study the methods and principles of teaching phraseology at a university; analyze the different approaches of modern researchers regarding the methodology of teaching phraseology; develop a series of exercises aimed at revealing the polysemy of a phraseological unit in the aspect of intercultural communication. The research hypothesis boils down to the assumption that phraseological means of language are a tool for ensuring intercultural communication, because due to their imagery, phraseological means are used in all functional styles, therefore, they have different stylistic overtones. The main research methods were the method of theoretical analysis of scientific literature on the topic of the work, the method of linguistic description and the comparative method. In addition, the product of this study is a series of exercises that contribute to the formation of communicative and speech skills when studying the phraseological system of the Moksha language.

Introduction of IT Technologies in the System of Sports Training at Universities

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Key words and phrases: IT technologies; quad copter; satellite network; physical education; sports; games; devices.

Abstract: IT technologies allow not only the athlete, but also the equipment to ensure optimal

performance and reduce the risk of injury. The purpose of this study is to study information about new IT technologies in the field of sports training and their impact on improving results in the framework of university education. As a result of the study, the most important latest inventions in the field of sports technologies were identified, which made it possible to create many products to improve and enhance sports performance.

Mobile Applications as a Means of Developing Digital Literacy among Future Foreign Language Teachers

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Key words and phrases: digitalization of education; foreign language; digital literacy; digital technologies; mobile learning; mobile technologies; mobile applications; professional training.

Abstract: The purpose of the study is to reveal the didactic possibilities of using mobile applications in the process of developing digital literacy among future foreign language teachers. The objectives of the study are to substantiate the importance of developing digital literacy among future foreign language teachers; to justify the use of mobile technologies, in particular, mobile applications in the process of developing digital literacy among students of language departments of pedagogical universities; to identify didactic opportunities and difficulties of their use in the educational process; characterize existing mobile applications in teaching foreign languages; to describe practical tasks based on the use of mobile applications to develop digital literacy among future foreign language teachers. The research hypothesis is as follows: the use of mobile applications will optimize the process of developing digital literacy among future foreign language teachers. In the process of conducting the research, methods of theoretical analysis and synthesis and observation of the educational process were used. The result of the study is the practical development of tasks based on mobile applications aimed at developing digital literacy among future foreign language teachers.

Foreign Experience in Applying the Pedagogical System of A.S. Makarenko in Working with Adolescents with Unlawful Behavior

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Key words and phrases: juvenile convicts; educational work; foreign experience; pedagogical system of A.S. Makarenko.

Abstract: The purpose of this article is to determine the possibilities of using the Cuban experience in applying the pedagogical system of A.S. Makarenko in working with adolescents with unlawful behavior. The solution to the problem is carried out on the basis of general scientific methods of analysis. The improvement of the process of prevention of juvenile delinquency, educational work with minors serving sentences in places of deprivation of liberty using the pedagogical system of A.S. Makarenko in Cuba. It is concluded that it is necessary and promising to study this experience and its implementation, taking into account modern challenges in the activities of the penitentiary system at the present stage.

Developing Endurance in Alpine Skiing

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Key words and phrases: endurance; alpine skiing; testing.

Abstract: The article presents the results of a study aimed at identifying effective ways to develop special endurance in skiers aged 7–9 years. An attempt was made to include new jumping exercises in the training program. The purpose of the study is to identify the effectiveness of using jumping exercises for the development of special anaerobic endurance of alpine skiers. The research objectives are to introduce jumping exercises during the off-season to develop special endurance into the training methodology; to assess the level of effectiveness at the intermediate and final stages of the study through a control exercise.

The research hypothesis is as follows: as a result of the use of special jumping exercises, there is a positive trend in the level of aerobic endurance; the indicators are statistically significant. The method of pedagogical experiment and the method of mathematical and statistical processing (Student's t-test) were used for the study.

