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## CULTURAL STUDIES APPROACH TO FOREIGN LANGUAGES TEACHING AT A SECONDARY SCHOOL

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The article deals with the problem of intercultural communication teaching and significant role of culture in this process. On the base of analysis of different researches on the studied problem, the authors show the indivisible relation between language and culture, also pay attention to a comparative study of native and foreign cultures in the context of a cultural dialogue, which contributes to formation of tolerant attitude to foreign culture. In conclusion the authors emphasize that the successful foreign language communication implies both profound knowledge of the language and socio cultural aspects as well.

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**Keywords:** cultural studies, foreign languages, secondary school

At the present time, in the modern society's conditions the importance of foreign languages studying has increased. The interest to the mastery of English as a means of communication has been raised. Due to cultural, economical and international relations' development, as a result of different cultural and national global integration, as well as tourism's and employment's sphere extension, the English language has become the language of intercultural communication. It is impossible to imagine the modern world and our life without the English language, it strongly affected it and radically changed our mind concerning the problem of communication on the whole. The number of people knowing English intensively increases. It has become the language of international relations in the sphere of economy and culture, science and education, business and policy.

Language reflects peculiarities of people's life, their traditions, customs, mentality. Language is a mirror of surrounding world, it reflects reality and creates its own image of the world, specific and unique for every nation and language, ethnic group, using the language as a means of communication [1, p. 44]. Language and culture should be studied closely to each other. Only with the help of culture it is possible to learn the language wholly, its stylistic features, phraseological aspect and apply this knowledge in intercultural communication. Studying the language and culture in close context helps prevent mutual misunderstanding, caused by differences of languages, turning a language barrier into a source of cultural mutual enrichment [2, p. 8]. Every language is a keeper of nation's history and its inheritable values, the adaptation of people to environmental conditions. The language covers the sense of fundamental, philosophical concepts, ideas, expressing the understanding the epoch's cultural basic values [3, p. 5]. This is especially important for such

a multinational and multicultural community as Kazakhstan. Intercultural communication, the necessity of understanding foreign culture values and knowledge, communication experience transfer to next generations are the guarantee of Kazakhstan's multicultural space integrity with other cultures.

The main aim of modern language education is directed to extend the borders of students worldview and attitude to the surrounding reality, to introduce new cultures colors to picture of world created with the help of native tongue and reproduced through the foreign language. The main goal of foreign language studying is the development of intercultural interaction skills of learners of using foreign language as a means of communication. The role of students socio-cultural knowledge is significant for achievement this goal. The scientific fundamentals for the development of socio-cultural competence is the cultural studies approach to foreign languages teaching. This approach is oriented on intercultural communication in the context of culture dialogue [4, p. 21]. Cultural studies approach takes into account the students cultural, ethnic and religious specific features and contributes to development their tolerant attitude to the representatives and the phenomena of a different culture. This approach also allows us to understand better our own culture and its role in the developing of the world's common cultural space [3, p. 3]. The usage of foreign languages as a means of intercultural communication is difficult without knowledge of both: native culture and the culture of studied foreign language. Co-studying of two cultures must be considered in such aspects as mentality, national character, life, vision, customs, traditions, social and communicative behavior. Cultural studies approach involves parallel acquaintance of students with the cultural facts of their native country and studied foreign language country. Native culture is an

equal component of intercultural communication. Awareness of one's own national culture is essential for the development of culture dialogue [5, p. 30–31]. The dialogue of cultures is understood nowadays as the exchange of cultural objects and activities: as exchange of images of consciousness for understanding the minds of the representatives of other culture in the detection of differences in images of one's own and other culture. According to many researchers, the studying of foreign language culture should be based on the comparative nature. Each culture is specific and unique in its own way. What is characteristic of one culture, may cause misunderstanding to representatives of other cultures and lead to cultural shock [6].

Cultural studies approach implies the formation of readiness, willingness and ability of students to see and understand the similarities and differences in cultures, to perceive the other way of life, to compare it with the national peculiarities of their native country, their nation; to rethink critically and in such a way to enrich knowledge about another culture [3, p. 6].

Comparison of cultural facts, applied at different stages of secondary school is the tool of formation of ability to reveal colorfully-expressed and culturally-meaningful information. As it was marked, many phenomena and facts that are obvious in one culture, cause confusion in other cultures. Every culture has its own laws, morality, values and rules. A comparative study of the cultural features in the context of the cultural dialogue contributes to formation of a tolerant attitude to foreign-language culture, the students ability to treat adequately to the demonstration of unknown in a foreign culture and overcome cultural stereotypes [5, p. 32].

The formation of learner's skill to reveal the meaning of a cultural phenomenon in the foreign language and compare it with the phenomenon of native culture is an important factor in understanding the foreign language culture. For example, the phrase «I am going to the drug store to buy a pen» may not seem strange and unknown for those, who know that in America at the drug store one can buy not only drugs, but also postage and stationery. The knowing of basic unequivocal vocabulary helps avoid misunderstandings in intercultural communication, which is largely due to ignorance of the socio-cultural characteristics [2, p. 9].

Green eyes in Russian sounds poetically, romantically, suggest an idea of magical eyes. The English phrase green eyes is metaphori-

cal designation of envy and contains obvious negative connotations.

One more example: the Russian phrase *чернаякошка* means as well as the English black cat, a house animal- a cat of black color. In Russian culture, according to a superstition, the black cat brings misfortune, failure. In English culture black cats-the sign of good luck, unexpected happiness, and on cards with the inscription «Good Luck» black cats sit to surprise of Russians [1, p. 63].

If to speak about the national character of British people, their main characteristic feature is conservatism: adherence of British to the traditions and customs. The tribute of tradition is shown in their special attitude towards Queen Elizabeth II, who «reigns but does not rule», however she is respected and loved by the British people. The tradition to drink five o'clock tea in the evening is observed even when British go abroad. They will never refuse double-decker buses, red mailboxes and left-side movement. And still the British consider themselves as honest, reasonable, educated people. Politeness, courtesy, observance of etiquette norms, self-control, fear of intrusion «into personal space of another person» – these are components of the national character of the British nation.

And what are the national features of American people? The main value for them is the identity of the person, the individual rights and interests are put first. Independence and self-confidence, materialism, love of freedom, friendliness, energy, openness characterize the national identity of the Americans. «American smile» is a sign of courtesy, honesty, openness, and respect for the other person. They are very sociable and always ready to help in difficult situations.

Hospitality, respect for elders, loyalty to tradition, tolerance in regard to other cultures and religions, respectful attitude to the representatives of other nations are the main features of the Kazakh national character.

Thus, we have come to the conclusion that in the national characters of different cultures there are both similarities and differences. The study of culture in the process of mastering a foreign language makes a significant contribution to the education and personality formation of the younger generation. However, the involvement of cultural component in teaching and learning foreign languages raises the motivation to learning and contributes to the main practical goal- the formation of communicative skills in foreign languages.

Cultural studies approach to teaching foreign languages creates big opportunities for enhancing and broadening students' world view values and life style, mentality, verbal and non-verbal models of communication between representatives of the native and target languages, provides the study of both: national cultures and social subcultures [5, p. 32]. Cultural studies approach in language teaching and learning plays significant role in the development of students socio cultural competence in the studied and native cultures. Comparative study of cultures helps prepare the person to real intercultural communication [5, p. 35].

Thus, we conclude that for a successful foreign language communication, one should not possess only knowledge of language, but should also have profound knowledge of studied language culture. Teaching foreign language communication in modern society implies mastery of socio cultural knowledge and skills, which are essential factor

in the practical acquisition of the language [7, pp. 120–13].

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## THE EXPERIENCE OF UNIVERSITY-INDUSTRY INTERACTION IN TELECOMMUNICATION SECTOR

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One of content providers in «Corporate management» for the CIS countries is a Russian ITU DL Centre situated in Novosibirsk on the basis of Siberian State University of Telecommunications and Information Sciences (SibSUTIS). In 2009 about 250 participants from 10 countries took part in the courses held in ITU DL Centre on the basis of SibSUTIS. Another example of university-industry interaction in telecommunication sector – the corporate e-learning course for top and middle managers from the telecommunication company was described. The Siberian State University of Telecommunications and Information Sciences (SibSUTIS) has been using e-learning technologies for higher education services almost about 10 years. The number of students studying at the workplace by distance is steadily increasing.

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**Keywords:** engineering education, distance learning, university-industry interaction

### DL Courses for CIS Countries

International Telecommunication Union (ITU) has implemented the network of world Centres of Excellence with the aim to promote the knowledge accumulated by the international community in the telecommunication sphere among ITU country-participants. In the realization of the Centre of Excellence project for the CIS countries it has been decided to bring into operation a network of excellence amongst potential content providers, like universities, technological institutions, training centers etc, which will provide on-line solutions. One of content providers in «Corporate management» for the CIS countries is a Russian ITU DL Centre situated in Novosibirsk on the basis of Siberian State University of Telecommunications and Information Sciences, SibSUTIS [1, 2].

The technical support service in the DL system is the most expensive one because it consists of skillful personnel and exploits expensive equipment. This service consists of: programmers, who provide interactive communication, develop software for DL and elaborate databases; specialists in multimedia; network and web-server specialists, whose aim is to provide a regular work of all servers, access to Web-servers over the Internet, video conferences, functioning of a local network, protect information against any fatal errors, and introduce new DL technologies.

The DL platform is created on the base of Web-technologies and Email. The structure of DL course includes:

- Calendar schedule for training;
- Abstract of lectures;
- Practical tasks;
- Computer-based program;
- Additional training materials;
- Test;
- Reference section;
- Write an email;
- Tutors' contacts;
- Forum.

In DL course the following methods of training and knowledge evaluation are used: study of theoretical materials; performance of practical tasks and case study; performance of tests; use of computer-based programs for doing practical tasks; discussion of burning issues at a remote forum (telecommunications Internet); examination and reviewing of calculations made in the tests; evaluation of independence and activity of trainees during the forum; testing of trainees' knowledge.

The learning material of the course is divided into self-instructional units. This structure allows step-by-step learning, each step paying attention to a particular unit. The learning objectives of the course and each unit are clearly determined. The learning material is self-sufficient and lets trainees to do all types of training work and achieve stated learning objectives. The material is oriented to self-study; trainees have an opportunity to make calculations, solve different problems, and do practical exercises. The structure of the learning material contributes to the interaction of a trainee, and allows him/her to communicate with trainers, tutors, specialists, and other course participants. Every unit has self-assessment questions and tasks, which will enable a trainee to check progress and mastery of the learning material. The learning program provides trainees with tests, which are checked and evaluated by trainers. The learning material is also provided with access devices such as course guides, course curriculum, trainers' email addresses and reference materials.

A number of performance problems (case studies), which require analysis and trainees to make decisions, are included in the learning program. To discuss those problems with other participants, trainees have access to a Web conferencing system offline taking into account different time zones. To manage trainees' study there is a billboard, where one may put all general information. All materials are issued in

HTML, with all necessary hyper references for convenient navigation through course material. Trainees may observe learning materials both online and in an autonomous regime.

The main objective of distance learning is to provide interactive training. Integrated application of ASP and databases allows providing trainees with access to resources of the Web site as well as giving information about grades received in the learning process, possible debts, and current assignments. On the basis of ASP, VBScript, and JavaScript, programs for distance testing of trainees are developed. Software for group work and case study, which permits holding discussions on learning issues with forum and chat technologies, is elaborated in the DL center.

Communication activity provides great support for the trainee who is isolated from the institution: communication with administrative staff, trainers, tutors, and other course participants. This allows trainers to quickly answer trainees' questions, identify their difficulties as well as render immediate assistance, form a sense of constant community among a dispersed group of trainees, compare their own study progress with that of other course participants, and give mutual assistance. On the developed site one of the main means of communication is email. By email trainees send their papers and other outcomes of their activities to the DL center. The other channels of communication are a debating forum and billboard.

In 2009 about 250 participants from 10 countries took part in the courses held in ITU DL Centre on the basis of SibSUTIS. The quality of training was evaluated by questioning trainees.

All course participants are provided with questionnaires to evaluate the quality of training in accordance with ITU requirements. Processing of questionnaire results has allowed us to draw the following conclusions: almost all course participants speak positively of the quality of training; they point out that the course is up-to-date and express their interest in it; and the course turns out to be very useful for enterprise employees' practical work.

#### **The Corporate DL Course for Telecom Company Managers**

Another example of university-industry interaction in telecommunication sector – the corporate e-learning course for top and middle managers from the telecommunication company will be described. Company management took a decision to hold retraining of top and middle managers of the company. This large company has its departments in different areas of the Siberian federal district and numbers more than 40 000 employees.

Siberian State University of Telecommunications and Information sciences (SibSUTIS) – the large branch-wise university located in territory of the Siberian federal district – became an educational institution capable of offering effective programs and methods of training [3].

On the one hand, e-learning course content solved corporate queries and has been adapted to market. Besides, it was also concentrated on the future interests of corporation and development of this market. In whole E-learning course consists of 5 modules and meant for training within 6 months (600 hours). Duration of teach time on each module makes 120 hours. From them 96 hours are taken away on network training which occupies from workers about one month (from calculation no more than 4 hours per day), and 24 hours are occupied with short internal session. E-learning course is made by modular concept on the basis of interdisciplinary approach. The course program is an integral program in which various teachers' activity is completely coordinated.

Electronic-educational E-learning course environment aims students at self-managing personality-oriented learning, provides necessary students informational interaction and includes the following elements:

- Curriculums of all course and its each module.
- Planned schedule for E-learning course.
- Schedules of independent studying of every module materials.
- Abstracts of lectures.
- Practical tasks on each module.
- Tests on each module and program in a whole.
- Group discussion forums about study problems on each module.
- Forum of acquaintances.
- Schedules of teachers remote consultations.
- Visiting cards of teachers.
- Access to e-mail for sending of performed educational tasks.
- A billboard for students informing and educational process control.

In E-learning course nonconventional methods of training based on partnership represented by process of interactive dialogue in the conversational form, group work, collective discussion of various situations (case-study), command work at joint projects and etc. are used

All teaching materials of E-learning course the most connected with direct professional activity of learning company employees. The practical E-learning course component contains particular tasks that must be performed during studying by company employees. During E-learning course participants of training con-

tact by means of built-in in the module e-mail with teachers, colleagues, experts from the company. Trainees and teachers get acquainted by the use of the "visiting" cards system with photos. Acquaintance between students and formation of common educational collective begins with a forum of acquaintances.

Each module is provided with feedback in the form of consultations, checks of practical tasks performance, testing and control of knowledge, questioning of trainees. As the program is oriented on adult people, it is provided with group discussion of studied problems and performed tasks in modules. At internal sessions methods of work in small groups are used.

For training quality evaluation and efficiency of educational activity at corporate university the system of educational process integrated monitoring has been implemented. At the end of studying materials of each distance module questioning of E-learning course trainees about their contentment about distance educational process was conducted. The questionnaire contains three kinds of questions: evaluation of distance learning organization, evaluation of electronic teaching materials quality and evaluation of trainees' survey. Each trainee should evaluate convenience and comfort of work with educational site, quality and completeness of communication with colleagues and administrator of educational process by five-point scale; to draw the conclusion about completeness and quality of electronic teaching materials.

The analysis of questioning results has shown that almost all participants expressed satisfaction from web-site, access to it, service information on a web-site and work with them the manager of educational process. Trainees practically had no claims to quality of teaching material on a distance learning web-site.

Gradually in process of training students procedure satisfaction at the university. completely adapt to distance learning form, therefore they evaluate efficiency and quality of E-learning course at the end of training higher than at the beginning. It should be noticed that satisfaction about discussion of problems at a forum increases to an end of studying (4,82 points at the end of studying contrary to 3,29 points at the beginning). Similarly, satisfaction from dialogue with colleagues at the end of studying was estimated higher than at the beginning (4,86 points contrary to 3,9 points). In process of studying trainees understand how much given training can help with their professional work (4,45 points contrary to 3,71 points at the beginning). It is obvious that electronic discussions have appeared quite comprehensible for trainees and have allowed to acquire better a

teaching material and to manage their studying more effectively. At the average managers have evaluated E-learning distance course to the 4,86 points and are assured that it would be rather useful for their colleagues to study on similar E-learning course (4,86 points). Not only managers' evaluation of this program is an evidence of successful work of network corporate university, but also positive comments from corporate publications. The majority of these managers had career development.

### **DL Education on Communication Engineering and Computer Science**

Perhaps, any sector of Russian national economy wasn't so shocked revolutionary over the last ten years, as telecommunications one. In technical extension of this sector there were five qualitative leaps: the element base of equipment was replaced (instead of lamps and transistors there were digital very large integrated circuits); principles of equipment operation have changed (the outmoded analog principle was replaced by modern digital one); principles of communication networking have changed (instead of slow switching of channels there was a superfast switching of packages with speech and video information); the transmission medium has changed (instead of electric signals transmitting by metal conductors light beams on optical fibers are transmitted); automated control systems of networks have been introduced.

In this connection before sector of telecommunications still ten years ago a problem of mass retraining of the technical and administrative personnel of sector was set. There would be a threat of «a personnel collapse» without solving problem in sector.

Since 2000 in Siberian State University of Telecommunications and Information sciences the corporate distance university functions [4]. Employees of the telecommunication companies and corporations can graduate distantly on telecommunication, information and economic specialties from the corporate distance university. It aims its educational services at telecommunication sector of the Russian economy, and also the CIS countries. A necessary condition for the Internet-learning organization is availability of a Web-server, database and control system of learning at the university.

Support system for e-learning at the workplace fulfills functions which include design of learning courses, teaching of students using the Internet, management of training process, support of e-library. In the process of e-learning organization three categories of users take part. They are students, teachers and administrators of training process. The support system for e-learning at the workplace provides communi-

cation among users and administrators of training process.

Learning courses developed by teachers get archived and are stored on the server. The database server is used to manage e-learning database which contains data about students, teachers, managers, curricula, learning specialties, subject, learning progress and teachers' reviews. The Web-server provides access to e-learning recourses for all categories of users. The Web-server's functions include publishing of information, reference and learning materials; access to the database and storage of learning materials. The server of a remote laboratory allows students to work with devices and equipment in remote access mode. The storage of student's works includes all works performed by students and sent by email as archived files. In order to send student works and information teachers and managers use a special mail service. Automated workplaces for students, teachers and e-learning administrators are workstations where browsers provide access to e-learning recourses.

The main functions of the support system for e-learning at the workplace, which ensures students' training process, starts with student identification, which is made by entering a login and a password. If the identification is done successfully, the student gets authorization to information and learning materials of the present semester. Support system for e-learning at the workplace provides students with administrators' and teachers' contact information; allows to send emails; gives recommendations how to work with Microsoft Office and archiving programs, which are used in e-learning; provides students with access to e-learning curricula, tutorials and e-learning forum.

The function «copy of learning courses» enables students to download an archived file with learning materials of the selected subject into own PC. Once the file is dearchived, students get a local mini-website, which contains all necessary materials for successful learning. The function «sending of performed works» enables students to send files with performed learning works to the e-learning server in order to get registered in the database and to place their learning works into the storage of student's works. The student's work stored on the server becomes available to a teacher for checking and to an administrator to control training process. As it is very important for students to carry out constant control of their learning progress,

the system includes «monitoring of student's progress».