Analysis of Testing the Level of Theoretical Knowledge of First-Year Students of Petrozavodsk State University in the Discipline "Physical Culture and Sports"

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Key words and phrases: elective discipline; Petrozavodsk State University; history of basketball; testing; theoretical preparation; competition rules.

Abstract: In 2016–2017, a system for organizing the educational process in physical education in elective areas was introduced at Petrozavodsk State University, taking into account the requirements of federal state educational standards (FSES). The purpose of the study in this work is to determine the level of knowledge of 1st year students in the elective direction "Basketball" by the method of questioning. In accordance with the goal, the following research objectives were identified: to determine the level of knowledge of 1st year students in the elective direction "Basketball" in the history of basketball and the rules of basketball competitions; to analyze and compare the results obtained during the study. The study was conducted at Petrozavodsk State University among first-year students. The results of the study allow us to draw the appropriate conclusions that the level of knowledge of first-year students in the history and rules of basketball is very weak, in this regard, it is necessary to strengthen the work of teachers in the elective direction "Basketball" in theoretical training.

Emotional Intelligence as a Success Factor in Sports and Educational Activities of Students

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Key words and phrases: emotional intelligence; Petrozavodsk State University; sports activities; testing; methodology.

Abstract: The problem of studying emotional intelligence is becoming most relevant in the modern world, since the data obtained through research will help analyze a person's capabilities, his ability to emotionally interact with others, as well as the possibility of success in various actions and behavior. The purpose of the study is to identify the level of development of emotional intelligence in students and athletes. The objectives of the study are to familiarize yourself with the literature on the topic "Emotional Intelligence", to define the concept of "Emotional Intelligence" and to highlight its structural components, to assess the importance of emotional intelligence in sports activities, conduct a study: "Identification of the level of development of emotional intelligence", to analyze the results obtained, and to draw conclusions. The results of the study allow us to conclude that the development of emotional intelligence, both for athletes and students, is a mandatory content component of increasing the level of psychological preparation for competitions and studies.

The Relationship between Temperament and the Type of Physical Activity Preferred by Students

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Key words and phrases: physical activity; human temperament; Petrozavodsk State University students.

Abstract: The purpose of this research work is to analyze human temperament using G. Eysenck's method and to compare the results with the types of physical activity preferred by the working group participants, as well as to compare the results with previously conducted studies, namely, the patterns identified during them. The research methods include theoretical analysis of scientific literature on the research topic; empirical methods: conducting a survey of a working group of Petrozavodsk State University students: collecting information about the preferred types of activity among the working group participants; testing the working group using G. Eysenck's method to determine the type of temperament. The result of the study will be an analysis of the most stable personal characteristic – temperament, as well as testing of the hypothesis about its connection with types of physical activity among Petrozavodsk State University students.

Ways to Improve the Art Education of Primary Schoolchildren through Still Life Art in China

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Key words and phrases: didactic teaching aids; Chinese still life; younger schoolchildren; still life art; art education; aesthetic education.

Abstract: This article reveals the goal of identifying ways to improve the Chinese art education of elementary school students by means of still life art. The author of the article solves a number of problems consisting in revealing the potential of creating a still life in the development of personal and educationally significant qualities of primary school students; in describing the features of working on a still life in a classroom of primary school students; in proposing ways to effectively educate Chinese schoolchildren through still life painting. The leading research methods are analysis of scientific sources on the issue under consideration, generalization, synthesis, comparison and systematization. As a result of the research, the author of the work outlines a range of possible ways to improve the art education of primary school students in China, based on their turning to still life art.

Indicators and Methods for Diagnosing Students' Social Activity

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Key words and phrases: sociocultural activity; indicators of social activity; diagnostics of social activity; social behavior.

Abstract: The authors of the article aim to consider the problems of social activity of the individual. The objective of the study is to identify criteria and indicators of social activity, to show existing approaches to determining indicators of social activity. The result of the study is as follows: the methods of observation and survey (questioning), with the help of which the experimental group of students were diagnosed, made it possible to confirm the selected indicators of social activity.