Functions of the support system for e-learning at the workplace for to deal with teachers are the following: once being identified, the teacher gets access to e-dean's office, where the teacher may get the list of student's works assigned for a concrete subject. The e-dean's office's page contains filters, which allow a quick search for the certain student's work using such search criteria as student's name, surname, number of his/her group, subject name, category of a student's work (all, checked, unchecked). Every line of the list contains data of one student's work including links to a student's email, a file with performed work and a student's personal details. The button «check» is used to open the page enabling to make a revision and send it to a student. The review and enclosed file are saved in the database and in the storage of student's works. The database also stores grades given by a teacher and as a result, students can see their grades.

E-learning via the Internet becomes more and more appealing. The Siberian State University of Telecommunications and Information Sciences (SibSUTIS) has been using e-learning technologies for higher education services almost about 10 years [4, 5]. The number of students studying at the workplace by distance is steadily increasing. The students, who are graduating, with the distance learning course, 23% of graduating students are fully satisfied; 58% of graduating students are mainly satisfied and only 19% of graduating students are partially satisfied with the distance learning course. It is necessary to notice that there has been no unsatisfied graduating student this year as well as previous years.

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## MODERN APPROACHES TO ENGINEERING EDUCATION

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The authors of this paper explore alterations in subject – object relations between a teacher and a student in new educational paradigm when students direct their own learning-cognitive activity. When implementing new pedagogical technologies such as distance-learning, e-learning and m-learning, one of the major problems for teachers is to create educational environment that allows students to direct their own learning-cognitive activity. Different information barriers impede travel of information flows and their perception. These barriers reduce potential value of learning material. In new educational technologies (distance-learning, e-learning and m-learning) students receive strong psychological support through their communicative activity. New educational environment brings about new learning situations and relations.

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**Keywords:** change in education, engineering education, distance learning

Pedagogy, as the science of education, learning and human development, originates from the ideas of Demokrit (460–370 BC), Socrates (469–399 BC), Platon (427–347 BC) and Aristotle (384–322 BC). Erasmus Roterdamus (1465–1536) is considered the first teacher and John Amos Comenius (1592–1670) is the first didact.

Until recently classical pedagogy has dominated in education. Classical pedagogy based on didactic of John Comenius when a teacher being bearer of great volume of systemized information conveys this information to a student and the student has to master this considerable volume of knowledge.

Rapid development of the Internet and multimedia has given a strong incentive to the appearance of new pedagogy and new pedagogic technologies. The use of internet and multimedia technologies in education is becoming more and more popular among the majority of population. The advantages of computer – or web-based education over traditional classroom education include the ability to: study while at work, remain in one location with no need to travel; plan own training, attend courses across physical, political, and economic boundaries. In turn, higher education institutions obtain modern educational tools at their disposal. Distance-learning, e-learning and m-learning provide individualized learning, individual oriented approach and humanization of learning.

This paper presents three important aspects of a modern educational paradigm. It describes new subject-object relations established among students and teachers who are involved in learning process on condition that of self-directed, individual-oriented and student-centered teaching methods are used; analyses issues of pedagogic value and utility of electronic educational environment; addresses issues of information interaction among students and teachers in new educational environment.

Educational need includes two components: need to receive information and need to

learn the surrounding world, which are not one and the same. Satisfaction of information need relates to obtaining and use of information, but satisfaction of cognitive need relates to obtaining and use of knowledge. Analysis of the information – knowledge correlation allows one to understand that information activity of the individual relates to his/her perception and use of this information in the process of communication, while cognitive activity means creative activity, which is aimed at obtaining of new knowledge. The formation of the subject's or the student's thesaurus results from the activity which aim is to meet information and cognitive needs. The individual, who is in conscious action of cognitive activity, has to direct his/her learning cognitive activity.

Student's self-direction of learning cognitive activity has become important since internet-education, distance-learning, e-learning and m-learning emerged. In these models of education the student is to become a true subject of learning activity and at the same time the student is to remain the object of the teacher's control. The student, as the subject, should form his/her learning cognitive activity, but this activity is to be realized in the frame of the model developed by the teacher.

The goal of Self-Directed Learning (SDL) is to develop the student personality when he/she masters knowledge in the concrete subject field. Personal development means step-by-step action from learning under the teacher's control to self-directed learning and from SDL to self-learning. As a result abilities for self-education, self-discipline and self-developments are formed. The essence of SDL is that the teacher should direct the process of student's self-learning activity formation (Ellis H.J.C., 2007; Splitt F.G., 2003; Krouk B., Zhuravleva O. 2009; Kruk B., Zhuravleva O., 2010).

The term «interaction» implies counter activity: actions like «object-subject». The moment of interaction happens when the subject, who conveys information, receives informa-

tion about the object's state via feedback channels and, what is most important, the subject learns of the changes, which occur in the object in the result of interaction. Feedback allows the teacher to bring about improvements into methods and means of teaching.

Learning and education mean control of human consciousness. Mechanism of learning and education is subject-object relations in info-interaction. Objective of learning and education is to teach an individual to solve nonstandard problems, which require unconventional methods of approaching and this, in turn, supposes high level of intelligence and abilities to think independently. The main objective of any learning is to form student's intelligence and prepare the student to a certain intellectual (professional) activity. Intelligence cannot develop out of info-interaction. The analysis of subject-object relations show that this activity is based on the following circumstances. Cognition process occurs due to specific mechanism which is termed information interaction. Info-interaction is founded on subject-object relations established between the subject (teacher) and the object (student). Object's activity depends on subject's activity: the teacher may suppress student's cognitive interest or on the contrary, develop student's interest to the level when high intellectual abilities are formed. If there is a feedback channel from object to subject, it allows the subject to improve the object's learning-cognitive activity and create conditions for SDL.

When the conditions needed for SDL created, the most essential thing for the object is ability for self-direction, self-control, self-education and self-development. In this case, the student is transformed into a true subject of learning-cognitive activity; furthermore activity of the student's information interaction is considerably increasing. Only an active person proving to be an individual in learning and influencing on the whole learning process and on progress in learning may act as the subject of learning-cognitive activity.

One of the major problems for teachers is to create an educational environment that allows students to direct their own learning-cognitive activity (Garofalakis et al., 2002; Gick, Holyoak, 1987; Glaserfeld, 1989). Self-directed learning assumed particular importance at the time when on-line learning made its appearance (Evans and Sabry, 2003; Dearholf et al., 2004). According to the theory of self-directed learning, the student builds his/her own learning and cognitive activity within the framework of the model developed by the instructor (Petridis et al. 2003).

In e-learning information-educational environment acts as a tool of subject-object in-

formation interaction meant to form student's fund of knowledge – thesaurus, which is enriched during the life and is a basis of any kind of activity. An individual's ability to use accumulated knowledge in order to achieve a certain objective testifies to his/her intelligence. The student's information interaction with training material underlies formation of intelligence and knowledge, i.e. the student's thesaurus. Therefore it is very important to investigate axiological characteristics of e-learning environment.

In traditional interpretation the value means ability of an object and a thing to satisfy some requirements of an individual. The more the individual is satisfied, the higher the value is. Similar to this, the characteristic of information-educational environment allowing students to use this environment to achieve set objectives act as pedagogical value. It should be noticed that one and the same information-educational block can have different pedagogical value from the point of its use for various learning objectives.

Another axiological category, namely, pedagogical utility of teaching material is closely associated with the category of pedagogical value. Pedagogical value is a more general characteristic than pedagogical utility. There are two categories of value: potential and actual. It is possible to notice that pedagogical utility is a actual pedagogical value. In other words, the information, which is useful to achieve a learning outcome, is of actual value.

It is necessary to understand clearly that the degree of actualization of pedagogical value depends on a number of factors and personal characteristics of the student, i.e. the object of information interaction. The larger fund of knowledge and the more complex thesaurus the student possesses, the more successfully the student applies the information received in order to achieve a learning objective or, in other words, the more useful this information is for the student.

The pedagogic value of information-educational environment is not an invariant axiological category. Horizontal and vertical alterations are typical of information-educational environment. Horizontal alterations mean that pedagogic value of information-educational environment is acknowledged not only by individuals or small social groups, who benefit a lot from the teaching material, but by the general pedagogic public and many students. Vertical alterations of this category lead to increase or decrease of pedagogic value of information materials. Upward motion has a subjunctive meaning and relates to the information updating by the doer and downward motion has an imperative meaning and relates to the process

when the information becomes outdated and where the most destructive factor is time. In the system of distance learning and e-learning pedagogic value of teaching material is influenced by the character and means of subject-object information interaction. First of all, it is interaction among the teacher (tutor) and the student, between separate students and student groups. It is also interaction with e-teaching material. For this, e-teaching material should be «tuned» to a uninterrupted «dialogue» with the student. The more opportunities the student has to direct his/her process of cognition by interactive means, the higher the actualization degree of pedagogical value of teaching material is. In other words, pedagogical value of teaching material is becoming high. There are two types of interaction. They are direct interaction on the object of learning process when the teacher conveys information to the student, and indirect interaction when information is conveyed and apprehended without the teacher. In any type of interaction the main factor is to establish feedback. Feedback allows revealing the student's reaction to provided information and to use it in order to improve learning process. Availability of feedback makes the process of information interaction among the subject and the object synchronous. The delay in feedback results in asynchronous interaction. The examples of synchronous direct interaction are participation in chats, videoconferences and the examples of synchronous indirect interaction are instant evaluation of students' answers to the tests by teaching machines and instant reactions of teaching simulators to the alterations entered by students. Asynchronous information interaction occurs, for example, in the form of participation in Web-forums, disputes in discussion rooms. Whatever high pedagogical value the e-textbook has been provided with, the most important factor in distance learning is to transfer information. When the information flow is reduced during transmission, information interaction can be diminished, therefore, pedagogical value of teaching material can be decreased.

Various information barriers or info-barriers impede travel and perception of information flows. In information theory this term is used to denote the range of objective and subjective factors, which influence on the process of information transferring to the object of interaction. It is clear that info-barriers diminish potential value of teaching material. A short description of some info-barriers is cited below.

One can speak of geographical and technical info-barriers, which lead to weak interaction and hence decrease of teaching materials' value because of remote location of towns and lack of proper facilities. Thesaurus info-barrier has

been also mentioned, when available fund of knowledge is not enough to understand teaching material. Terminological (language) barrier takes place, if the terms used in the textbook are not clear and unknown for the information user. Some of psychological and communication info-barriers are associated with mistrust to new methods and technologies of training, and with special perception of nonverbal methods of training. There is a whole range of situational info-barriers, which happen in concrete situations, for example, when the amount of information does not correspond to the time that the object of information interaction has. There is a considerable amount of other information barriers that occur while learning in electronic environment. The objective of info-barriers analysis and search of ways how to overcome or eliminate them is very important because it is related to the increase of pedagogical value of electronic educational environment.

In e-learning, distance learning and m-learning students received psychological support from their communication activity. Being isolated from the educational institution and lacking constant communication with teachers and students, the student may experience psychological discomfort, and suffer from isolation and neglect in comparison with other students. Therefore, for these types of learning it is very important to set up constant contacts of students with the administration of the educational institution, teachers and colleagues, who are geographically isolated. Such communication contacts allow teachers to answer students' questions promptly, to identify difficulties that students face with, and render them assistance by making an impression of constant communication among individuals and geographically isolated groups. For students these communication contacts enable to compare their progress in learning with the progress of other students and to render mutual assistance.

In human communication personality plays a very important role. For many students the personality of the teacher determines their attitude to the subject they learn. Participants of interpersonal communication influence on each other through facial expressions, gestures and voice timbres. Nonverbal communication increases the efficiency of communication process. When shifting to new types of learning, it is necessary to take measures compensating the lack of interpersonal communication. Educational process should be considered as interpersonal and dialogue interaction in «teacher-student» and «student-student» systems aimed at formation of theoretical and practical thinking and development of the personality of a future specialist. Dialogue lay the foundation of educational process by turning it into a mutual

cooperation favoring the mutual development of all participants involved in this process.

The lack of communication activity in learning may result in several problems: lack of interpersonal contacts among the participants of learning process; inability to create favorable psychological climate and comfort conditions for learning; lack of efficient control for students' mastering the content of learning, inability to organize students to work at teaching material in a team; inadequate perception and interpretation of teaching materials; interest decrease in learning up to a complete vanishing of motivation to learn through new technologies.

Via the Internet communication means various kinds of electronic communication can be organized. They are informing of students (bulletin board, student portfolio, visit cards); individual and group consultations for students (e-mail, mailing lists, news group, audio- and video conferences, forums, chats); electronic workshops (mailing lists, group news, chats, e-conferences, forums); teamwork in small groups (forums, whiteboard); student mutual help (e-mail, mailing lists, news group, conferences, forums, chats); monitoring of student's progress (e-mail, chats).

In order to organize efficient distance learning via the Internet one should take into account characteristics of telecommunication environment and human behavioral features in this environment. New communication environment creates new learning situations and new learning relations (Chou, 2003; Regueras et al., 2009).

The authors of this paper explore alterations in subject – object relations between a teacher and a student in new educational paradigm when students direct their own learning-cognitive activity (Kruk B. et al., 2010). Here with the student is transformed from an object of the teacher's influence to a true subject of learning-cognitive activity. When implementing new pedagogical technologies such as distance-learning, e-learning and m-learning, one of the major problems for teachers is to create educational environment that allows students to direct their own learning-cognitive activity.

The network educational communication is effective as it is based on a subject-subject

model, where mutual interaction of subjects takes part. The arrangement of effective education in new educational environment requires considering characteristics of this environment as well as behavior of a person in this environment. New educational environment brings about new learning situations and relations.

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## SIGNIFICANCE AND PROBLEMS OF FORMATION OF PSYCHOLOGICAL AND PEDAGOGICAL COMPETENCE OF THE TEACHER OF MEDICAL INSTITUTIONS OF HIGHER EDUCATION TO IMPROVE THE TRAINING OF FUTURE SPECIALISTS

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Shows the importance of psychological and pedagogical competence of teachers in the context of the requirements of the society for medical education and training of future physicians. In the structure of the professional competence of teachers of high school selected and analysed psycho-pedagogical competence as its integral part. Reviewed the contents of the competence and structure of professional competence of University lecturer. All kinds of competence together with the psychological knowledge of the structure of professional competence are considered essential to enhance the professionalism of teachers and high school.

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**Keywords:** higher medical educational establishment, teacher, psychologo-pedagogical skills

The modern stage of development of the society and the socio-economic transformation, the development of information and communication technologies, education oriented to the humanities are characterized by rapid modernization in higher education. Innovative in training qualified competitive specialists is a strategic direction of higher vocational education. The system of medical education, is one of the most conservative areas of human activities, however, should reflect, maintain and provide modern requirements. The modern system of preparation of specialists in the Medical University is carried out with the basics of traditional or classical approach, which includes a description of the basic concepts of medicine, biology and other specific techniques [7]. In the traditional approach to organizing higher medical education based on an explanatory-illustrative and telling cognitive-centered principles. The teacher plays the role of an active participant in the educational process: he structures the content of discipline, explains, illustrates, demonstrates the challenge of making all students memorize. As a result of such training when controlling knowledge (test test) the student reproduces information by subject, which it introduced 'teacher. Junior courses in the basic training of the student-focused learning quite a lot of information that is repetitive. The information is not carried out through student activities: analysis of the phenomena of the professional activities, etc. [3, 9].

However, teaching at the medical school, compared to others, has a number of features. The doctor's training involves not only mastering the students information knowledge, but also the formation of medical thinking, which is achieved through the formation of general cultural and professional competences. And it is critical to build predictive clinical thinking doctor, starting with the first course, when medical students first encounter with sick and the foundations of medical practice.

The current level of development of medical science and practice places high demands medi-

cal graduates by degree of mastery of practical skills, ability to quickly navigate the complex clinical situations. The system of higher medical education is designed to prepare young professionals with a high level of theoretical training for its medical specialty, able to respond quickly and effectively to the latest achievements of medical science with a wide spectrum of clinical thinking and skills of epidemiologic assessment of the situation, ready to introduce new technologies in practical health care. As a basic component of the educational system of medical institutions of higher education includes a detailed model of doctor-specialist with reflection needed for a level of business and personal qualities, knowledge and skills. In this regard, the educational process in the University provides for the gradual and progressive mastery of each student's knowledge at the theoretical and practical level, with mandatory implementation of features such as personality and, of course, the development of intellectual abilities that define an individual way of thinking conducive to the self-development of personality.

Statement of the problem of teacher's psychological-pedagogical competence of medical educational institution is analysing the requirements for health education society, produced by professionals and, consequently, to the teacher; features of student training as future specialists in the field of public health [10]. Main contents of psychological and pedagogical competence lies in the unity of the psycho-pedagogical knowledge, skills, and qualities of a teacher, to effectively implement the pedagogical activity, pedagogical communication processes organized purposefully and with personal development, self-education, improving teacher performance and personality.

Professional competence: the ability and willingness of an act in a professional situation appropriate, correctly, that is, independently and effectively solve tasks on the basis of knowledge and experience, as well as using

your own ideas, evaluate solutions and streamline its activities. Professional competence: includes components of professional, personal and social competence [4, 5].

The notion of «professional competence» over the past 40 years has developed into a global integrated understanding of specialized knowledge, practical skills, clinical experience in everyday practice in the interests of serving the people and society [2]. In this regard, the strategic direction in the preparation of qualified competitive specialists is to acquire professional skills. The knowledge and skills for teachers – original (base), for a student-learning products [9]. Typically, this learning in senior high school courses and the subsequent form of postgraduate education (internship and residency). Here the primary role in the formation of a specialist teacher of his personality plays a psycho-pedagogical competence and medical professionalism. Instructor-medical complex combines two types of activities: medical and teaching. And how to combine and to really bring these two sides of the professional activities of a teacher of medical institutions of higher education, will depend on the quality of the report prepared by the specialist.

The analysis of the teacher-doctor identified several parties in this dynamic multilevel process that are always present in the good teacher – doctor and to foster all intending to teach in medical school [7]:

- medical activities-awareness of all components and methods of these activities
- medical activities of teacher reflection in managed learning organizations-understanding of all the prerequisites for the successful implementation of these activities
- pedagogical reflexion-use patterns of mežutočnogo interaction, awareness of all these patterns.

At the present stage in the preparation of highly qualified specialists – doctors combination plays a significant role of major training components: psycho-pedagogical competence, doctor's professionalism as a teacher and the use of innovative teaching technologies. Properly formulated teacher stages diagnostic search open information, training of clinical tasks for the discipline during the practical exercises-lets discuss all diagnostic options offered students search, show correct and incorrect ways to develop abstract thinking and clinical.

But the clinical education is a special area where transmission and reproduction occur not only knowledge and clinical skills, but above all practical abilities and skills. As a possible innovative educational technologies can be used successfully proven the «case method» – to check the degree of practical skills, «business game» and «Standardized patient»

– which gives students an opportunity to work out the psychological basis of doctor-patient interaction [8]. And, of course, virtual technology (trained at the ISS, mulážah and simullácionnyh machines), which in medical science, practice, and education are one of the most sought-after and actively developing direction in international medicine [1].

Thanks to the use of this method in teaching of practical skills: you can simulate the clinical situation as close to the real but safe for patients; professional activity can be repeated on several occasions to develop skills and eliminate errors; the conditions are being created to develop and maintain the skills of professional action in rare situations required by each doctor (cardio-pulmonary resuscitation) [6].

Application of the successive stages in the process of learning to obtain theoretical knowledge and practical skills pins forms of occupational competence and professional specialist-medica, allows you to define the priority of individual approach in teaching physician clinician. Information-educational technologies are an important tool in training highly-qualified specialists in the sphere of medicine and increase the motivation of teachers to greater psychological and pedagogical competence in their professional activities.

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*Materials of Conferences***PERSONALITY OF A NEW TYPE  
OF TEACHER EDUCATION IN MODERN**

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Presents pedagogical competencies of the teacher at this stage of education. Author based on the requirements of modern concepts of education, defining active approach in training and education. Based on the structure of pedagogical activity, principles of developmental and personality-Oriented training, theoretical and pedagogical foundations of working with children in today identified the basic requirements for professional qualifications of the teacher. Characteristics of the teacher is given from the standpoint of the psychological structure of the individual and the structure of educational activities. Psychological structure of the individual defines the general requirements to the teacher, his psycho-pedagogical orientation, expressed in love for the child, the relationship to him as a person.

Any educational system begins with the purpose of education certain type of person that meets the era. They determine how learning, serving as the primary means to implement them. It fixed the unity of content knowledge needed personality, and the method of presenting them. Lack of understanding of the symbiotic relationship between the content and teaching methods, attempts to define new knowledge without changing the form of education, or to introduce new methods without altering the content leads to deformation of the educational system, the loss of their targets. That way of learning determines the nature of professional educator, methods of preparation, sets new requirements for the teaching profession, the type of personality of the teacher. This determines the relationship between the nature of the teacher and the teaching of his personality traits.

In the concept of pre-primary education and primary education are clearly defined goals and objectives to prepare children for school and primary level of education in the general education program: the general, intellectual, and physical development of children, to ensure their readiness for learning, skills and abilities in the initial link of the school and into basic and higher. The training at all levels of education in secondary schools by the level of formation of the leading types of activities at each stage of personal development. For us, this game, and after it, and training activities. That is why the basis for updating the content of pre-primary education and primary education is the idea of the activ-

ity on the principles of developmental education, student-centered learning.

The new content of primary education and preschool education, the method of its implementation requires a new type of teacher who owns a fundamentally new educational technology, able to work in sub-standard conditions. Its main task is not to transfer knowledge to students, and the organization's own activities of students to master the methods of analysis and generalization of educational material. In addition, in the current conditions, a teacher, who owns the basics of scientific-pedagogical and methodological knowledge, capable of diagnosis and measurement of individual psychological and mental abilities of children, level of formation of the components play and learning activities, methods, and methods of organizing and developing student-centered learning.

Institutionalize educational institutions such as schools and kindergartens, active approach in training and education, has set before us the problem of professional competence of teachers in the new organization of educational activities.

Based on the structure of pedagogical activity, principles of developmental and personality-Oriented training, theoretical and pedagogical foundations of working with children in the present conditions, we determined the basic requirements for professional qualifications of the teacher.

A necessary condition is that the initial severity of the teacher personal principle. Personal principle is expressed in the presence of a broad, sustained interest in the world, the rejection of all forms of manipulation in relation to themselves and to others, require conscious organization behavior and the presence of the ideal. In addition, a new type of teacher should have a choice of perspective and immediate objectives, search activity, a creative approach to life. Creative approach to life forms, such as the quality of the teacher determination, integrity, courage. All this forms the basis of the nature of the teacher of a new type.

Psychological structure of the individual defines the general requirements to the teacher, his psycho-pedagogical orientation, expressed in love for the child, the relationship to him as a person.

The main characteristics of such a teacher qualifications are: the ability of the subject building in the form of educational tasks, carrying the conceptual content, knowledge of psycho-pedagogical patterns and mechanisms of an educational activity as a form of development of the child, possession of pedagogical methods to solve educational problems in the situation of a joint community activities .

In this regard, the most important professional qualities should include, such as: the ability and

need for reflection own academic work, empathy, a sense of humor (the ability to resolve conflicts nonviolently). The activities of the teacher should be built in the mode of self-development. In addition, the teacher must be of such a general teaching abilities, as a reflection, intuition, will. A new type of teacher – the owner of a number of special pedagogical tools: psychological knowledge about personality, mental processes and their relation to the type of personality, methods and forms of communication, knowledge and skills, providing management of the educational process, possession of theoretical knowledge of the subject areas. All this allows the teacher to easily build their teaching.

We have considered the model of the teacher of a new type. We must now turn to the characteristics of the organization of teaching in a new environment, what defined the vision of pre-primary education and primary education. With the activity approach in education and upbringing, we consider teaching career as a special form of management, in which addresses two related problems: ensuring development of the child, the constant self-change teacher's personality.

The main components of pedagogical activity:

1. Designing a self-developing educational system «teacher – a child», consisting of the selection and design of pedagogical tools: identification of subject content knowledge and its representation in the form of a hierarchy of educational and cognitive tasks, planning instructional decisions and cognitive tasks in accordance with the structure of play and learning activities, the development of methods ensure the educational process in the various forms of cooperation, and the description methods of control for play and learning activities for children and their evaluation.

2. Direct management of the development of children in the group (group / class), which requires constant change of positions of the teacher:

– holding gaming content and learning activities, fixed in the form of entertainment and educational objectives;

– providing organization of the instructional decisions and cognitive tasks in accordance with the laws of the deployment of psychological play and learning activities in its various forms: the presence of motivation, a complete analysis of the conditions, the adequacy of the model for the substantial relationship to the subject, the relevant inspection and evaluation of operations in solving particular problems found by the method solutions;

– implementation of subject content in the form of play and learning activities where the teacher selects and applies a specific instructional techniques to facilitate the implementation of various forms of play and learning activities, methods of fixing the results, reflection;

– self-organization of the teacher on the formation of play and learning activities, in which it carries out its activities and reflection based on it

decides on the choice of a particular position (pedagogical, psychological, methodological) in specific circumstances;

– establish not only the subject-subject and inter-personal relations. The implementation of this position requires the teacher to go beyond the game and training, to stop it, use other means of communication: the identification, empathy, etc.

3. Analysis of the results of the formation of educational activities and systems of knowledge, skills, comparing them with the program and its correction, during which fixed the error in the activity being investigated their cause (meaningful and substantive, psychological, methodological), summarizes new and unexpected experience, finds Children and their own insights, will inevitably arise during the creative process.

Thus, a new perspective on teaching activities and their own professional and personal qualities that require the formulation of new educational tasks. Only in this case, educational activities can have all the qualities of a self-developing system.

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#### MENTAL DEVELOPMENT AS A RESULT OF EDUCATIONAL ACTIVITIES

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Logicof analysis requires clarification in this regard and the general options of *pedagogical interpretation* of the concept «**mental development**». Integrity as a methodological principle of the present research makes it necessary to consider the category of «mental development» in the context of the category of «general development of the child».

**Fund of scientific knowledge allows us to regard the phenomenon of mental development rather *multilaterally*.**

Firstly, from the standpoint of the essence of mental development of younger pupils. Lead-

ing category of analysis is **thinking** here, which is regarded as a specific *human ability* (Rubinstein S.L., Brushlinskii A.V.), and as a **component of cognitive activity** (Davydov V.V., Galperin P. YA., Talyzina N.F., Shabelnikov V.K., J.A. Ponomarev and others.)

By S.L. Rubinstein's definition, mindset is a form of indirect knowledge, which, departing from a given explicitly known, defines what is given implicitly, that is given, is not known, performs during this process as desired [1]. This definition has become initial for subsequent research of the phenomenon of mind set.

Using observations V.A. Mazilova, the following characteristics of thinking as a scientific category:

- Thinking - a psychological process, which is a reflection of a generalized and indirect general and essential in reality;
- It performs a regulatory functioning relation to human behavior, as it is related with the formation of purposes, resources, programs of activities;
- It is also the property of complex functional systems prevailing in the brain (ie, of highly organized matter);
- it is – the process socially conditioned: methods and operations have social origin; thinking is impossible without the knowledge obtained in the course of human history, the social and intellectual purposes of human activity.

In our view, for research of mental development of children of primary school age, important to complement this characteristic of scientific conclusions about intimate connection of social and mental process that is caused by «...Self-seeking and open a substantially new» with the speech. The development of the speech is directly connected with the development of complex forms of mental activity, which provides mental activity (such as voluntary attention, active memory, volitional behavior). Understanding the phenomenon is also seen as a result of verbal activity. Hence, legitimate point of view that **this inseparable connection is the essence of thinking** [2].

Secondly. There aren't marked large differences in the understanding of the **functions** of thinking. All scientific schools recognize four basic functions: understanding, problems and tasks solving, goal formation, reflection. **Third.** Testing **critterion scale** of evaluation of the process of mental development of younger pupils needs clarification correlation concepts of «**thinking**» and «**intelligence**».

In the empirical consciousness and the practice of «**intelligence**» is identified with the concept of «mind» – the ability to see beyond the surface of events with their hidden identity and on this basis to provide a development and accordingly with that, build behavior. *In scientific practice was fixed psychological definition of intelligence as the ability of thinking, rational knowledge.*

By definition, William Stern, **intelligence** – is the ability to integrated **adapting** to changing circumstances. Definitions of other researchers can characterize it as a peculiar every one psychological **mechanism** that is permanent and is the **condition, the cause of acquisition, processing** of incoming information. This mechanism inherent *selectivity, consistent logical conclusions* (allocation of significant connections and relations hips between reality and make up), *constancy*.

As the characteristics of intelligence considering the qualities of judgment, memory, and imagination.

According to many researchers, **intelligence** is the quality of **talent**, so retains its value constant. Same mental development – is dynamic category. «Intelligence is easier to measure than to define» [3].

In connection with this latter aspect is important to note a large fund of scientific research, including basic, **in the aspect ratio of the concepts of «talent» and «creativity».**

Leading place is occupied the psychological principles of the creative development of children in the preschool and child in elementary school (Zaporozhets A.V., El'konin D.B., Davydov V.V. and others.), the principles of problem-based learning, implemented in schools and universities (Brushlinskii A. Kudryavtsev T.V., Lerner I.J., Makhmutov M.I.), the principles of developmental education (Davydov V.V. and others.)

Synthesis of ideas works by Leites N.S., Teplov B.M., Krutetskaya V.A., Ignatieff E.I., Golubeva E.A., Rusalova V.M., Ravitch-Scherbo I.V., Zaporozhtsa A.V., Podyakova N.N., Brushlinskii A.V., Kudryavtseva T.V., Berlayn J., Ponomarev Ya.A. was the concept of creative talent of A.M. Matyushkin. Author considers that the psychological structure of talent equal to the basic structural elements characterizing the creativity and creative development of people. Synthetic structure creative gifts by A.M. Matyushkin, consists of the following structural components: the dominant role of cognitive motivation, research of creative activity, the original possibility of achieving non-standard solutions, predictability and anticipation, the ability to create ideal reference, providing high aesthetic, moral, and intellectual assessment [5]. The concept justifies the dominating factor in the functioning of the creative person-personal, an indicator of which are the cognitive motivation and search and research activity.

Such an understanding of creative talent close enough individual provisions E.P. Torren saw houses the term «creativity». According to the researcher, the creativity – not special, and the total capacity, which is based on a constellation of general intelligence, personality and abilities to productive thinking. E. Torrance defines creativity in terms of characteristics of the process by which a person becomes susceptible to problems. Shortages or gaps in knowledge, to mix various information

to the disharmony of the environment. If you notice a lack of information or disharmony of its elements a person feel more tension, which causes these arch for ways to fainting. Creative solution to the problem lies in the fact that the person is trying to avoid common and obvious solutions, examines the problem of pushing a set of hypotheses, test their guess, until he finds the solution. The tension does not subside as long as the decision will not be reported to someone [6].

E. Torrens drew heavily in his work on the theory of divergent(creative) thinking J. Guilford, which determines the divergent thinking as a process of creating original and unusual ideas with a lot of variable a solution. Dzh. Gilford om introduced four properties of creative thinking: fluency – the ability to produce a large number of ideas, flexibility – the ability to use a variety of strategies to solve problems; originality – the ability to produce unusual, unconventional ideas, elaboration – the ability to elaborate the idea emerged [7]. To this list of E. Torrence adds three features: the adequacy of a resistance circuit, absurd name [7].

In the context of our research, the findings of the above works are interesting in their plane, which allows us to consider the process of mental development of the pupil as a preparation for further projection of human creativity, and not as a given level of his capabilities.

Pedagogical interpretation and pedagogical analysis of the category of «intelligence» on the deduce of its definition, such as «the ability to solve problems», «the processing of information», «the ability to learn and produce new knowledge», «the system of cognitive functions», «regulation of the factor». However, revealing the essence of one of the parties and describing only part of the whole, they do not become effective methodological «tool» for the design and implementation of specific technologies in teaching.

Long-term observations of the present research allow the author to re at intelligence as a specific form of organization of individual mental experience, which provides the efficiency of perception, understanding and explaining the situation.

In the broad sense of the word «mentality» is a kind of genetic code of the society, people, humanity, predicting the course of history [8]. In the philosophical and methodological point of view, the mentality is the form and method of reflection of what is happening, which is a reaction or reflection of consciousness, expressed in behavior. Mentality based on a system of certain philosophical principles, retaining the values that have developed in life, in the mentality of the people and (or) hailed as the norm [9].

Hence, *them ental (individual) experience is a kind of dimensionless base (kind of filter selection) of human's relationship to the world, which defines the methodology of the algorithm of his activities.*

National education is closely connected with identity, self – determination rights in respect of social communities, types of culture, values. The concept of identity is currently working in sociology, philosophy, psychology and pedagogy. Ethno sociologist emphasize that identifications the real mechanisms of self-awareness by members of some communities [10].

In our view, it is a mental experience maybe necessary parts of the whole teacher connecting formed by teaching process qualities and properties of the individual, in this case, intelligence.

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#### MODERN TECHNOLOGY IN THE PREPARATION OF STUDENTS IN PEDAGOGICAL INSTITUTES

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The methods of learning that promote enhanced learning and cognitive activity of students, encouraging them to highly active thinking and practice in the process of mastering the material. The author has shown the interaction teachers and students through the use of interactive methods. The practical techniques used by the teacher in training primary school teachers.

Currently, the concept of transition to tiered system of higher education involves the introduction of interactive technologies in the educational process, and contemporary state standards of higher

education regulatory regulate the amount of time of classes conducted in an interactive way. In this regard, the use of interactive and information technology in training primary education relevant in the present.

High school teacher should know and understand the basic directions and trends in interactive technologies, techniques, methods and technologies of training with the extensive use of new interactive information and communication technologies. The use of interactive technologies in the educational process radically changes the nature of the learning process of students: students increases perception of materials disciplines, improve learning outcomes due to the higher degree of learning.

The term «interactive technology» can be considered in two senses: technology, built on the interaction with a computer and using a computer and organized direct interaction between students and the instructor without a computer.

Interactive teaching methods – is ways to improve learning and cognitive activity of students, encouraging them to highly active thinking and practice in the process of mastering the material, when it is in not only the teacher but also the students. Stimulated the interest of students in the acquisition of knowledge, creative approach to learning, active perception and assimilation of information, development of skills and abilities of professional activity. Educational games are high among modern psychological and educational technology in the development of students the fundamental psychological and pedagogical disciplines. They are a powerful technologies, which are used both in training and in many areas of practice. Games help enhance the learning process, the awakening of creativity, allow us to find solutions to problems that occur often in life, to create an open atmosphere of communication. Based on the methods, goals and features of educational games are several varieties. Simulations are used in vocational training in the formation of certain skills. In the story-based role-playing games is a specific situation – school, life, business, or other. The main difference of innovative games from other types is that they are mobile and structure of the game in several developing teaching-spaces (using software). These games are intended to provide a qualitatively new knowledge using the latest teaching and information technology.

For the preparation of the business game can use all teaching methods: explanatory and illustrative, reproductive, problem description, partial search, research. It should also keep the methodological requirements – the game should be a logical continuation and completion of specific theoretical topics (section) discipline, practical complement of the discipline as a whole. Needed as close to real professional conditions and an atmosphere of search and ease, careful preparation of educational and training material. Important explicit tasks, con-

ditions and rules of the game and to identify possible solutions to this problem, the presence of the necessary equipment.

In addition, we in the preparation of primary school teachers, the following methods and techniques:

- for interactive lectures, namely the use of the «question-answer» while working with the students during lectures, conducting short presentations prepared by the students, which would disclose one of the issues raised in this thread, testing,

- introduction in practical lessons such forms of work as a «round table», «shop», where students in the discussion to solve important problems of specialization based on their own separate developments, holding debates, discussions and analysis of teaching situations;

- transform students' independent work, the performance of individual research assignments as a compulsory part of the study of a particular subject;

- use in class presentations, publications, websites, prepared by students according to BAT;

- use in the educational process of higher education and the role of business games, case method, «brainstorming» that promote activity, creativity, and creativity of the teacher;

- master classes, training sessions, contributing to the formation of professional competence of primary school teachers;

- widespread use of multimedia in lectures and workshops, and various types of electronic reference lecture notes, provide students with educational information on electronic media, Internet search, and the like;

- use of elements of imitation, reflection, relaxation, in separate workshops;

- new approaches to monitoring and evaluation of student achievement that provide objectivity and reliability.

In the process of training primary school teachers are: enhancing students' cognitive activity, motivating and stimulating future professionals teaching areas to the learning activities, modeling of future specialist professional skills, the ability to develop their personal and professional qualities, providing opportunities for lifelong learning, the formation of occupational mobility, competence and competitiveness primary school teachers in the labor market.

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**FOCUS AS ONE OF FACTORS  
TO INCREASE OF TRAINING  
EFFECTIVENESS OF STUDENTS  
ON DERMATOVENEROLOGY'S CYCLE**

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The main task of health care system is further improvement of rendering of medical care to the population. It can be possible only under condition of increase of standards of learning of medical students.

Focus of educational process on a cycle of a dermatovenerology is one of the main conditions of receiving by students of profound and strong knowledge. Training of students is considerably limited in time. For this short period students should teach completely special knowledge and practical skills of the general dermatology: principles of inspection of the patient with skin and venereal diseases; main patomorfology changes in cells of epidermis, dermis and hypoderms; elements of rashes; general principles of patients treatment; and also to have training on diagnostics, clinical current, differential diagnostics and principles of treatment of skin and venereal diseases. After finish of the cycle students, according to conditions of Bolonsky system of training, must pass successfully of test control, which is check of quality the received knowledge and practical skills. Such technique of carrying out occupations on a cycle of a dermatovenerology promotes improvement of preparation not only future doctors dermatovenerologists of practical health care, but also to expansion of knowledge and practical skills of future doctors of any another specialties. During training students broaden own medical outlook, study a creative approach to the future profession of the doctor of practical health care, receive practical skills which are necessary for independent improvement of the knowledge in the future. They form bases of creative educational activity, elements of a scientific approach to training. As the result, students is forms very responsible relation to training and requirement to continuous improvement of the professional knowledge and practical skills, which will be necessary in everyday activity of doctors of practical health care.