Student Olympiads in Physics as an Important Component of University Training of Future Engineers

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Key words and phrases: engineer; physics; practice-oriented training; Olympiad; higher education. Abstract: The article examines the role of Olympiads in the academic discipline "physics" as a means of training students studying engineering specialties. The purpose of the study is to identify the role of Olympiads in ensuring high quality of student training, in terms of the use of practice-oriented training. The hypothesis of the study is that the use of Olympiads in teaching physics will provide a higher level of training for students, developing their practical skills and skills in working with information. Based on the results of the study, the features of Olympiads as a way of organizing training were analyzed. The specificity of the pedagogical conditions created during the organization of Olympiads for teaching students has been revealed.

Traditional and Distance Educational Technologies When Studying the "Physics" Course at a University

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Key words and phrases: distance educational technologies; higher education; physics; information and communication technologies; gamification.

Abstract: The article discusses the possibilities of using distance educational technologies when teaching physics to university students. The purpose of the study is to analyze the effectiveness of using traditional and distance educational technologies when studying physics courses at school. The study is based on the hypothesis that the use of distance technologies when studying a physics course in higher education makes it possible to achieve higher educational results.

Based on the results of the study, the characteristics of distance educational technologies are presented. The similarities and differences between distance and traditional educational technologies are revealed.

Formation and Development of Soft Skills of Students in the Aspect of Functional Literacy of a Future Teacher

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Key words and phrases: soft skills; universal competencies; creativity; communication; critical thinking; cooperation; foreign language.

Abstract: The article is devoted to the problem of development of soft skills. The purpose of the study is to substantiate the idea of the importance of the formation and development of soft skills in the aspect of functional literacy of a teacher. The objectives of the study were: consideration of the concept of "soft skills" in psychological and pedagogical literature, defining the relationship between the concepts "soft skills" and "universal competencies" in the context of the requirements of regulatory documents of higher education, ways of developing soft skills in the practical training of future foreign language teachers. The research hypothesis is the assumption that for a modern school it is necessary to prepare a functionally competent teacher who has not only professional, so-called "hard" competencies, but soft skills. To solve the research problems, theoretical methods were used: critical analysis of

scientific and methodological literature, logical methods: comparison, generalization, systematization. The results of the article are practical recommendations for the development of soft skills in the conditions of a pedagogical university.

A Study of the Level of Interest of Petrozavodsk State University Students in Physical Education and Sports in the Direction of "Fitness"

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Key words and phrases: elective discipline; Petrozavodsk State University; fitness; questioning; healthy lifestyle.

Abstract: Fitness has become popular relatively recently, but its popularity is growing rapidly. Fitness is a system that is aimed at improving the health of the body, including proper nutrition, moderate physical activity and health promotion. Fitness is not a competitive sport, its goal is to strengthen health and spirituality through sports activities, while sport plays not a major, but a secondary role. The purpose of the research is to determine the level of interest of students in fitness classes using a survey method. In accordance with the goal, the following research objectives were identified: to determine the reasons why students go to fitness clubs, the level of professionalism of instructors conducting classes for students, to analyze and compare the results obtained during the study. The study was conducted on the basis of Petrozavodsk State University. The results of the study allow us to draw the appropriate conclusions that fitness classes are becoming increasingly popular and time-convenient for students, but are inferior to physical education classes at Petrozavodsk State University in some respects.

Transformation of Physical Culture in the Information Society

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Key words and phrases: sport; information community; physical education; Internet; transformation; sports culture.

Abstract: The article discusses modern information conditions in which sport and physical culture change and adapt, as well as the development of the educational aspect of physical culture in information realities. The purpose of our research is to identify signs of transformation of physical culture in the information society; to determine how a modern student modernizes the process of playing sports and his physical education. The research methods include a survey, measurement, ad observation. The objectives are to review new information conditions for changing sports. The research hypothesis is based on the assumption that new technologies help with sports. The results achieved are knowledge about the attitude of young people to information solutions in physical education.