Successful use of such informative training of students and successful pass of modular control by students becomes possible only under condition of purposeful implementation of all requirements of the educational program. For the solution of a task on training of future doctors of practical health care, higher educational institutions hold events for improvement of educational programs for training in student's audiences and independent training, optimization of the organisation of educational process, communication strengthening between Higher education institutions and establishments of practical health care. Focus is one of the main conditions

of improvement of quality of training of specialists with the higher medical education at the expense of more complete and deep assimilation of the main knowledge by them and practical skills, for successful mastering all complex of training, organizational and methodical events in the course of training and implementation of curricula exists with which.

During a cycle of a dermatovenerology, students receive basic knowledge and the practical skills, which will be necessary for further work as the doctor of practical health care, seize skills and methods of performance of scientific and practical and research works, develop abilities to the scientific analysis. Focus is the main point for successful performance of all these kinds of activity. Only under condition of active, creative and purposeful involvement future doctors of practical health care can realize themselves most fully. The purposeful, active involvement of students during training will allow to solve successfully professional, practical and scientific problems in the future work. Only active and purposeful studying of new knowledge and professional skills guarantees successful performance of the main task – effectively to render medical care to the population during the daily professional activity in medical institutions.

Training of students is subordinated to a main goal: to improvement of vocational training of future doctors of practical health care, successful receive them knowledge and practical skills which will be necessary in further work. The extensive experience of training of specialists with the higher medical education therefore it is necessary to comprehend and estimate problems of an intensification of training of students more fully is now stored. Now, more than ever earlier, focus and an intensification of process of training is actual.

Thus, training starts to turn into special purposeful activity, becomes more difficult and deep, becomes analyzing, difirensirovanny and organized. Development of focus does not occur in itself. In it the teacher who will specially organize activity of students has great value, directs training process, points to sequence of carried-out actions, teaches students to the system analysis. Work of the teacher is carried out during all training: in educational classrooms, during carrying out scientific conferences, during survey of patients.

Training of students is the creative process directed on an intensification of receiving new knowledge and practical abilities, and studying of a dermatovenerology is one of parts of this process. Focus is only of the main conditions of receiving profound and strong professional knowledge. Learning efficiency and interest of students to new knowledge depends on focus in training.

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### THE TEACHERS' PEDAGOGICAL SKILL INCREASE, HAVING WORKED WITH THE GIFTED CHILDREN, ON THE BASIS OF THE INFORMATION TECHNOLOGIES

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The education, in today's world, is the strategic sector, the investments in which are the most profitable investments, since they are formed the future society's social capital. The XXI – st century society is characterized by the intellectual culture, which will be characterized by the various sciences' integration, by the universal informatization and the further computerization, and by the humanitarian control. Thus, the strategic goal for Kazakhstan, in this direction, is suggested by the Republic's President of N.A. Nazarbaev, the «Intelligent Nation – 2,020» project, having aimed to be formed the leaders' core in the society with the creative values, who are able to lead all the rest behind themselves. This project is focused on the further development of the Kazakhstan own guidelines, on the ethical standards, on the national idea of the education and the culture building.

So, the leading role, in this process, is given to the general secondary education system development. The priority, here, is to be achieved the high level development of the students' abilities, to be identified their giftedness and talents, and the cognitive processes development, having provided the decent competition in the labor market.

The special role in the identification and the further development process of the gifted children is practically given to the teacher. So, the State Program of the Kazakhstan Republic (KR) to be supported the «Daryn» young talents has already been developed for the work system implementation with the gifted children in Kazakhstan. The main Program's purpose is: the basic search strategies definition, the education and the training of the gifted children and the youth; the support and the development of the single and the continuous process of the intellectual potential formation of the Republic of Kazakhstan (RK); the socio – cultural formation promotion of the talented the gifted youth.

Unfortunately, as it has been shown the carried out analysis by us, more than 70% of the interviewed teachers have usually many difficulties with the gifted students' work organization. So, the information exchanging possibilities, on the internal developments of the full time conferences and the workshops are limited, both as temporary, well as the material costs, and they cannot adequately be met the teachers' occupational needs. Mostly, the school teachers have to be developed the special programs, the courses, the subject's methods of the teaching under the conditions in the absence of the necessary information and the data on the created, in this direction, the resources, and the developments.

The telecommunications can be the means for the above – listed challenges solving, with their help at the disposal of the educational community are acted, as the powerful means of the communication and the information receiving, as the teleconferences, the newsgroups, the mailing lists, the searching systems, the directories and the catalogues of the resources.

In this regard, the «Daryn» Eastern – Kazakhstan Scientific – Practical Center one of the significant its work's tasks has already identified the development of the continuing education and the advanced training system of the teachers in the course of the children's giftedness and the talent development. So, we have already implemented the following work's activities: the distance course «The Children's Gifts» content for the school children has been developed and approved; the theoretical and practical conferences' carrying out for them; «The Summer School for the teachers, having worked with the gifted children», the «Gifted Teacher – Gifted Student» competition, the round tables on the challenges of the psycho – pedagogical support of the gifted children education, the innovative – pedagogical ideas festival and etc. The information «Internet – System» has been created, which is designed to be the tool to be sought, the information receive and exchange, the interaction, the various aspects of the working discussion with the gifted children, and it, moreover, is designed for the teachers, the trainers, the administrators of the educational Institutions, the parents and the children. This database is practically allowed to be raised the teachers', the trainers' awareness, it is made it possible to receive the quick and the efficient search for the necessary information of interest, it is given the opportunity to be presented the community the teachers' achievements in the field of working with the gifted children.

Thus, the developed information system – this is:

- the information – methodological expertise bank of the Institutions, having worked with gifted children;

- the tool of the teacher's work, as the means for the communication with the colleagues, the experiences exchange, the done work analysis and the comparison with the existing developments in the given area.

So, the information system is allowed to be made the various types of the educational Institutions coordination, to be built the database of the program – methodological software.

The main elements of the system are the following: the structured directory and the catalogue of the organizations and the programs on the work with the gifted children, with the opportunities of the searchable information; the information site (e.g. it is contained the news, and the interesting facts on the working with the gifted children; it is offered the overview of the new literature on the challenge, the necessary information on the Olym-

piads, the competitions, and the contests, the corresponding list of the conferences and the seminars on the gifted children challenges and the others); the forum on the working with the gifted children, is designed for the specialists and the experts of the educational Institutions and the professional educators and the administrators. Thus, the information system, having designed for the different categories of the users – for the teachers and the administrators, is practically provided the following opportunities features:

- the directory and the catalogue of the educational programs;
- taking their part in the «Internet – forums» on the giftedness challenges;
- the jointed creative activity possibility;
- the quick and the efficient information exchange.

For the youth and the parents:

- the information about the ongoing events in the Eastern Kazakhstan and the various programs implementation progress;
- the experts' advices and the specialists' consultations.

Thus, the information «Internet – System» is presented the promising tool for the single repository of the information organization on the working with the gifted children.

Let us consider, in detail, the main sections' content of the «Children Gifts» course (see, the Table).

The main aim of the course is to be developed at the teachers' conceptions understanding formation of the psychological and pedagogical essence of the giftedness phenomenon, the psychological

characteristic features of the gifted individual and the peculiarities of the gifted person, the detection and the identification methods of the gifted children, the giftedness formation mechanisms.

So, the distance course main objectives are the following: the teachers' familiarization with the theoretical and the methodological foundations and the endowments structure, the psychological and pedagogical approaches to the giftedness study; the familiarization with the study methods of the gifted person, the techniques, the approaches and the technologies of the talent development.

At the selection and the organization of the teaching material's content for the course, we were guided by the following principles: the humanization of the education, the scientific character, the systemacy, the content integration, the modularity, and the didactic units' enlargement.

As a result of the training in this discipline, the teacher should the following: to know the basic categories, the object, the subject of the studied discipline, the basic concepts, having related to the giftedness challenge, the basic theories, having explained the giftedness formation mechanisms, the factors, having influenced upon its further development. To be able to orientate oneself in the theoretical and methodological, and the practical aspects of the giftedness, to have the methods of the diagnostics, the gifted person's identification, the techniques of the psychological and pedagogical support of its further development. To possess the conceptual apparatus of the given discipline, the holistic view on the regulations and the laws of the social – pedagogical processes.

The Educational–Thematic Plan of the «Children's Talents» Special Course

| Number | The Course Content   | Lectures  | Practical Training |
|--------|--|-----------|--------------------|
| 1      | The essential characteristic of the «Children's Gifts» concept         | 4         | 2                  |
| 2      | The types of the children's talents                                    | 4         | 2                  |
| 3      | The features of the cognitive areas development of the gifted children | 4         | 2                  |
| 4      | The crises of the children's talents                                   | 4         | 2                  |
| 5      | The personality development features of the gifted children            | 4         | 2                  |
| 6      | The challenges of the gifted children education                        | 4         | 2                  |
| 7      | The children's talents diagnostics                                     | 4         | 2                  |
| 8      | The content and work's forms with the gifted children                  |           | 2                  |
| 9      | The organization of the schoolchildren's research work                 | 4         | 2                  |
| 10     | The design techniques use in working with the gifted children          | 4         | 2                  |
|        | The teachers' interaction with the gifted children                     | 4         | 2                  |
|        | The work organization with the gifted schoolchildren's parents         | 4         | 2                  |
|        | <b>Total: 72 hours</b>   | <b>48</b> | <b>24</b>          |

So, it has been revealed the main essence of the concepts, such as: «the genius», «the talent», «the abilities», «the gifts», «the gifted children», in the first section, «The Essential Characteristic of the «Children's Gifts»» concept. The giftedness characteristics have been singled out, having covered

the two aspects of the gifted child's behavior: the instrumental one, having characterized his activity's methods, and also the motivation one, having regarded the child's relationship to that or another particular side of his reality, as well as his activity. So, the main focus of the material given at its presen-

tation is practically given to the giftedness modern concepts: «The Intellect Structure» by J. Guilford; «The Physical Intelligence» by Gallon, G. Doman, V.V. Klimenko, A. Thomas, the model of giftedness by J. Renzulli, the Munich model of giftedness by K. Heller. The special emphasis has been placed on «The Working Concept of Giftedness», having been developed by the Russian researches D.B. Bogoyavlenskaya and V.D. Shadrikov, the theoretical and the practical activities' content on the talents' identification and the development has been made in the A.E. Savenkov's researches.

Then, the criteria for the giftedness types' identifying have been disclosed in the second section, «The Types of the Children's Talents»: the type of the activities, and having ensured its spheres of the mind; the degree of the formation; the forms of the manifestations; the manifestations width in the various types of the activities; especially, the age – related development special features and their peculiarities. The opened and the hidden talents. The actual and the potential talents. The general and the special, the early and the late endowment. The uneven mental development.

The individual's talents structure has been given, in detail, in the third section «The Features of the Cognitive Areas Development of the Gifted Children», the intelligence characteristics, as the giftedness component has been also described there. The creativity, as the talents component, and the spirituality, as the backbone factor of the endowments have been considered, in detail. The essence of the self – the concept of the gifted child has been discovered. The specific character traits and their peculiarities of the gifted children have been shown. Moreover, the gifted children's intelligence (e.g. the model by Kholodnaya M.A.), the creativity and the talents, the spirituality and the giftedness communications have been disclosed. The particular attention has been paid to the cognitive areas characteristics of the gifted child, in particular, such as: the curiosity, the inquisitiveness, the cognitive needs; the super sensitivity to the challenges; the tendency to the challenges of the divergent type; the originality of the thought, the flexibility of the thought, the easiness of the ideas generation (e.g. «the productive thinking»), the easiness of the association, the ability for the forecasting, the high level concentration of the attention, the great memory, the ability for the estimation.

The information, having contained in the following section, «The Crises of the Children's Talents», the giftedness disappearance types have been given: the creative potential loss – the creativity crisis: the intellectual activity and the productivity decline – the intelligence crisis; the reduction or the complete loss of the interest in the process and the results of their work, the specific features and the peculiarities of all these types and the possible options of their prevention have been described there.

So, the following section, «The Personality Development Features of the Gifted Children», has

been acquainted the teachers with the specific characteristics of the psychosocial development of the gifted ones, which are expressed in the ability to the self – actualization, the perfectionism, the social autonomy, the self – centeredness, the striving to the leadership and the competitiveness. The specific features and the peculiarities of the gifted child's emotional development have been given: the increased vulnerability, the over sensibility, the ability to be captured something that has not been seen by the others, and etc.

In the following section, «The challenges of the Gifted Children Education», the teachers have been introduced to the development main directions of the education content of the gifted children (e.g. the acceleration strategy, the problematization strategy, the thinking training, the research learning, etc.), with the basic principles of the working with the gifted ones, such as: the humanization, the democratization, the poly–subjectiveness, the variability, the individualization, and the differentiation. So, in the section, «The Children's Talents Diagnostics» the diagnostics has been revealed, as the multi – leveled system, the various organizational and pedagogical diagnostic models have been characterized, and also the diagnostic psychometric level has been shown. So, the basic methods of the intellectual giftedness studying and the individual endowments psychological characteristics, the gifted children's identification and their education have been given. The comparative analysis of the existing programs to be identified the gifted children in the foreign countries has been given, it, moreover, has been shown, how the identification programs are being developed of the gifted children in Russia, as well as in Kazakhstan. So, the special attention in the content of this section has been given to the methods of studying characteristic of the gifted children, in particular: the methods of the intelligence studying (e.g. D. Veksler, R. Kettell, R. Amthauer); the methods of the creativity studying (e.g. E.P. Torrans, J. Gilford, R. Sternberg); the methods of the spirituality studying; the methods of the person socialization; the methods of the work products analysis, the methods of the individual emotional state diagnostics (e.g. the test of the color choices by M. Lyusher, the methods of the person psychological portrait studying, by means of the factor personality questionnaire by R. Kettell.

In the following section, «The Content and Work's Forms with the Gifted Children», the «horizontal and the vertical enrichment» models of the educational content have been described, the personality forecasting development challenges of the gifted child have been considered. The characteristic of the development modern social situation has been given; the culture influence on the gifted personality development has been shown. The gifted individual's mentality, under the youth subculture conditions. The socialization challenges of the gift-

ed child. The relationships with the peers, the parents, and the teachers.

In the following section, «The Organization of the Schoolchildren's Research Work», the essence of the scientific cognition and the research activity has been discovered. The components of the schoolchildren's research culture have been singled out (e.g. the thinking skills and the abilities, the skills and the abilities working with the book and with the other sources of the information, the skills and the abilities, having associated with the speech and the writing culture, the special and the specific research skills and the abilities. The main stages of the research activities have been characterized by us: the preparatory one, the stage of the theoretical and the empirical researches carrying out, the work on the manuscript, the implementation stage.

So, in the following section, «The Design Techniques Use in Working with the Gifted Children», the technique for the design activities has been disclosed, the main types have been described, and the brief description of the design methods has been given, and their possibilities to work with the gifted schoolchildren have been shown.

In the following section, «The Teachers' Interaction with the Gifted Children», the general approaches to the occupational and the vocational competence of the teacher have been disclosed, and the specific features and the peculiarities of the teacher's work process with the gifted schoolchildren have been shown, the staff's collective impact on the gifted child's development has been revealed, the interaction challenges of the gifted child with the personnel have been found out. The specific features and the peculiarities of the gifted children to the social adaptation have been shown.

In the following section, «The Work Organization with the Gifted Schoolchildren's Parents» the challenges in the modern family functioning have been identified; the family influence on the gifted child's development has been shown. The specific features and the peculiarities of the gifted children's family education have been disclosed. Thus, the four basic directions, in which the work must be conducted with the gifted children's parents, have been discovered: the psychological support to the gifted child's family; the information environment creation for the parents; the jointed practical work organization of the gifted child and his parents; the support and the encouragement of the parents at the school level.

Thus, each above – mentioned section is consisted of the several types of the tasks, as the reproductive character, well as the creative one. Upon the final completion of the course, the teachers usually perform the final testing.

According to the before – developed regulation, and the existing situation, the participants of the distance course can be able to become all the interested education workers:

- the Managers of the education Institutions;
- the Methodists of the city (e.g. the district) departments of education;
- the teachers of the secondary schools;
- the pre – school Institutions teachers, the professional and the technical, the higher, and the further additional education.

Thus, the main requirements for the participants are quite simple – the computer skills at the user level, the ability to work in the «Microsoft Word», and the «Internet» programs, the computer availability with the «Internet» connection. In accordance with the receipt of the applications, the participants' list of the distance seminar is being formed. At the end, the login and the password, having required for the entry into the distance learning system, which will be sent to the e – mail participants' addresses, having indicated in the applications, are practically determined for the distance learning each participant by the Organizing Committee.

The participants' education of the distance learning course is practically conducted through the educational website of the «Daryn» Eastern – Kazakhstan regional Scientific and Practical Center – <http://shygysdaryny.kz>.

For the training, it is necessary to have and to pass the compulsory registration procedure. For all to do this, it should be found «The Distance Learning» on the <http://shygysdaryny.kz> website in the right corner of the window, and to fill out the assigned participant's login and the password.

The system will be opened the participant's his personal page on the remote website portal, with the proper registration procedure passing. It is necessary to have to be logged into the «My Courses» section for the courses' selection. The participant should also specify the assigned username (e.g. the login) and his password, with each re – entry into the system.

So, the education (e.g. website portal opening, the lectures downloading, study them, the practical control tasks implementation) is practically carried out at any time of the day, which is the most convenient for the participants, within the specified deadlines:

- in the first week, for the participants, the first block of the 5 subjects (e.g. 36 hours), having consisted of the lectures and the practical tasks, has been opened in the database;
- in the second week – the second block of the 5 subjects (e.g. 36 hours), also having consisted of the lectures and the practical tasks.

The practical exercises are offered to the participants in the form of the open – ended questions, that is the question, in which the choice to respond is not defined, it is remained completely free, and is required the detailed answer. Total, for each topic, there are three open – ended questions.

So, the practical tasks implementation is practically carried out in the framework of the same terms (e.g. by the participant's decision – separately for

each subject every day or once in aggregate for all the topics of the separate block). The responses for the offered practical tasks are recruited by the participants in the «Microsoft Word» program on the computer, and they are sent to the e – mail address, having provided on the website portal. For all this to do, it is the imperative condition to be specified the participant's name, the city (e.g. the region). After that, the answers are studied by the course's author, and they are evaluated by the appropriate number of the points. At the end, the resulting scores for the completed assignments are recorded on the participant's personal page.

The testing results are summarized automatically by the system immediately after the tests passing (e.g. after pressing «Finish the Testing» click by the participant), by means of the dialed number of points display on the participant's personal page. Then, the test results can be improved by means of the repeated member's tests passage, however, and, at the same time, the system is practically taken into account the number of attempts.

If it is necessary, the participant is practically given the opportunity to be communicated with the lectures' and the assignments' author. For this to do this, it should be «My Messages» clicked on the personal page of each participant, and after the window is opened, make any question text in it. After that, how the response is practically provided to the participant, it will be also appeared in the «My Messages» sector on the personal page.

Upon the training completion, in the framework of the developed distance learning course among the teachers, it had been conducted the survey, which was permitted to make the following conclusions: 98% of the respondents are aware of the significance and the need to be developed and to be implemented such distance learning courses, as the obtained knowledge and the skills are quite useful in the real and in the future occupational activities, 46% of the respondents indicated, that they would continue to work on the self – education and the self – improvement for the sought – for challenge.

So, in the Eastern Kazakhstan, «The gifted teacher – the gifted pupil» contest is conducted in the framework of this interaction direction with the teachers, having worked with the gifted children, purposely to be supported and encouraged the talented teachers, and also to be found out the efficient ways to update the education content, the implementation and the dissemination of the new pedagogical ideas, technologies in the field of the working with the gifted children. Thus, the contest is designed to be performed the following tasks:

- the innovation activity activation and the innovation activity intensification, the conditions creation for the intellectual and the creative potential development of the gifted pupils and the talented teachers, and their competence;

- the motivation formation and the motivation creation for the educational activities implementation, having contributed to the gifted pupils' and the talented teachers' development;

- the database expanding of the innovative pedagogical ideas and the technologies in the field of the working with the gifted children, the variative forms of the creative interaction, the gifted pupils and the talented teachers cooperation;

- the generalization and the dissemination of the advanced pedagogical and the teaching practices in the work organization with the gifted children;

- the pedagogical creativity and the skill stimulation, the further occupational development of the teachers.

So, this competition conduct is practically involved in a number of the stages passage: as the correspondence, well as the full – time. The correspondence tour is included the participants' presentation in the Competition Organizing Committee the necessary information, having contained the teacher work system on the gifted pupils' identification and the development. The full – time and the intramural tour is practically conducted in several stages: the first one has been involved the lesson carrying out in the workplace into their core occupational activities and their business.

The second stage has been involved in the teacher's writing the essay on any of the proposed themes (e.g. for the choice of): «In every person – is the Sun, so give him to shine...» (Socrates), and «My vision of the competent teacher», which is rented to the competition Organizing Committee (e.g. in the printed and the electronic form), and it has been assessed by the jury members (e.g. by the Chair's representatives of the Pedagogy and the Social Work of AKSU after S. Amanzholov). The full – time and the intramural course is practically included the «business card» demonstration and the solution, having proposed by the jury members of the psychological and pedagogical situation.

The results of the Competition's each round are brought and summarized immediately just after its graduation, and they are posted on the «Akima» website of the Eastern – Kazakhstan region, the Department of Education of the Eastern – Kazakhstan region, and on the «Daryn» EK RSPC website.

Thus, having analyzed the work done by us, we came to the following conclusions:

- in such work involved participation has been provided many schools' focus in the activities directions change by the working with the gifted children; every teacher has been helped to be overcome the difficulties in further expanding the used technologies' range and the giftedness diagnostics methods and the gifted children's teaching, in the pupils' aptitudes and the talents development, the conditions creation for their self – realization;

- the teachers' occupational competence level, having increased in the course of the performed work, on the basis of the information and communi-

cation technologies, is transferred to the daily living activities' and the teacher's functions carrying out at the working with the gifted children;

– the teachers, having taken their active part in our work, can adequately evaluate the results of their own teaching activities and their colleagues' experiences on the sought – for challenge, from the point of view of the latest achievements of the pedagogy and the psychology;

– it has been markedly increased the interest at the teachers in the various competitions, festivals, fairs, conferences participation, on the basis of the information and communication technologies use.

#### **The summary**

This article possibilities of information «Internet» system, as perspective tool for the organization of uniform storage of data to work with exceptional children in the East Kazakhstan re-

gion. Increases are opened for professional skills of teachers. The contents and the organization is described to remote course named «Children's Endowments».

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## THE INCREASE IN TRAFFIC AND CARRYING LINES CAPACITY, DUE TO THE TRANSPORT CORRIDORS DEVELOPMENT OF THE KAZAKHSTAN REPUBLIC

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The challenges and the prospects of the transport corridors development of the Republic of Kazakhstan are discussed in this paper. In the context of the world – wide globalization, the economy and the State competitiveness will be largely depended on the efficient operation activity of the of the transport and communication complex, haven given the vastness of the Kazakhstan territory. So, the main key to the domestic goods, services and the economy competitiveness, as a whole, is the high tech transport infrastructure, completely appropriate the State transport and also its transit policy.

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**Keywords:** transport corridors, freight (transportation of goods), traffic capacity, freight traffic, turnover, railway routes

**The Introduction.** The President of the Republic of Kazakhstan N.A. Nazarbaev noted: *«...the main condition for the high quality of life – is to be ensured the sustainable economic growth.*

*This challenge is within our reach. We have already created the necessary groundwork in the economy, which is allowed to be provided the economic growth at the level of 8 – 9% per year. Now, it is much significant to be focused on the strategic directions, which will be given us the breakthrough and will be allowed to be taken its rightful place in the global economy in the beginning of the second decade.*

*... The Kazakhstan will have to become the part of the global transport and communication system, that will be required us the advanced whole transport infrastructure development of the country.*

*We'll have to be taken the long – term transport strategy, having logically linked with the further territorial development. So, it is quite necessary for us to be created the whole modern highways network, having permitted to be implemented, as the continental, well as the transcontinental transits in the North – South and the West – East directions.*

*It, moreover, is necessary to be developed the work on the transit routes network formation through the country's airspace. The special priority in this activity will be given to the modern «hubs'» creation – the powerful traffic centers and the transport nodal points, that will be permitted to be linked between them together not only all the cities of the country, but also the largest cities in the world».*

At present, the share of the transport sector in the GDP of the country is made up 9%. Over the past ten years, US \$1,4 trln. have already been embedded in the transport and communication complex development. And more, another US \$ 4,2 bln. have already been made the foreign investments. The goods transported volume has already been increased up to 2,5 bln. tons, or in 1,8 time over these years.

The number of the air passengers served has already been increased up to 6 mln. passengers, or in 5,5 times. The traffic capacity of the railways has already been increased up to 260 mln. tons, or in 1,5 time. During the years of independence, 740 km of the new railways had already been built (e.g. Khromtau – Altyntarino – 402 km, Aksu – Degelen – 183 km, Shar – Ust – Kamenogorsk 151 km), that reduced by more, than 700 km traffic distance within the country.

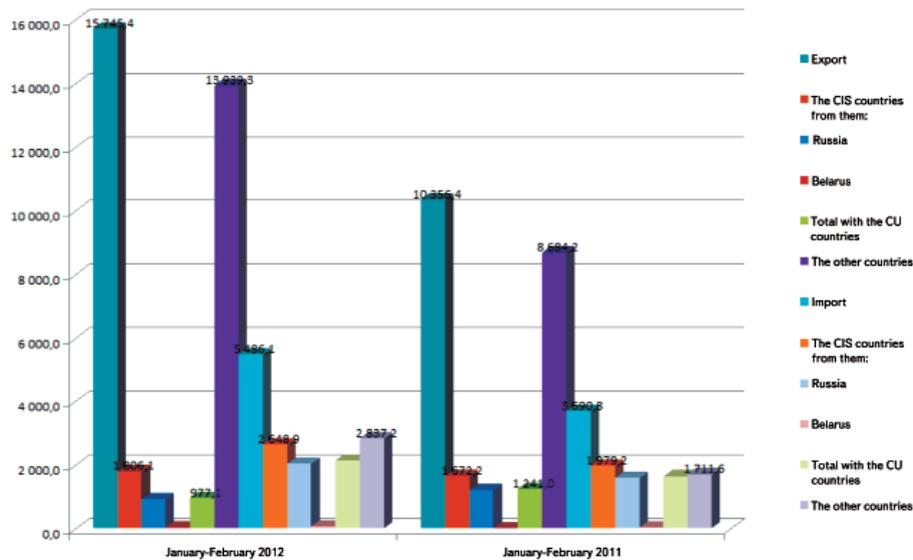
### Materials and methods of research

In the country the transit routes network has already been established in three priority directions:

1. Russia – the European and Asian countries;
2. China, Japan and the South – Eastern Asia countries;
3. The Central Asia, the Transcaucasia, the Black Sea, the Persian Gulf countries and Turkey.

The five already established international transport corridors are being passed throughout the country's territory in each of these above – indicated directions: **The Northern Corridor of the Trans-Asian Railway Main Line** (TARML, Western Europe – China, Korea, Japan through Russia and Kazakhstan (Dostyk – Astana – Petropavlovsk section)); **The TARML Southern Corridor** (South – Eastern Europe – China and South – Eastern Asia through Turkey, Iran, the CA countries and Kazakhstan (Dostyk – Saryagash section)); **The Central (Central Asian) Corridor** (Central Asia – Russia and the EU countries (the section by RK: Saryagash – Arys – Kandygach – Ozinki); **«North – South»** (Northern Europe – Countries – the Persian Gulf through Russia and Iran with the Kazakhstan's participation in the area Aktau seaport – the Ural and Aktau regions – Atyrau); **«TRASEKA»** (the Eastern Europe – Southern Caucasus – the Caspian Sea – Central Asia (the section by RK: Dostyk – Aktau). In addition, **Western Europe – Western China** is jointed to these corridors. So, all these corridors are divided into 6 railway and 6 highway transport corridors inside Kazakhstan [1, 2].

The turnover with the RF has already been made up and amounted US \$ 8,5 bln., the turnover with the EU countries – US \$ 38,2 bln. So, the turnover with China – US \$ 14,8 bln., the turnover with the CA countries, India, and Iran – US \$ 4,4 bln. Thus, the total turnover of the Republic of Kazakhstan with the countries of the world – US \$ 81,3 bln.



The Fig. 1. The foreign trade turnover of the RK (in US \$ dollars)

The 4 international air corridors are being passed through the air space of the country. The Program on the transport infrastructure development for the 2010–2014-es is being realized in the framework of ГПФИИР, which is provided for the implementation of more than 60 infrastructure projects, worth for the total sum of US \$ 2,8 trln. Over these years, it is planned to be built

about 1,5 ths. km of the new and to be electrified 1 ths. 700 km of the railways, to be constructed and to be reconstructed about 50 ths. km of the highways, to be carried out the works on the airport infrastructure reconstruction and the modernization, the national merchant marine fleet development, and also the maritime ports infrastructure.

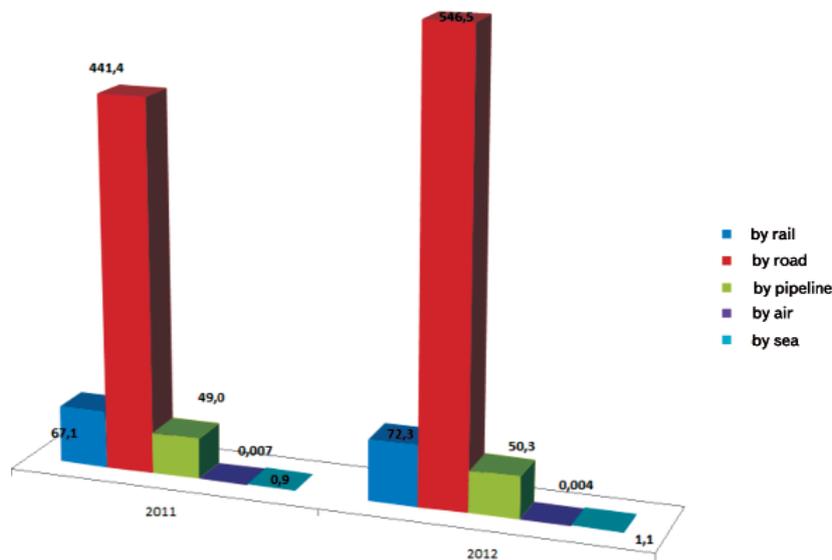


Fig. 2. The transportation of goods by all the transport types (mln. tons)

In December, 2009, the Presidents of Belarus, Kazakhstan and Russia have already signed the Declaration on the Common Economic Space formation, which is included the 165 million people, the thousands of enterprises power, the vast and colossal natural resources. Moreover, the Custom Union of Belarus, Kazakhstan and

Russia has already been created, and it is successfully being operated.

In result of the Custom Union formation, the single customs territory has been formed, the mutual trade has already been received the serious and the strong impetus, many of the procedures have already been simpli-

fied, the costs have already been reduced, and the time for the goods movement inside the Customs Union. For the first time, the supranational body – the Commission of the Customs Union has already been emerged in the post – originated space. The results of the bilateral trade

are very impressive, and even the most cautious experts predict the Customs Union's members by 2015, the 15% increase of the GDP. So, in October, the Agreement on the free trade zone had already been signed in St.-Petersburg, the participations of which the 8 CIS states were become.

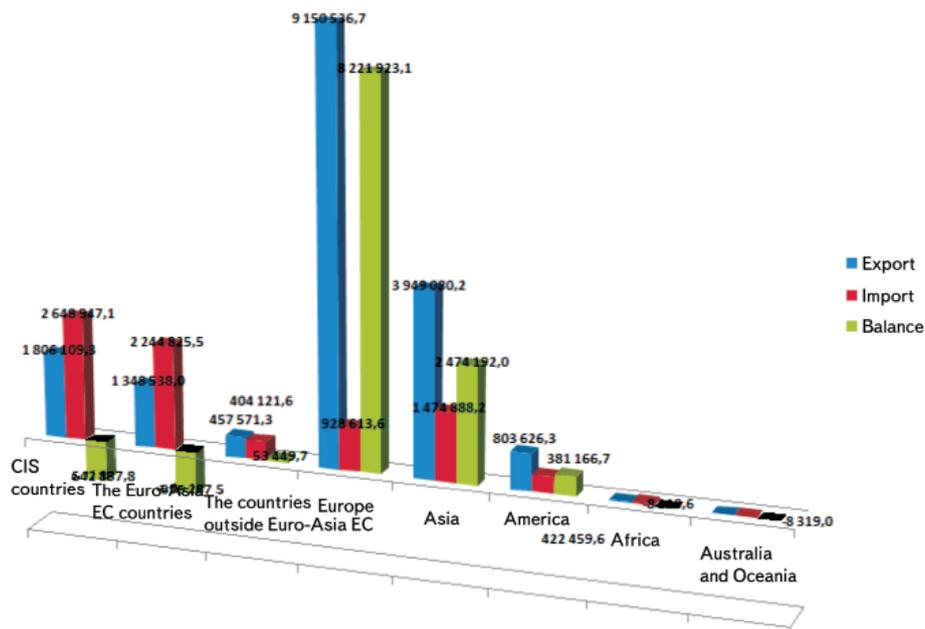


Fig. 3. The external trade main indicators of the Republic of Kazakhstan in January – February, 2012 (in thousands of US dollar)

### Results of research and their discussion

As a whole, in 2015, it is planned to be completed the reconstruction of all the 6 international highway corridors, with the total length of 8 ths. 415 km. For Kazakhstan, the international railway border crossing with China Dostyk – Alashankou is the main point of the international transit. As a result of the measures already taken, the Aktogai – Dostyk and the Dostyk – Alashankou border crossing section traffic capacity will be increased: in 2011 up to 16,5 mln. tons, and to 2020 – 20 mln. tons. So, the quite new routes formation in the East – West and the North – South directions, both as for the Kazakhstan production, well as for the transit goods, the «Zhetygen – Korgas» and «Uzen State border with Turkmenistan» realized railway projects are being promoted. The other projects of the railways routes construction implementation is being provided for the further formation development of the railways optimal network up until 2020: «Zhezkazgan – Beineu» (988 km), «Arkalyk – Shubarkol» (212 km), «Yeralievo – Kuryk» (14,4 km). It is also being planned the electrification of about 1 ths. 800 km railways sections: «Makat –

Kandyagash» (392 km), «Almaty – Aktogai» (541 km), «Aktogai – Mainty» (522 km), «Dostyk – Aktogai» (309 km).

In the framework of the Customs Union, Kazakhstan is expected to be become the reliable transit corridor between the countries and the states, having bordered with the CU Southern borders and this organization members. «Over time, the Dostyk – Khorgos – Moscow – Brest transport corridor will be able to be turned into the special economic corridor. In this regard, the overland route, through the CU countries, can be considered for 15–18% further increase in the cargo traffic in the China – Europe direction». The example may be served as the starting October, 28, 2011 the «Saule» container train on the route of Chongqing (China) – Dostyk (RK) – Klaipeda (Lithuania) – Antwerp (Belgium). The follow-up time from Dostyk station – to Klaipeda (Lithuania) – is 10 days and nights (e.g. 240 hours). In December of 2011, it is planned the «Baltic Transit II» similar container train to be launched between Estonia and Kazakhstan. It, moreover, is being planned the «Mercury» container train to be launched between Russia, Belarus and Kazakhstan.

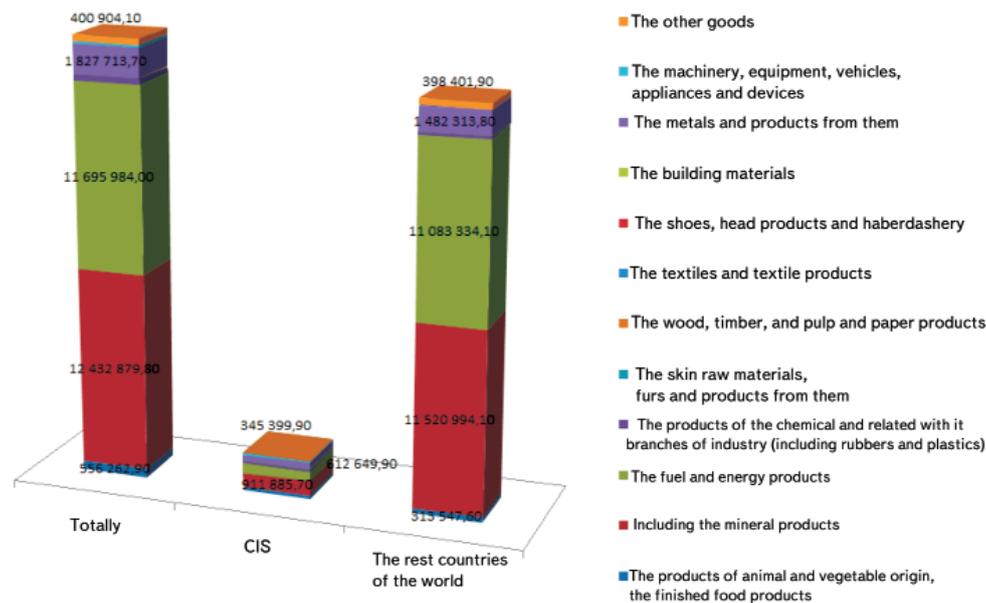


Fig. 4. The Republic of Kazakhstan exports structure by the major commodity groups

### The Classification of the Transport Corridors (ORC)

The schemes development of the international railways routes in the Europe – Asia traffic is being conducted under the aegis of the (ORC). By now, the 13 main transcontinental routes and their offshoots have already been

formed, the 5 of which are being passed on the territory of Kazakhstan [3, 4].

The Corridor № 1. It is being passed through the territory of Poland, Latvia, Lithuania, Estonia, Belarus, Russia, Kazakhstan, Uzbekistan, China, Mongolia, and also North Korea.