Educational Activities of the Yenisei Pedagogical Institute in the 1960s

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Key words and phrases: Yenisei Pedagogical Institute; educational activities; forms of educational work; Knowledge Society.

Abstract: The relevance of the article is due to the importance of rethinking the pedagogical experience of higher educational institutions of the Soviet period. Currently, the teaching community needs to introduce new work practices in order to increase the value of knowledge among young people, develop citizenship and responsibility. However, it is necessary to take into account the enlightenment experience of previous generations. It is no coincidence that in the modern period we are seeing a revival of the Knowledge Society, which successfully functioned during the Soviet period. The purpose of the article is to summarize the experience of educational activities of a provincial Siberian university. Research methods: continuous sampling method when working with the regional press of the sixties; retroperiodical analysis, generalization. The article presents the forms of educational work of the Yenisei Pedagogical Institute in the 60s of the 20th century.

A Study of the Level of Knowledge of the School Curriculum in the Discipline "Physical Education" among First-Year Students of Petrozavodsk State University

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Key words and phrases: elective discipline; Petrozavodsk State University; ball handling technique; testing; defensive playing technique.

Abstract: In 2016-2017, a system for organizing the educational process in physical education in elective areas was introduced at Petrozavodsk State University, taking into account the requirements of federal state educational standards. The purpose of the research is to determine the level of knowledge about the technique of playing in defense and the technique of ball possession of 1st year students in the elective direction "Basketball" using a survey method. In accordance with the set goal, the following research objectives were set: to determine the level of knowledge about the technique of playing in defense and the technique of ball possession of 1st year students in the elective direction "Basketball"; to analyze and compare the results obtained during the study. The study was conducted at Petrozavodsk State University among first-year students. The results of the study allow us to draw the appropriate conclusions that the level of knowledge of first-year students about the technique of playing defense and ball handling techniques is satisfactory; in this regard, teachers in the elective direction "Basketball" need to strengthen their work in this direction.

Current Problems of Digital Education of Students in Modern Conditions

A.M. Yudina Vladimir State University named after Alexander and Nikolay Stoletovs, Vladimir

Key words and phrases: information and communication culture; students; digital education; sociocultural environment; cyber information environment; cyber terrorism; darknet; legal consciousness.

Abstract: The article is devoted to the analysis of current problems arising in the process of digital education of students in higher education. The purpose of our research is to reveal the current problems of digital education of students in higher education in the cyber information environment. The objectives of our research are to identify the possibilities of information and communication culture in the prevention of destructive phenomena in the cyber information environment, to analyze possible forms and accents of digital education. The research methods are analysis, synthesis, systematization, and generalization. The article presents the results of a study that reveals the possibilities of information and communication culture in the formation of cyber hygiene, legal consciousness, reducing the attractiveness of the criminalized segments of the darknet and cyber terrorism.

Culture of the Future Educational Specialist

A.M. Yudina Vladimir State University named after Alexander and Nikolay Stoletovs, Vladimir

Key words and phrases: personality; future specialist; culture; educational organization; educational institution.

Abstract: The purpose of the article is to reveal the personality culture of a future specialist in the educational field. The objectives are to substantiate the culture of a future specialist in the educational field; show the importance of the culture of a future educational specialist for his professionalization and socialization. The research hypothesis is as follows: the culture of a future educational specialist will have a high level if a graduate of a pedagogical university masters the norms of morality and law, treats students with respect and demonstrates that there is no discrepancy between words and deeds. The research methods include analysis, synthesis, generalization, comparison, observation, and conversation. The results are as follows: the proposed special course "Cultivating the culture of a future specialist in the educational field" is, aimed at developing the cognitive abilities of graduates, their creative enrichment, and responsibility for students showed an increase in their general, moral and legal culture.