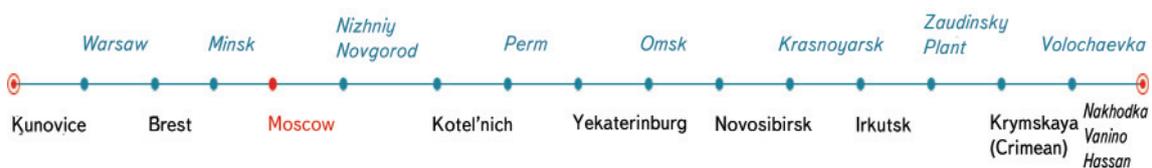


Fig. 5. The transport corridor location № 1

### The Offshoots

- Riga / Ventspils / Liepaja → Krustpils → Zilupe → Posin → Moscow;
- Saint – Petersburg / Tapa → Vologda → Kotel'nich;
- Moscow → Ryazan → Syzran → Orenburg → Aktybinsk → Kandagach → Arys → Tashkent;
- Karymskaya → Harbin → Tumen → Namyang → Radjin;
- Harbin → Shenyang → Dalyan;
- the Zaudinsky Plant → Ulan – Bator → Erlan;
- Shanyang → Dandong → Siniiju → Kaesong;
- Kaliningrad → Pagegiai → Radvilishkis → Daugavpils → Rezekne;
- Hassan → Tumangan → Wonsan → Kymgansan;
- Ventspils / Riga → Krustpils → Indra → Bigosovo → Vitebsk → Smolensk.

**The Corridor № 2.** It is being passed through the territory of Russia, Kazakhstan, China, Vietnam.



Fig. 6. The transport corridor location № 2

#### The Offshoots

- Dema → Kartaly → Tobol → Astana;
- Zhengzhou → Hengyang → Jiulong (Kowlong);
- Xuzhou → Shanghai;
- Hengguang → Liuzhou → Nanning → Hanoi.

**The Corridor № 3.** It is being passed through the territory of Poland, the Ukraine, Russia.

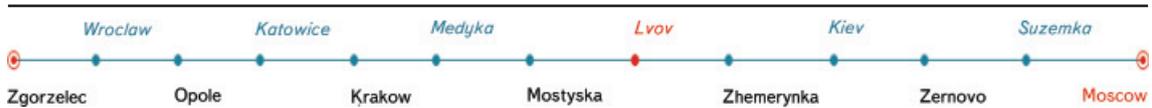


Fig. 7. The transport corridor location № 3

**The Corridor № 4.** It is being passed through the territory of Czech Republic, Slovakia, Hungary, Poland and the Ukraine.



The Fig. 8. The transport corridor location № 4

#### The Offshoots

- Prerov → Boreclav;
- Czeska Trebova → Brno → Boreclav → Bratislava → Budapest;
- The Border in Moravia → Ostrava → Petrovice → Katowice;
- Cheb → the Prague;
- Gornji Dvoriste → the Prague;
- Warsaw → Zwardon → Zilina;
- Pukhov → Bratislava.

**The Corridor № 5.** It is being passed through the territory of Hungary, Slovakia, the Ukraine, Russia, Kazakhstan, Georgia, Azerbaijan, Moldova, China, and Kyrgyzstan.



Fig. 9. The transport corridor location № 5.

#### The Offshoots

- Dartica → Konotop → Zernovo → Suzemka → Bryansk → Moscow;
- Murakeresztur / Gyekenyec → Dombovar → Budapest;

- c. Magyarboly → Dombovar;
- d. Fastov → Znamenka → Dniepropetrovsk → Ilovaysk → Kvashino → Rostov → Samur → Yalama → Baku → Beyuk – Kiasik → Tbilisi → Poti/Batumi;
- e. Ungeni → Kishinev (Chisinau) → Razdelnaya → Zhmerinka;
- f. Kurgan → Omsk → further along by **the Corridor № 1**;
- g. Rtishchevo → Ozinki → Arys → Lugovaya / Bishkek → Rybach'e / Almaty → Aktogai;
- h. Bratislava → Zhilina → Kosice → Cierna – over – Tisza.

**The Corridor № 6.** It is being passed through the territory of Czech Republic, Slovakia, Hungary, Romania, Serbia, Bulgaria, Greece, Turkey, Iran, and Turkmenistan.

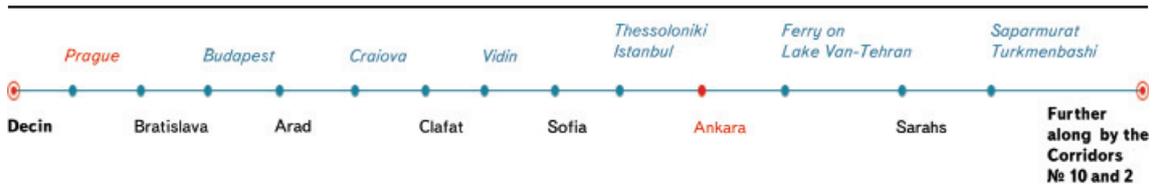


Fig. 10. The transport corridor location № 6

#### The Offshoots

- a. Arad → Bucharest → Constanta → further along by **the Corridor № 10**;
- b. Budapest → Belgrade → Sofia;
- c. Hegyeshalom / Sopron → Budapest;
- d. Sofia → Gorna Oryahovitsa → Varna;
- e. Tehran → Kum → Bander – Abbas;
- f. Kum → benderHomeini;
- g. Mashhad → Bafq.

**The Corridor № 7.** It is being passed through the territory of Poland, the Ukraine.



Fig. 11. The transport corridor location № 7

**The Corridor № 8.** It is being passed through the territory of the Ukraine, Russia, Kazakhstan, Uzbekistan, and Turkmenistan.

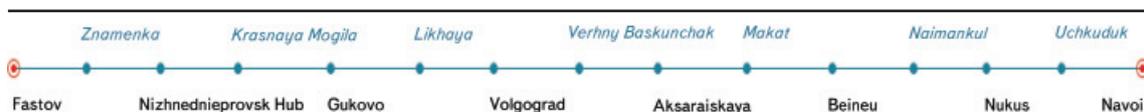


Fig. 12. The transport corridor location № 8

#### The Offshoots

- a. Naimankul → Chardjou;
- b. Makat → Kandagach → Nikel – Tau → Kartaly.

**The Corridor № 9.** It is being passed through the territory of Lithuania, Belarus, and Russia.



Fig. 13. The transport corridor location № 9

### The Offshoots

a. Kaliningrad → Nesterov → Kaunas → Kalsiadorys.

**The Corridor № 10.** It is being passed through the territory of the Ukraine, Bulgaria, Rumania, Georgia, Azerbaijan, Uzbekistan,

Turkmenistan, Kyrgyzstan, Kazakhstan, and Tajikistan. It is corresponded to the «TRASE-KA» corridor route.

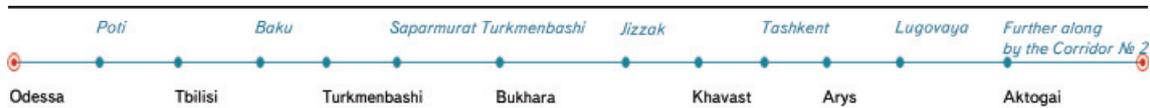


Fig. 14. The transport corridor location № 10

### The Offshoots

- a. Baku → Aktau → Beineu → Makat → Kandagach → further along by the **Corridor № 5**;  
 a'. Ashkhabad → the Kara – Kum → Ichoguz → Dashoguz;  
 b. Lugovaya → Bishkek → Rybach'e;  
 c. Khavast → Bekabad → Kanibadam → Kokand → Andijan → Karasu → Osh/Jalal-Abad;  
 d. Bukhara → Karshi → Tashguzar/Talimarjan → Bojsun → Kumkurgan → Dushanbe/Termez → Galaba → Hayraton / Kurgan – Tube.

**The Corridor № 11.** It is being passed through the territory of Russia, Azerbaijan, Iran.



Fig. 15. The transport corridor location № 11

### The Offshoots

- a. Kochetovka → Liski → Rostov – Chief → Timoshevskaya → Novorossiysk;  
 b. Rostov-Chief → Armavir → Gudermes → KarlanYurt;  
 c. Timoshevskaya → Krasnodar → Krivenkovskaya → Adler.

**The Corridor № 12.** It is being passed through the territory of Moldova, Romania, Bulgaria.



Fig. 16. The transport corridor location № 12

**The Corridor № 13.** It is being passed through the territory of Russia, Estonia, Latvia, Lithuania, and Poland.

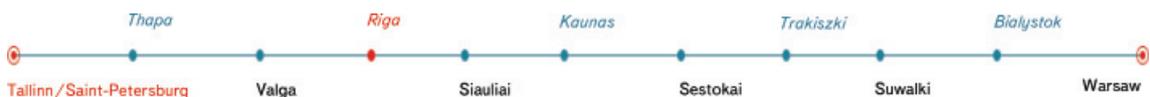


Fig. 17. The transport corridor location № 13

**The Conclusion.** It has already been found, if the goods are engaged in the carriage by the successive several modes of the transport, it

is called the mixed or the combined one. All these transits by the rail freightage services are practically carried out in three following cases:

– at the goods non – delivery possibility from the point – of – origin to the point of destination by the one mode of transport using;

– at the economic feasibility of the goods trans-shipment in the transit en route from one mode to another transport, i.e. when the total logistics costs of the goods shipping in the mixed traffic are practically appeared lower, than in the case of the goods delivery by one mode of the transport;

– at the crossing or traffic carrying capacities deficit of the definite transport lines or sections.

There is the cargo transfer from the rolling stock of one mode of the transport to the rolling stock of another mode of the transport in the junction points of the different transport modes. Almost the third of all the cargo, having transported by the domestic road transport, the freight is being delivered to the cargo railway stations and through their storehouses or directly is loaded onto the wagons. So, about the same amount of the cargo is practically loaded from the wagons into the cars and then, is delivered to their recipients at the destination stations. Approximately 70% of the railway transport freight traffic is originated and extinguished on the enterprises access routes. Here, the railway systems (e.g. the workshops) of these enterprises are joined and interacted with the stations, which are adjoined by their driveways. The sea and river transport is prac-

tically carried out about 90% of their traffic transport, including the railway transport participation. Almost the entire volume of the air cargo traffic is practically carried out with the road transport participation. The pipeline transportation at the oil, the petroleum products, and the other liquid cargo delivery is also actively engaged and interacted with the other modes of the transport.

The main reason of the broad multi-modal rail-water transport extensive development is that of all the modes of transport, the car one is essentially able to be performed «from door to door» transport. But the railway and the water transport have this capability only in the presence of the access roads and the wharfs at the cargo owners.

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*Materials of Conferences***THE ISSUES OF COMBATING MONEY LAUNDERING IN KAZAKHSTAN**

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The appearance of Article 193 «The legalization of money or other property acquired by illegal means» in the Criminal Code of Kazakhstan in 1997 laid the foundation for the further construction of the legal system of AML / CFT in the country. In 2004, Kazakhstan became one of the founding states of the Eurasian Group on Combating Money Laundering and Financing of Terrorism. The first practical step towards the formation of the national AML / CFT system in Kazakhstan was the creation in 2008 the FMC – Financial Monitoring Committee of the Ministry of Finance of the Republic of Kazakhstan (FMC MF RK). In August 28, 2009, the Law «On Counteracting Legalization (laundering) of proceeds illegally and financing of terrorism» (Law of AML/CFT), which entered into force on 9<sup>th</sup> of March, 2010. By the Law «On amendments and additions to some legislative acts of the Republic of Kazakhstan concerning counteraction to legalization (laundering) of proceeds illegally and financing of terrorism» N 192-IV taken jointly with the AML/CFT the corresponding amendments are made to 26 legislative acts of the country regulating the activities of financial monitoring entities, their sectoral regulators and government agencies. At the time of visiting mission of evaluation the system AML/CFT functioned in the country less than a year resulting in the inability to judge their effectiveness (particularly in regard to the powers of supervisory authorities) [1]

As the experience of combating money laundering in the world shows that the most of the countries refocused strategy to deal with criminal organizations fighting against the predicate offenses to struggle with the consequences, in fact it is the legalization of money and property acquired through illegal (criminal) way. For these purposes in a global scale a special structure is organized and operates that is working out international standards in the field of anti-money laundering and combating the financing of terrorism (AML/CFT), and the assessment conformity of national systems of AML/CFT to these standards.

Historical experience shows that for a long time most governments have fought against money laundering mainly by traditional law enforcements. However, as a rule, their territorial subdivisions are informed of financial irregularities by certain sampling carried out during the operational search activity.

This method did not allow to track any suspicious financial transactions and deals. A serious problem of ensuring of the rule of law in the field of finance is to provide a control mechanism that could combine the state's desire for transparency in business with justifiable desire to preserve the last commercial and banking secrecy, which is a guarantee of its stability in a highly competitive market. As a result many countries with a market economy began to develop the structure, the main objective of which was closed analytical work in the field of financial intelligence and monitoring of financial flows, and the main aim is combating money laundering and orientation of law enforcement agencies to combat criminal economic activities of specific individuals. The «financial intelligence» should be interpreted as a network information system capable of conducting a wide search, processing and use of the data for the common security of the country. It is necessary for a comprehensive analysis of the ever-increasing cash flow, which is especially important in identifying assets that are financed terrorism and other forms of socially dangerous activity.

In this work we pursue the aim of identifying connection laundered illegal capital from the existing shadow economy. Naturally, the «laundered» money comes from «shadow structure» of the economy. However, despite the stability of this statement, in practice it is not given proper attention which is reflected in the strategic and tactical plans to counter this crime.

It should be noted that the concept of the «shadow economy», «shadow capital» is not fixed by law. Several researchers noted this factor as generating some problems in qualifying acts of subjects of informal economic activities in terms of criminal law. However, in our view, this may not be such a big obstacle in determining the legality of an activity of economic entities.

The first serious study of the problem of shadow economy began in the late 70s of the last century and one of the first works in this field is the study of P. Gutmann [2].

Currently a single generally accepted definition of a universal concept of the shadow economy is not articulated. Criminal, underground, black, gray, second, illegal, parallel, unofficial, destructive, etc. – this is not a complete list of its synonyms. These terms and concepts are adjacent shadow component of the economy, the shadow world, shadow effects, the informal sector, shady operations, shady business, etc. [3].

According to various estimates, the latent entrepreneurial activity in the country are engaged in up to 15% of the economically active population, which in its entirety is not included in the revenues

of the state budget to replenish the pension fund, to address other social issues, as well as in the improvement of the infrastructure of the economy. [4]

Naturally, the government has made great efforts to reduce the share of the shadow economy in the overall structure of the legal economy and impact on her. In particular, it is now significantly simplified the procedure for registration of legal entities and individuals for business purposes, optimized tax system which plays an important role in enhancing the attractiveness of the legal business. In addition, significantly reduced the shape and the base tax, financial and other inspections of enterprises and organizations from law enforcement agencies, in other words, the state is trying to create the most favorable conditions for natural and legal persons who express the desire to have a legal business in the legal field.

The most dangerous part of the shadow economy is illegal sector, as its impact on society and the economy takes place in legal fields and through the legal framework, which leads, in turn, to criminalize the activities of the latter.

In the literature there are attempts to define the criminal sector of the shadow economy. Below, we present one of these attempts, noting that almost all the works of most of the definitions tend to replicate, «under the criminal sector of the shadow economy is meant a collection of various types of illegal economic activities concluded in the production, sale, distribution, storage, exchange, redistribution prohibited by law to the civil circulation of goods, works and services, as well as other criminal activities aimed at the removal of the legal product produced by an open economy» [5, 148].

The most dangerous criminal sector of economic activity associated with the drug trade, pornography, extortion, counterfeiting, illicit arms trafficking, embezzlement of budget funds, etc.

The main conditions for money laundering are:

- misuse of state sovereignty in order to create safe havens for the proceeds of criminal activity.
- increase in the number of international business corporations, which are regularly used for money laundering, as they provide an insurmountable level of information on the ownership of assets. Practically there are no commercial or financial factors that justify their existence, except for the fact that they allow to hide the origin and destination of goods in international trade, to circumvent the laws on the regulation of weapons or evade taxation by transferring income and assets beyond the reach of the tax authorities.
- wide use of offshore companies under the trust conditions.
- the activities of some experts that are protected by legal privilege..
- consequences of the «dollarization» of the global market and the potential impact of the introduction of the Euro in the financial markets in the coming years.

- ability to use casino for money-laundering operations and an urgent need for stricter regulation of the industry.

- the need to collect large amounts of investigative information on financial crimes and better sharing of such information.

- practical lack of means regulating offshore banking operations and excessive protection of bank secrecy which in some cases does not allow even the national regulatory authorities to effectively monitor the branches of domestic financial institutions in these countries [6].

At the same time, one can not to mention the experience of Kazakhstan to give amnesty to legalize illegal funds that have been successfully implemented in the early and mid-2000s. Kazakhstan's experience of amnesty of illegally acquired capitals shows that the vast shadow capital (of course, provided that they are not related to drug trafficking, arms trafficking, human trafficking, pornography, etc.) can play a very positive role in the future growth of the economy. From the point of view of the state and its economy the money laundering can bring the damage (if the money is invested in the «shadow» economy, out of the country, have an impact on the distribution of financial resources), and to have a temporary positive impact. Typically many of «offshore states» are not interested in the origin of the money that is invested in the development of their economies and account for a significant portion of GDP.

From this perspective, in our view, the issue of the real impact of illegal, legalized capital and property of the natural course of economic processes is not researched enough. Most researchers agree that the primary cause or a prerequisite of this criminal phenomenon of money laundering has been the adoption January 16, 1920 in the United States law, called by the people «dry law». Adoption and further zealous execution of its provisions were thus circumstance which prompted the criminal organizations to take the vacant «niche» that later brought them enormous profits, which further legitimize required [7, 21]. However there are other researchers who claim that the origin of money laundering has deeper roots, for example, the British historian C. Seagreyv writes about the Chinese merchants who in any way tried to hide the origin of their wealth from the authorities [8, 15]. However, it would be wrong to say that at that time this phenomenon was similar to today's features.

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#### **INNOVATIONS IN ECONOMIC EDUCATION SYSTEM: THE SIGHT FROM RUSSIA**

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The formation of the uniform international space of the economic knowledge is necessary for a long time already as it is expedient to talk not about the narrowly directed teaching materials of the different degree of the importance and the adequacy to the needs of the practice in this or that country, and about a necessity of the generalization and use world – between the countries and centuries-old – the heritages in the field of the economic knowledge.

Throughout 10 years we had been did a certain work regarding increase of the importance of the qualitative economic knowledge absorbing in the world economic heritage, namely:

- the economic encyclopedia – «the New economic encyclopedia» (1 edition – 2005, 4 edition – 2010, 2012), including decoding more than 3000 terms and on sale in Russian language in 12 countries of the world is published;
- the abstract with reviews of works of known economists in the world is prepared so that the Russian students and post-graduate students studied an applied and fundamental economic disciplines on the works known all over the world possessing objectivity (it is published simultaneously in Russia, Germany, USA and Great Britain, ISBN 978-5-16-004432-3 and ISBN 978-3-8473-9419-8);
- in the 2011 it is developed and introduced in the Russian high schools of the «Index of the intelligence of the financier (economist)», including 140 questions and scanning the knowledge on the 6 applied economic disciplines on which the author is also the propagandist of the knowledge in a science, both an expert, and the teacher; thus the maintenance of the given disciplines to the full correlates with the educational standards of the USA, France, Germany, Switzerland, Italy, Norway, Japan and

many other countries – the leaders as teaching of the economic knowledge;

– it is developed on the basis of constant interaction with children-schoolboys, the textbook on the newest subjects «Moral economy» which will allow to overcome lacks of a modern educational system of the schoolboys is published and introduced at different schools of Russia and will generate at them flexible economic thinking on morals bases; the given textbook – unique in Russia – is actual for many countries of the world where knowledge in the field of morals in economy teaching at the school and out of the school (ISBN 978-5-16-004271-8).