Formation of Communicative Literacy in Engineering Education

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Key words and phrases: communication literacy; cultural norms of communication; speech etiquette; business communication.

Abstract: The article specifies the concept of "communicative literacy" based on its component composition, and examines the possibilities of developing communicative literacy of future engineers. The purpose of the study is to analyze the possibilities of forming components of communicative literacy within the framework of studying the discipline "Foreign Language" to test the hypothesis that the use of certain forms and methods of teaching a foreign language makes it possible to increase the level of development of communicative literacy of future engineers. Objectives of the study: conducting a survey of students at Tyumen Industrial University, analyzing and processing the results obtained, systematizing forms and methods of teaching a foreign language that are effective for developing communicative literacy. The objectives of the study were solved using the following methods: theoretical and methodological analysis of psychological and pedagogical literature, systematization, questioning, conversation, method of mathematical data processing. As a result of the study, the forms and methods of developing communicative literacy within the framework of studying the discipline "Foreign Language" were determined.

The Use of Visual Aids in Teaching Chinese to Russian-Speaking Students (Using The Example of Counting Words)

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Key words and phrases: Chinese language; visual aids; counting words; visual-associative techniques; schematization; visualization.

Abstract: The purpose of the article is to analyze the features of the use of visual aids when teaching Chinese to Russian-speaking students (using counting words as an example). It is noted that the greatest complexity is posed by grammar, in particular, counting words, which have their own distinctive

features. The relevance of the study is due to the complexity of studying counting words due to the presence of semantic conditions and the positional relationship of words in a sentence, as well as cultural differences between speakers of Russian and Chinese. The results of experimental training using visual aids when teaching Chinese to Russian-speaking students are presented (using the example of counting words). It is concluded that the use of the visualization method when teaching Russian-speaking students when studying counting words makes it possible to improve the quality of knowledge on the topic being studied, to structure counting words into groups according to certain characteristics, which contributes to a more meaningful and conscious use of them in speech, and to develop the ability to choose the best option counting word in a given situation.

Some Aspects of the Problem of Vocational Education Management against the Background of Global Instability

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Key words and phrases: education; problems of education management; quality of education; modernization.

Abstract: The article discusses current problems of managing the educational process, analyzes some aspects of these problems, and suggests ways to solve them. It also analyzes the effectiveness of initiatives recently introduced into educational activities and provides recommendations for improving their effectiveness. The purpose of this article is to study the problem of managing vocational education against the backdrop of global instability and propose ways to solve them. The objectives of the study are to analyze current problems of managing the educational process; highlighting some aspects of these problems and conducting their analysis; reviewing the effectiveness of recently introduced educational initiatives; offering recommendations to improve the effectiveness of these initiatives. Research methods include: analysis of scientific articles and publications on the topic; analysis of concepts on this issue; anthropological approach to the study of this issue.

The hypothesis is as follows: global instability has a negative impact on vocational education, causing problems in managing this process. However, effective management of vocational education can help solve these problems and produce highly qualified specialists who are able to work successfully in conditions of instability and change. The research results are as follows: in the course of the study, we identified possible ways to solve some pressing problems in education management.

Features of the Educational Process in the Development of the Discipline "Anatomy" among Students of the Faculty of International Students of Altai State Medical University

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Key words and phrases: anatomy; foreign students; educational process; medical university.

Abstract: The authors share the results of a study, the purpose of which is to analyze the characteristics of the educational process when mastering the discipline "Anatomy" among students of the faculty of foreign students of the Altai State Medical University (FIS ASMU). Objectives of the study: conducting a survey of 1–2 year students of FIS ASMU; analysis and processing of results; give recommendations for improving the educational process among FIS students.

Research methods: literature analysis; survey; mathematical processing of the obtained data.

Results achieved: 77 % of students consider the discipline "Anatomy" to be a difficult subject to study, which means it is necessary to study a large amount of material, which has to be done in an intermediary language. The problem of the need to master a large amount of material for each lesson is solved at the department by drawing up a schedule of additional classes in self-study mode

(accompanied by a teacher). The problem of using an intermediary language (English) is solved through the active study of Latin terminology and anatomical nomenclature, knowledge of which helps students from different countries (Egypt, India, Iraq and others) understand each other.

Resources for Enhancing the Formation of Professional Competence of Teaching Staff

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Key words and phrases: activation; competency-based approach; resources; independent activity; professional competencies.

Abstract: This study is devoted to the problem of improving the quality of vocational education based on a competency-based approach. The article shows the direction of intensifying the formation of universal and professional competencies of teaching staff by improving the educational process, with in-depth use of continuously updated scientific information and a complex of content, technological, organizational and other resources of the education system. The importance of students' research activities in the development of independence and other personal qualities as the basis for the formation of a specialist's professional competence is substantiated.

The Use of Research Activities to Integrate the Motivating and Teaching Potential of Extracurricular and Classroom Work of Students in Future Teachers' Training

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Key words and phrases: research activities, quasi-professional activities, training of future teachers, organization of game control.

Abstract: The article is devoted to research activities in the process of teacher education at a university. The purpose of the paper is to determine the place of research activities in the preparation of future teachers for the organization of game control. The objectives of the study are to consider the research activity of students as a stage of their quasi-professional activity, to explicate its potential in the training of foreign language teachers. The hypothesis is based on the assumption that research activities have motivating and educational potential in preparation for organizing game control. Research methods include theoretical analysis, comparison and synthesis. The results are as follows: the hypothesis was confirmed; research activities within the classroom and extracurricular work of students can be considered as one of the pedagogical conditions in the preparation of future foreign language teachers to organize monitoring of the educational achievements of junior schoolchildren using gaming technologies.

On Information Competence in the Educational Process of a University in Training Future Bachelors of Technical Fields

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Key words and phrases: information and communication competence; educational process; innovative approaches; professional training; bachelor of technical directions.

Abstract: The purpose of the study is to consider the relevance of developing information competence among bachelors of technical fields. The objectives are to conduct a retrospective analysis of scientific literature, dissertation research on the topic of information competence. The scientific

hypothesis is as follows: today one of the priority areas of state policy is the development of the information society, the introduction of information technologies in all sectors of human life. Society is in dire need of competitive technical specialists with information technology skills; such specialists must have the skills of perception, generation and become a challenge to the domestic higher education system. The methods were scientific developments of domestic and foreign scientists who considered this issue (literature reviews of dissertations, reviews of methodological, educational and normative literature) on information competence. Achieved results: designing a methodological system for preparing a future bachelor of technical areas with information technology skills is an objective need for continuous professional education.

Basic Methodological Approaches to the Professional Training of Bachelor-Linguists in the Context of Digital Transformation of the Higher Education System

O.V. Mikhaleva Vladimir State University named after Alexander and Nikolay Stoletovs, Vladimir

Key words and phrases: bachelor-linguist; methodological approaches; professional activities; higher education system; digital educational environment; digital technologies; digital transformation.

Abstract: The article examines modern methodological approaches to the process of professional training of future linguists for professional activities, which in turn is determined by the ongoing digital transformation of the education system in general and in the higher education system in particular. The relevance of our research is determined by the need to revise currently existing methodological approaches to teaching and training future bachelors of linguists, taking into account modern requirements and digitalization of the economy. The purpose of our research is to theoretically substantiate the need to revise existing methodological approaches to preparing future linguists for professional activities and improving the quality of the educational process in the context of the digital transformation of the higher education system. The main tasks that are set for us are the revision of existing and development of new methodological approaches to building the educational process, taking into account the digital transformation of the educational environment of the university, as well as the development of a model aimed at developing the professional qualities of a future bachelor-linguist based on systemic, competency-based, and personality-oriented approaches taking into account modern requirements for future specialists in the field of linguistics, enshrined not only in the new Federal State Educational Standards of Higher Education (FSES VO 3++), but also in the professional standard of a translator.