More detailed information on the author under the references: <http://www.famous-scientists.ru/13159/>, <http://viperson.ru/wind.php?ID=654178&soch=1>; <http://anticrisis.migsu.ru/about/pps/rumanceva>, 4 presentations with photos from November 1 and 19, 2012 <http://fickt.mgup.ru/category/docs/>.

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#### **AUTHOR'S FACTOR OF INTELLIGENCE OF THE FINANCIER (ECONOMIST) AS A MECHANISM OF THE EXPRESS TRANSFER OF THE 8 KNOWLEDGE-INTENSIVE ECONOMIC DISCIPLINES**

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The majority of the Russian population negatively belongs now to the diversity of the educational approaches and the commercial openness of the Russian higher education without a further guarantee of the return of the enclosed educational capital, namely – the receiving of the worthy work in the points of the view of the social employment and adequate to the enclosed intelligence of the earnings and the further career growth with guaranteed growth of a salary. On the contrary, off many years Russian Federation are torn the communication between the intelligence and the legal earnings of the Russian citizens, developing the relations of the corruption based on the lobby formation and the knowledge expropriation for all or for anybody. The importance of the knowledge is a basis of the success in the any society forming the healthy circle of the citizens oriented to the purposes of the humanity, instead of a tekhnokratizm or a fetish of the unripe commercial communications with an illegal origin (a raider captures of the power and property, the distribution of a profitable and social-

ly responsible posts among the asocially adjusted citizens developing new forms of the exploitation and discrimination of the professionally staff ect), the national values and formation of the economy of the different level of the management, based on knowledge, including growth of the income of the put personified (author's) work.

Developed and introduced in educational processes of the different higher education institutions by the author the test on the evaluation of the intelligence of the financier (economist) coefficient (more detailed – <http://www.gosbook.ru/node/68548>) develops in a form convenient for the student a qualitative component of the modern educational process and for the purpose of the identification and the subsequent completion is the system the focused knowledge without which the process of the effective management in the practice is IMPOSSIBLE, and allows to make the interuniversity comparisons, focusing similar internal audit the quality of the educational activity on the ALIGNMENT of the quality levels of the economic education in the all Russian territory, instead the separate higher education institutions or – even more serious – at the certain qualitatively working teachers who are seriously owning a subject from the point of the view of the application it in the practice as a returns on the enclosed enterprise capital.

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#### GLOBAL FOOD ISSUE AND KAZAKHSTAN

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Issue of hunger in the world is closely related to the issue of demography. As well as demographic, the food issue depends on the level of economic and social development. Hunger is primarily a companion of poverty. Rapid population growth in economically backward countries which is not accompanied by a corresponding increase in food base calls «vicious circle of poverty». As for 2002 54 states of the world (mainly located in Africa) are not able to feed their people. One in ten children in underdeveloped countries die before the age of 5. Strong crop failures and wars are the cause of starvation only by 10%. Families simply can not secure a sufficient amount of food. This, in turn, is caused by extreme poverty.

Thomas Robert Malthus (1766–1834) – one of the most famous scientists of his time promoted the idea that the rapid growth of population was natural and the main cause of poverty of working people. Having been studying the works of philosophers

and economists of previous eras he came upon an idea that people multiplied faster than livelihoods grew, and that if population growth was not constrained by anything, the population would double every 25–30 years. Having analyzed the dynamics of population growth and the potential of land resources, Malthus concluded that the economic development of society and improving their well-being were severely restricted. In developing these ideas he came to the conclusion that fertility of the poor was the main cause of their low material well-being in society.

He anonymously published his views in 1798 in «An Essay on Principle of Population in connection with the future improvement of society». Malthus considers land as the main natural resource which differs by two main features: by its limitation and by the law of diminishing returns.

The use of backward farming methods, low level of labor productivity are predetermined position in which one farmer engaged in agriculture in developing countries can barely feed himself and his family, while one farmer in the United States meets the needs of 59, in Western Europe – 19, and in Japan – nearly 14 people.

This issue will be exacerbated by the fact that population of the planet, by scientists predictions, will increase – to 8,5 billion people by 2025, 83% of whom will live in developing countries. However, the capacity to meet the needs of population in terms of food and other agricultural products from the available resources at the current level of technology is still open, as often emphasized in the report of UN Conference on Environment and Development, in a special chapter on «Promoting sustainable agriculture and rural development».

Otherwise, the threat of rising hunger in the world is very real. Suffice it to say that, according to projections the demand for food in the world will increase three times by 2050 unless serious measures are taken, and social tensions in geographic areas characterized by poor food security, right up until the famine areas.

Since most of population in developing countries is engaged in agriculture, the main problem here – it's lack of land of overwhelming majority of rural workers. The area of cultivated land per capita in the early 90's was, according to the FAO, average 0,7 hectares (0,4 hectares in developing countries in Asia, 0,9 hectares – in Africa, 1,2 hectares – in South America). As a result rapidly growing number of unemployed peasants had a place.

Large landowners, such as in Latin America, deliberately ignore sections of land, further aggravating the problem of surplus labor. Thus, by the end of the 80's – arly 90's in the industry of Latin America was occupied 26,5% of the total workforce, Asia – 24%, Africa – 16%.

Seriousness of this issue reinforces the huge differences between land holdings – a legacy of colonial times having been carefully preserved in

the modern world. Small farms that make up 90% of all farms take from 7 to 17% of the total cultivated land. Large estates, which account for 37 to 82% of all land used for agriculture, do not exceed 7% of the total number of farms in these countries. Large landowners, such as in Latin America, deliberately ignore sections of land, further aggravating the problem of surplus labor. Thus, by the end of the 80's – early 90's 26,5% of the total workforce, Asia – 24%, Africa – 16% was involved into Latin America industry.

At the same time, the proportion of cultivated land in general is low: 10,7% – in the area of developing countries, 12,4% – in the industrialized capitalist countries. But if for the latter the issue is the marketing of agricultural surpluses (and hence, they do not need to enter new areas of land in the turn), then a provision in developing countries. There are huge reserves, in particular, «to other lands», and in Africa they account for 40,2%, Asia – 22,4%, in Latin America – 15,2%, not to mention the use of land areas, located in areas of forests. But the fact is that land – mostly private property of persons who are not interested in their introduction to agricultural use: the land owners, tribal leaders, major agribusiness companies, officers and officials of the military regimes.

Kazakhstan's experience in the development of agricultural production has shown no bad results. Thus, state promotion programs for agricultural development were taken in different years.

2007: «KazAgro» Holding was established which activities are aimed at stimulating the development of agricultural sector and increase its competitiveness in the domestic and foreign markets, the Fund for Support of Agriculture set up 51 micro-credit organization in rural districts of the country.

2008: signed two agreements with the United Nations Development Programme for the implementation of micro-credit programs in agriculture.

2009: The Fund has entered into agreements with local authorities of 12 regions totaling \$ 1.45 billion, for lending to small businesses in rural areas.

2010: the Fund signed agreements with local authorities of four areas for a total of 400.0 million tenge, for lending to small businesses in rural areas.

2011: According to signed loan agreement, Islamic Development Bank provides for up to 10 years (including a 3 year grace period on repayment of principal) loan in the amount of approximately U.S. \$ 10 million to the Fund for the implementation of Programme of microfinance rural population in Kazakhstan. It is expected that commission fees on loan amount to no more than 2% per annum. In 2011, the Foundation launched a program of lending entities of agribusiness. Overall in 2011, the program funded 725 projects totaling \$ 4 351.8 million tenge.

2012: The Fund launched a program of Islamic finance «Satti» («Сәтті») in cooperation with Is-

lamic Development Bank. According to the agreement with the bank, software was purchased; training seminars in the agricultural sector were held.

As a result of the measures have been increased acreage by 24% in 2012 compared to 2009. Increased employment in agriculture by 13% in 2012 compared to 2009.

The problem of the existing global imbalances of economic development comes at a central place when looking for ways to ensure food security. The major ways out of this situation, we see the following:

As a result of undertaken measures acreage have been increased by 24% in 2012 compared to 2009. Employment in agriculture increased by 13% in 2012 compared to 2009.

The problem of existing global imbalances of economic development comes at a central place when looking for ways to ensure food security. The major ways out of this situation, we see the following:

– Increasing the level of education in developing and underdeveloped countries will inevitably lead to the total literate population, a tributary of technology in agriculture industry and more efficient use of land resources, as well the observations, it was concluded that hungry children are less susceptible to information and study worse;

– Carrying out educational works in the field of family planning and fertility policy by state and non-governmental should lead to a less dynamic growth of population of Africa, India and Asian countries;

– Republic of Kazakhstan is at a higher level of development, where promoting policy of development of rural economy has a place compared with countries of Third World, but governments of these countries, under support and cooperation of international organizations, should help their economically active population in purchase of seeds and fertilizers;

– Just one of the ways out of the current situation of food shortages in developing countries is import of products containing genetically modified object that have a much longer shelf life and the price of these products is much lower than their analog grown by hand.

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## CONTROLLING IN MANAGEMENT SYSTEM

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The art of economic management requires the ability to foresee the economic and commercial situation and climate, to take decisive measures which optimize «cost – the result» relationship and thus achieve the objective, and most importantly to obtain the desired profit which is needed to maintain and expand.

In comparison to planning and accounting, controlling more reliably orients the company in market relations. As controlling is a cyclical process it is by definition never completed, but rather an ongoing process. Controlling identifies issues that will result in problems that will need to be addressed in order to achieve the goal of profit.

Both domestic and international experts perceive controlling as the catalyst towards further development and continued improvement of economic management.

The emergence of controlling, according to experts, is due to the development of a market economy. With the rapid evolution of technology companies have been able to utilize these advancements which resulted in an increasingly knowledge-intensive machine which can analyze multiple demographics simultaneously. Investments in buildings, land, facilities and equipment, among others, are in a constant state of flux and ever increasing often reaching to two-thirds of current investments in a fixed assets market. This inflation in cost will easily overtake the sum of annual profits in the manufacturing industry if not carefully managed by controlling.

The climate of industry is in a constant state of change therefore it is increasingly necessary to rely on the knowledge and advice of various technical specialists. These individuals do not have direct contact with the CEO, CFO or other leadership positions within a company's administrative apparatus. Consequently senior executive management decision-making on major issues have increasingly become a group process and less an individual executive decision.

The antiquated model of individual executive decisions had to be replaced with technology decision-making. At the beginning of the XX century, when there was a rapid growth of firms and an ever increasing complexity to their production, and administrative staff (employees), the executive officers of the firms, also referred to as headquarters, vastly increased in strength and knowledge. Originally the headquarters, or executives, were responsible for the preparation of solutions which is to collect, classify, analyze and present information necessary for decision. The task of staff specialists

were to provide information and not to participate in decision-making.

However in the second half of the XX century circumstances changed and the headquarters was replaced by a new type of a staff manager with expertise, resources and knowledge that was not obtainable by the prior firm's management. Among the many aspects of this change in management were mathematical economists, which are specialists who test data and apply scientific problem solving, data processing specialists who are responsible for the incoming information for decision-making, and mathematical economists whose job it is to analyze alternative solutions.

Once these key components are in place the process of integration of traditional methods of accounting, analysis, evaluation, planning and control form into a single system of acquisition, processing and integration of information which act upon management decisions, reorienting towards the achievement not only of operational and current goals which are in the form of profit in a particular size, but also integrate global strategic objectives. Global strategic objectives include the survival of the company, its environmental neutrality, job stability, e.g. social factors and with it a systematic, comprehensive solution to problems. The narrow perspective and specific orthodox thinking which business managers possessed in the past are no longer relevant to an ever evolving economy.

This system is called «controlling» which is defined as: Predictive control based on monitoring changes in the object.

The most complete system of controlling was first described and used in the United States. Hence, the semantic meaning of the term «controlling» (from the English. «To control»), and derivatives or related concepts, such as the controller – Head of Controlling.

By analogy with similar sounding words in the Russian language «control» suggests the conclusion that the controlling, perhaps, is a system of control, and the controller monitors the companies' economy and finance.

This is partly true, but not completely, while the initial concept of controlling is a set of tasks in the field of accounting and finance, and the controller was the chief accountant. Today the content of controlling and operation of the controller are not limited to only those functions in the extent to which we are accustomed to see them. Their function is broad and much more diverse.

Controlling – is a concept aimed at eliminating bottlenecks and future-oriented in accordance with the objectives and purpose of obtaining certain results [1].

The main reasons for the emergence and development of the controlling were the following factors:

– The industrial growth in the U.S. in the late XIX – early XX century, which caused an increase

in the number of new enterprises, as well as increased competition between them.

- Strengthening the concentration of capital, the growth of the size of individual businesses and industries of lead to the need for improved methods of management of these enterprises;

- Complexity of the planning and development of new approaches to the planning of the enterprise;

- Increased government intervention in business activities by establishing specific reporting requirements of enterprises, which has been significantly extended and complicated.

- Increasing demands and complexity of accounting problems led to the fact that there are separate facilities for controlling service responsible for the collection, processing, and providing enterprise managers the necessary information to make adequate and appropriate management decisions in the prevailing situation the business environment;

- Scientific and technical progress, the increasing complexity of technology of production of goods and services in different branches, the introduction of technological innovations in production.

- The economic crisis of 1929 led to the understanding of the role of cost accounting, as well as to the need for the company controlling elements. In order to ensure the survival of the company during the economic crisis, it was necessary to use the most advanced and promising management techniques. As a result, controlling as a progressive concept of enterprise management has been in demand in the United States;

- Ensure that the interests of owners and shareholders of companies leads to the need for their control over the activities of the company, over its management, the effectiveness of the management of the enterprise as a whole, as well as the directions of the use of financial resources;

- The country has qualified staff from Europe, which contributed to the development of science and industry on the basis of European scientific and technical expertise, as well as the United States freed from the costs of training personnel;

- Business and government at the expense of the windfall not only stimulated the development of industry, technology, but also the scientific methods of management of the enterprise;

- The inflow of foreign investment, which has been associated with high profit margins, contributed to the development of scientific and technological progress and the introduction of modern technologies in the production of goods and services.

Thus, the development of the idea of controlling associated with objective necessity of using of modern management techniques in enterprises that allow to take adequate management solutions that conform to the conditions of the market situation [2].

Controlling integrates accounting, control, planning and analysis into a single self-governing system in which the clearly defined business objectives, principles and methods for their implementa-

tion. Controlling, ensuring stability of the business and its finances, identifying internal resources and promptly implementing innovation, is an important factor in ensuring the competitiveness of the enterprise. Optimizing the model of management of industrial enterprise, taking into account its specific features, controlling allows you to clearly observe the principle of goal-setting and the correspondence principle of authority types of management actions. Controlling service provides a systematic collection, processing and analysis of information across all of the company, determines its compliance with the adopted development strategy, prepares proposals for the design guidelines for the effective solution of the problems. On this basis, significantly improves the quality of management [3].

The decision to implement controlling must be balanced and reasonable. . In justifying the decision to implement the controlling can be divided into three components:

Should be weighted and justified all the factors for the adoption of enterprise management positive solution to implement the controlling. The conditions of controlling implementation are following:

1. Setting specific strategic objectives within the controlling.

2. The existence of sufficient economic problems. For example, the average performance of enterprise is 2–3 times lower than the maximum achieved or all analyzed indicators had a negative trend. These indicators include the following: increasing the financial stability, productivity growth, raising the level of investment attractiveness. [4]

3. The presence of administrative problems necessitating the introduction of controlling. These include the following: non-optimized planning system, reducing the efficiency of workflow.

4. Confirmation and specification of the effectiveness of the practical implementation of controlling.

5. The enterprise has enough financial resources.

6. Necessary production resources.

7. At the time of the decision-making the psychological climate in the team should allow the introduction of controlling.

8. The proof of the relevance and timeliness of the introduction of controlling [3].

9. There is necessity of qualitative component of human resources within the implementation of controlling. Availability of trained professionals in this field will allow controlling to effectively function in the management of the company. With the aim of effective implementation of the controlling system, as well as its stable development and improvement company needs very high qualified specialists. Demands for the qualification of controllers depend on the internal and external environment of company.

The design and implementation of a controlling system should start with sound financial condition of the company, and in a favorable atmosphere from a psychological point of view [3].

### Summary

Controlling – is an essential element of modern management – one of the most effective methods of effective management on the market, a factor of crisis management. Controlling – is a system that combines accounting, planning, marketing, analysis in a single managed system. Controlling system helps companies to clearly define the goals, principles and methods of management, and how to implement them. It is therefore necessary to use the experience of foreign countries and companies to introduce a system of controlling.

Controlling promotes better governance and focused on the future development of enterprises, the main purpose of which is the orientation of the management process to maximize profits while minimizing risk and maintaining liquidity and solvency of the company. In addition, the controlling not only allows to foresee the results and plan the activities of the company, but to have an accurate

and timely information needed to make informed management decisions.

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## DYNAMICS OF PROINFLAMMATORY CYTOKINES ON THE BACKGROUND OF DRUG THERAPY IN PATIENTS WITH CHRONIC HEART FAILURE

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Impact of pharmacotherapy on the concentration of pro-inflammatory cytokines and C-reactive protein in chronic heart failure patients caused by ischemic heart disease was studied. 126 patients, who were divided into 4 groups were examined. Group 1 received  $\beta$ -blockers; the second group received angiotensin-converting enzyme inhibitors. While Group 3 received the combined therapy with both  $\beta$ -blockers and angiotensin-converting enzyme inhibitors. Group 4 received only standard therapy. The concentration of cytokines (Tumor Necrosis Factor- $\alpha$ , interleukin-1 $\beta$ , interleukin-6) and C-reactive protein was determined both before and after 9 weeks of treatment. Thus, it was revealed that angiotensin-converting enzyme inhibitor (perindopril 2,5–10 mg daily) reduces the concentration of Tumor Necrosis Factor- $\alpha$  by 76,3%, interleukin-1 $\beta$  – by 77,9%, and interleukin-6 – by 63,0%. Moreover, the combined therapy with angiotensin-converting enzyme inhibitors and  $\beta$ -blockers (2,5–10 mg perindopril and metoprolol succinate 12,5–100 mg daily) reduce C-reactive protein levels by 43,1%.

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**Keywords: pro-inflammatory cytokines, C-reactive protein, angiotensin-converting enzyme inhibitors, Chronic Heart Failure**

Prevalence of chronic heart failure (CHF) in the Russian Federation is quite high. Around 3–3,5 million patients suffer from symptomatic heart failure (Functional Class – III–IV) [1]. Currently, to determine the tactics of patients with heart failure, as well as to prevent its development in patients with ischemic heart disease (IHD), it is necessary to consider the pathogenesis of this process.

Formation of the left ventricle (LV) dysfunction with the transformation from asymptomatic to severe CHF is expressed not only by the activation of neurohormonal systems such as sympathetic-adrenal and renin-angiotensin-aldosterone, but also by immune activation and systemic inflammation [2]. Pro-inflammatory cytokines are important components of this process [3]. Tumor Necrosis Factor- $\alpha$  (TNF- $\alpha$ ) and interleukin 6 (IL-6) are recognized as the most important of this class [4]. The subject of debate is the degree of cytokines increase in blood and evaluation of their role in patients with ischemic heart disease, as well as data about the changes of plasma levels of pro-inflammatory cytokines under the impact of CHF therapy, which in its turn requires further study.