The Practice of Using Digital and End-To-End Technologies in Teaching a Foreign Language to Students of Non-Linguistic Specialties (Using the Example Of Specialty 05/08/01 Construction of Unique Buildings and Structures)

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Key words and phrases: digital technologies; end-to-end technologies; foreign language teaching; non-linguistic specialties; augmented reality technologies.

Abstract: The purpose of the article is to describe the practical experience of using digital and end-to-end technologies in teaching a foreign language to students of non-linguistic specialties. The objectives are to study the regulatory and legal aspects of the introduction of digital technologies on the territory of the Russian Federation; analyze mobile applications, application programs, online resources used to develop language and digital competencies. The research hypothesis is the assumption that the use of digital and end-to-end technologies in learning a foreign language improves both subject knowledge and develops a holistic understanding of the productive and safe functioning of young people

in various digital environments. The research methods include analysis of regulatory documentation and methodological literature, forecasting, observation, generalization. The results of the research include the increased use of digital and end-to-end technologies in teaching a foreign language at a university; developing a positive attitude among students towards the use of digital resources while learning a foreign language.

The Analysis of UK Correctional Staff Training Experience

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Key words and phrases: training of correctional staff; actions in emergency situations; suppression of prison riots; foreign experience.

Abstract: The purpose of the article is to consider the problem of developing the readiness of correctional facility personnel to act in the event of emergency circumstances at the facilities of the penal system. The task is to study and analyze domestic and foreign experience in suppressing prison riots. The solution to the problem is carried out on the basis of general scientific methods of analysis and generalization of existing pedagogical experience. The result in the field of crisis management, such as prison riots, is the conclusion that the most important aspect is the constant training and development of staff, a variety of training formats contributes to the development of various competencies of employees and strengthening their professional skills. The author recommends intensifying the development and implementation of new training programs taking into account existing foreign experience.

On the Issue of Educating Vital Culture among Young People

A.M. Yudina Vladimir State University named after Alexander and Nikolay Stoletovs, Vladimir

Key words and phrases: youth; vital culture; education; self-education; self-determination; institutions of socialization.

Abstract: The purpose of the article is to reveal the education of vital culture among young people. The objectives are to discuss the relevance of the problem under study; to identify the conditions for developing vital culture among young people. The research hypothesis is as follows: we assume that the success of educating vital culture among young people is determined by the following conditions: a) if the main institutions of education and socialization simultaneously prepare young people for life, developing their social maturity, self-education, self- determination; b) cultivating responsibility for one's actions, a pro-social behavioral strategy, a high level of general, legal and evohomological culture. The research methods include analysis, synthesis, generalization, comparison, observation, survey, and conversation. The results are as follows: in the implementation of the designated pedagogical conditions – non-contradictory education of young people by the main agents of education and socialization, with the development of social maturity and responsibility, a high level of vital culture was observed among students.

Responsibility as a Structural Component of Personal Culture

A.M. Yudina Vladimir State University named after Alexander and Nikolay Stoletovs, Vladimir

Key words and phrases: personality; culture; responsibility; educational institutions; socialization institutions; social maturity.

Abstract: The purpose of the article is to substantiate responsibility as a structural component of personal culture. The objectives are to discuss the relevance of the problem under study; consider the category of "responsibility" as a significant link in the structure of personality culture. The research hypothesis is based on the assumption that human culture combines many components, but the category of "responsibility" is the fundamental one. The research methods are analysis, synthesis, generalization, comparison, observation, survey and conversation. The results are as follows: minors who have formed responsibility demonstrate a high level of general, moral and legal culture.