**Objective.** To determine drug therapy impact on the concentration of pro-inflammatory cytokines and C-reactive protein (CRP) levels in blood serum of patients with ischemic heart disease, postinfarction atherosclerosis.

### Materials and methods of research

In randomized open study 126 patients were examined, 109 males (86,5%) and 17 females (13,5%), mean age  $56,6 \pm 10,8$  years. All the patients suffered from myocardial infarction 4 months ago. To determine the

Functional Class (FC) of CHF the New York Heart Association (NYHA) classification using 6 minute walk test was used. Thus, CHF FC-I was detected in 29 patients (23%), CHF FC-II was revealed in 45 (36%) patients, CHF FC-III – in 42 patients (33%) and CHF FC-IV – in 10 patients (8%). Control group comprised 30 apparently healthy individuals (mean age  $49,9 \pm 6,4$  years), in which after clinical and laboratory studies no diseases of cardiovascular or other systems were revealed. All the patients were divided into four groups according to stratification method. Group 1 ( $n = 35$ ) included patients who on the basis of standard therapy received  $\beta$ -blockers (BB) (metoprolol succinate 12,5–100 mg daily). In Group 2 ( $n = 25$ ) patients received angiotensin-converting enzyme (ACE) inhibitor (perindopril 2,5–10 mg daily). The patients in Group 3 ( $n = 50$ ) received a combined therapy with both BB and ACE inhibitors. The fourth group ( $n = 16$ ) consisted of patients received only standard therapy, neither beta blockers nor ACE inhibitors were included in the scheme of their treatment (because of contraindications or side effects). As for standard therapy it included lipid-lowering agents (razuvastatin 10 mg daily), nitrates (nitrosorbid 20 mg daily) if necessary, antiplatelet agents (aspirin 75–150 mg per day/chimes 200 mg daily), sydnonimine (1–4 mg molsidomine 2–3 times daily), as well as calcium antagonists (diltiazem 120 mg daily). A survey of patients was conducted both before and after 9 weeks of treatment. Cytokines (TNF- $\alpha$ , IL-1 $\beta$ , IL-6) and CRP plasma levels were measured with ELISA using «Vector-Best» (Russia) reagent. The results of cytokines were expressed in pg/ml, CRP – mg/l.

Statistical analysis of the data was held on a personal computer using Median test and such programs as «Microsoft Excel» and «Statistica 6.0». The results are presented as Me (25–75%) (Median, interquartile range (25–75 percentile)). Differences were considered significant at  $p < 0,05$ .

### Results of research and their discussion

Concentration of cytokines and CRP in patients with chronic heart failure changed as

follows. Levels of pro-inflammatory cytokines and CRP were higher and significantly differed as compared to control group. Thus, CRP levels increased by 3,9 times, TNF- $\alpha$  – by 3,1 times, IL-1 $\beta$  – by 4,6 times, and IL-6 – by 5,6 times (Tab. 1).

**Table 1**

The content of pro-inflammatory and anti-inflammatory cytokines and serum CRP levels on the background of the therapy (Me (25% 75%))

| Data                  | Control group, <i>n</i> = 30 | Patients with CHF, <i>n</i> = 126 |                         | <i>p</i> before and after treatment * |
|-----------------------|------------------------------|-----------------------------------|-------------------------|---------------------------------------|
|                       |                              | before treatment                  | after treatment         |                                       |
| CRP, mg/l             | 1,15<br>(0,49–1,72)          | 4,52<br>(3,46–6,51)               | 3,35<br>(2,55–4,32)     | <i>p</i> < 0,01                       |
| TNF- $\alpha$ , pg/ml | 36,51<br>(32,73–39,66)       | 113,35<br>(72,2–219,7)            | 62,91<br>(32,67–102,4)  | <i>p</i> < 0,001                      |
| IL-1 $\beta$ , pg/ml  | 34,34<br>(31,71–36,67)       | 156,71<br>(110,4–275,45)          | 82,43<br>(47,75–118,83) | <i>p</i> < 0,001                      |
| IL-6, pg/ml           | 17,24<br>(14,75–20,42)       | 97,01<br>(68,65–149,75)           | 79,02<br>(55,6–118,2)   | <i>p</i> < 0,05                       |

Note : \* – significance of differences was tested based on Kruskal-Wallis test for related samples.

Under the influence of differential treatment concentration of cytokines and CRP in patients with chronic heart failure decreased to a great extent in all groups (Table. 2).

**Table 2**

Changes in the content of inflammatory markers levels, depending on the type of receiving therapy (Me (25% of 75%))

| Data                  |                  | Therapy                        |                                    |                           |  |
|-----------------------|------------------|--------------------------------|------------------------------------|---------------------------|--|
|                       |                  | Standard therapy <i>n</i> = 16 | Metoprolol succinate <i>n</i> = 35 | Perindopril <i>n</i> = 25 | Perindopril + Metoprolol succinate <i>n</i> = 50 |
| CRP, mg/ml            | before treatment | 4,7 (4,3–6,3)                  | 3,7 (3,4–6,5)                      | 4,8 (3,2–6,3)             | 5,1 (3,4–7,1)                                    |
|                       | after treatment  | 5,4 (2,9–8,2)                  | 2,9 (1,6–4,1)                      | 3,4 (2,7–4,0)             | 2,9 (1,9–5,1)                                    |
|                       | <i>p</i>         | < 0,05                         | < 0,05                             | < 0,01                    | < 0,01   |
| TNF- $\alpha$ , pg/ml | before treatment | 100,0 (72,3–85,7)              | 100,1 (56,0–187,9)                 | 138,2 (74,7–338,1)        | 157,4 (82,9–241,2)                               |
|                       | after treatment  | 94,7 (86,1–105,8)              | 84,6 (54,9–102,4)                  | 32,6 (13,2–89,2)          | 67,4 (44,4–218,3)                                |
|                       | <i>p</i>         | > 0,05                         | < 0,05                             | < 0,001                   | = 0,001  |
| IL-1 $\beta$ , pg/ml  | before treatment | 210,8 (102,9–292,6)            | 133,0 (87,9–155,6)                 | 284,6 (134,7–338,1)       | 174,6 (110,3–335,7)                              |
|                       | after treatment  | 199,4 (56,5–569,3)             | 113,1 (84,7–384,7)                 | 63,5 (45,4–95,3)          | 68,9 (47,2–101,8)                                |
|                       | <i>p</i>         | > 0,05                         | < 0,05                             | < 0,001                   | < 0,01   |
| IL-6, pg/ml           | before treatment | 89,9 (81,4–101,6)              | 92,0 (54,8–111,6)                  | 122,1 (75,0–186,2)        | 102,4 (75,7–170,7)                               |
|                       | after treatment  | 85,6 (78,6–96,1)               | 90,5 (76,9–128,1)                  | 45,2 (31,8–88,8)          | 79,0 (68,2–118,2)                                |
|                       | <i>p</i>         | > 0,05                         | > 0,05                             | < 0,01                    | < 0,05   |

Note : \* – Significant difference was tested based on Kruskal-Wallis test for related samples.

In patients of Group 1 under  $\beta$ -blockers treatment CRP levels decreased by 21,4%, TNF- $\alpha$  – by 19,5%, and IL-1 $\beta$  – by 14,9%, which significantly differ from baseline. In the second group after treatment with ACE inhibitors dynamics of CRP concentration decreased by 30,1%, TNF- $\alpha$  – by 76,3%, IL-1 $\beta$  – by 77,9%, and IL-6 – by 63,0%, which also significantly differ from baseline. In blood of patients who received both standard treatment and combined therapy with beta blockers and ACE inhibitors (Group 3), the levels of CRP, TNF- $\alpha$  and IL-1 $\beta$  have also become less. Thus, CRP levels in blood serum decreased by 43,1% ( $p < 0,01$ ), TNF- $\alpha$  – by 57,2% ( $p < 0,001$ ), IL-1 $\beta$  – by 60,0% ( $p < 0,001$ ).

Moreover, IL-6 concentration in this group also decreased by 22,9% ( $p < 0,05$ ). In Group 4, in which patients under standard therapy receive neither  $\beta$ -blocker nor ACE inhibitor, CRP levels increased by 14,8%, while the concentration of pro-inflammatory cytokines decreased as follows TNF- $\alpha$  by 5,31%, IL-1 $\beta$  by 5,4%, IL-6 by 4,7%. No significant changes were observed ( $p > 0,05$ ).

### Conclusions

1. In chronic heart failure patients caused by ischemic heart disease and myocardial infarction ACE inhibitor (perindopril 2,5–10 mg daily) reduces the concentration of TNF- $\alpha$  by 76,3%, IL-1 $\beta$  – by 77,9%, and IL-6 – by 63,0%.

2. The combined therapy with both ACE inhibitors and  $\beta$ -blockers (2,5–10 mg perindopril and metoprolol succinate 12,5–100 mg daily) reduce CRP levels by 43,1%.

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*Materials of Conferences***INFLUENCE OF DIMETHYLSULFOXIDE ON THE ADHESIVE ACTIVITY STAPHYLOCOCCUS AUREUS ISOLATED FROM THE WOUNDS**

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**Introduction.** Adhesion can be regarded as an adaptation to maintain the indigenous microflora colonization resistance and pathogenicity factors in the implementation of infection among representatives pathogens. One of the important areas of modern microbiology is the study of substances that block microbial adhesins. In the community *Staphylococcus aureus* was the most common causative agent of furunculosis, and infections of the skin and soft tissues. The drug «Dimexide» is used in the treatment of wound infections. In the available literature describes the anti-inflammatory, immunosuppressive and conductive properties dimethylsulfoxide. However, no data on the effect of the drug on the adhesion of microorganisms.

**Aim.** Study of the effect of dimethylsulfoxide on the adhesive activity of *S. aureus*, isolated from wounds.

**Materials and methods.** Studied 50 strains of staphylococci isolated from wounds. The identification of isolates was performed by defining cultural, morphological, tinctorial and biochemical properties. To study the effects on the adhesive properties of *S. aureus* used the drug «Dimexide», active ingredient – dimethylsulfoxide (DMSO). We applied the 25, 12, 6 and 3% concentration of the drug. Study of adhesive activity of isolates was performed according to standard methods Brilisa. Study of adhesion were performed in 96 – well microplates for immunological studies. In control samples, the mixture of native human erythrocytes 0 (I) blood Rh + (4 McF) and the suspension of test culture (0,5 McF) were added into the wells microplate to 20 mkl. In experimental samples to the wells shall be added to an equal volume of DMSO solution of different concentrations. The plate was placed in an incubator and incubated at  $37 \pm 0,1^\circ\text{C}$  for 30 minutes, shaking the mixture regularly. At the end of the incubation process smears were prepared, fixed in the flame, Gram stained and studied under a light microscope with immersion. The adhesive properties were evaluated considering the average adhesion (AA) – the average number of bacteria adhered to the same red blood cells, adhesiveness index microorganism (AIM) – the average number of microbial cells in the one participating in the adhesive process of erythrocyte and participa-

tion rate of erythrocytes (PRE) – the percentage of red blood cells with on its surface adherent bacteria. Statistical processing of the results was performed using Excel 7,0.

**Results.** These studies of the effect of DMSO on the adhesive properties of staphylococci suggest that the drug in 100% block adhesive activity of strains studied. The results showed that the treatment of strains studied in the above concentrations of DMSO resulted in significant declines in adhesion ( $P < 0,05$ ) compared with control. It was found that reducing the concentration of the drug was accompanied by an increase in its anti-adhesive activity. Thus, when the concentration of DMSO 25%, the average spa was  $0,37 \pm 0,215$ , and at 3% –  $0,04 \pm 0,04$ . Similar results were obtained in the study of the index of adhesiveness of the microorganism. The adhesive capacity of *S. aureus* (control values AIM  $2,72 \pm 0,75$ ) was the lowest in the processing of 3% concentration of the drug. In the study of such a measure as the participation rate of erythrocytes (PRE), similar results were obtained (mean AA in the control strain was  $89 \pm 11$ , and after treatment with 3% DMSO –  $4 \pm 4$ ). Correlation analysis revealed a positive relationship between drug concentration and performance AA, AIM and PRE ( $r = 0,92$ ,  $r = 0,42$  and  $\eta = 0,93$ , respectively). This indicates a dose-response effect of DMSO on the adhesive activity of isolates of *S. aureus*. Moreover, the increase antiadhesive effect occurs at lower concentrations.

**Conclusions.** Experiments on the effects of the drug on adhesion show that DMSO in 100% leveled adhesive activity. Revealed a dose-dependent effect – increased antiadhesive activity at lower concentrations. This is probably due to the greater mobility of the molecules of DMSO as the concentration increases with an increase in the viscosity of the solution and change the physical and chemical characteristics. This phenomenon requires further study. *S. aureus* adhesion process is done by using the hemagglutinin, which is a receptor for fibronectin. Anti-adhesive activity of the drug may be due to the interaction of DMSO molecules to the active site of fibronectin and its receptor blockade. In vitro experimental model demonstrates greater antiadhesive effect of low concentrations of the drug against strains of staphylococci. At the same time, the most pronounced bacteriostatic have higher concentrations of the drug.

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## SOCHI – THE WINNER IN THE BATTLE FOR THE OLYMPIC GAMES 2014

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The Olympic Games provide a powerful impetus to the economic and socio-cultural development of the country, but also contribute to its standing in the international arena. For Russia, the Olympics will not only become a milestone in terms of image, but also will greatly increase the status of the city of Sochi and the country, will have a powerful impact on the development of the Krasnodar region and the economy as a whole, attract a lot of sponsors to collaborate, both domestic and foreign. The value of games in Sochi for our people first of all means the formation of national guidelines in the field of sports, to unite people with one common goal and the opportunity to prove that the fate of the national sport, as well as all other areas of life for the population of the state is imp.

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**Keywords:** Olympic Games, infrastructure, sports, social and cultural development, competitiveness, sports power

The growing awareness of culture of sports as part of the general culture of the individual and society is an important fact in the modern world. Tell about the new generation. Manifest traditional Russian hospitality. Show the world the diversity of Russian culture and nature, integration with other world cultures [2].

Hosting the Olympic Games is the biggest landmark event in the history of any nation. The project «Sochi 2014» is good for our country. The Sochi Olympic Games were conceived by the government as an infrastructure project, which was to improve life in the city by raising additional capital and a fairly large number of tourists. «We are entering the time when the Olympic hopes and dreams begin to take shape. The victory of Sochi in the «Olympic race» aroused great interest of the Russian public and business community. There was hope that the Winter Olympics would become the key event that will not only significantly raise the status of the city of Sochi, but would have a powerful impact on the social and cultural development of the Krasnodar region and on the economy as a whole as well. To answer the question why it is the city of Sochi, which is worthy of honor to hold the Olympics, first of all it should be noted that such a great sports power as Russia with a rich Olympic history and being one of the recognized world leaders in the winter sports has never hosted the Winter Olympic Games. Russia is believed to reserve this right. Moreover Russia has a vast experience in organizing major international competitions. Over the past three years Russia has successfully hosted four World Cups on winter Olympic sports, and for the past 25 years, more than a hundred international tournaments [1].

Russia will hold its first ever Winter Olympic Games, which will become the most important event in the life of our country. The Games will contribute to the economic growth of the region, turning Sochi into the world-class resort and business center. With the support of the Russian Federation Government in the coming years a new transport infrastructure is to be constructed, its network of hotels is to be

expanded, the utilities are to be upgraded, and a number of modern sports facilities are to be built in the unique resort town of Sochi. The athletes from Russia and the CIS countries will enjoy the most modern training facilities.

In July 2007, the world learned that the Russian city of Sochi takes over the Winter Olympic torch from Vancouver, Canada. Salzburg and Pyeongchang were Sochi's rivals. The first Winter Olympics will be held in Russia. The IOC supported the Olympic idea of millions of citizens of Russia. The Olympics can inspire the change. The Games in Sochi have very high standards. We will do our best to justify this confidence and bring sport to a new and better level», – said the head of state. To make the holiday truly national, we will not only have to beat predecessors, but also ourselves, improve ourselves.

The Games brand is the embodiment of our commitment to the ideas expressed by the five Olympic rings, and strategic vision of the «Sochi 2014»: innovative Olympic and Paralympic Winter Games, expressing the nature of the new Russia will generate positive changes. We must find new solutions that will lead to significant, sustainable and qualitative changes in the country, change attitudes towards differently abled people, set standards in various sectors – ecology, management and construction. [3].

For Russia, the Olympics will not only become a milestone in terms of image but will attract a lot of sponsors, both domestic and foreign ones. Usually the Olympics combine the idea of sporting and cultural events. The organizers of the event in Russia aim at showing the individuality and uniqueness of the country and the host city of the Winter Games. The objective is to position the city of Sochi as the center of cultural life in the eve of the Olympics [4].

There is hope that Sochi will remain the cultural capital after the event since the Olympic will boost its development. Russia plans to turn the resort into the center of the so-called event tourism. [1]. Russia's victory in the struggle for the right to host the Olympics was the evidence of its increased international prestige. The Olympics are both an honor and test

for the host country, which should be ready for some unexpected (or even inevitable) internal and external challenges.

The fact, that none of the candidate cities except Sochi does not have such a powerful and full of sincere enthusiasm support of their country, is of particular importance. Not only do the population of Sochi and the rest of Russia, but the government and the president personally as well support Sochi as a host of the Olympics. It means that the 2014 Olympics will be paid special attention in Russia and all the problems the organizers might face will be solved as quickly as possible [7].

The Olympic Games provide a powerful impetus to the economic and socio-cultural development for the country as well as contribute to its standing in the international arena. Sporting event of such enormous scale unite people from all over the world. Major sporting events can potentially bring direct and indirect economic benefits. These direct benefits involve capital construction and the construction of infrastructure associated with this event, the long-term benefits involve lower transport costs due to improved road or rail. Indirect benefits may include the effects of advertising, which represent the host city or country as a potential destination for tourism or business in the future and increase the sense of civic pride and national identity, as well as raise the prestige of the host city or country.

A large-scale project to be held in Sochi Winter Olympic and Paralympic Games in 2014 is one of the most ambitious and unprecedented projects for the integrated development of not only the Krasnodar region and the southern Russia, but Russia as a whole as well.

Government of the Russian Federation adopted a resolution «On the Construction of the Olympic facilities and Development of Sochi as a mountain resort» (hereinafter – the Program). The program is developed taking into account the importance of Sochi as a federal resort. It provides a comprehensive approach to solving the problems of the further development of Sochi in application of the optimum balance between the resort and sporting use of the area.

The objectives of the program are: the infrastructure development in the city of Sochi and the creation the Russia's first world-class mountain resort, providing the high-class Russian athletes with training bases for winter sports, providing the possibility for hosting international and nationwide competitions in winter sports in Russia, providing Sochi with competitive advantages.

The Program is planned to result in:

- increase of the Sochi mountain resort competitiveness by aligning transport and engineering infrastructure, by highly qualified staff, the

development of modern tourist infrastructure to enable the increase the flow of tourists;

- creation of high-sports facilities for the Russian elite sport;

- raising the standard of living of the city of Sochi and the acceleration of growth of Krasnodar region's GRP.

Improving the general economic background of the region and accelerating of economic development in the region will give additional positive impact to attract the attention of investors and promote the growth of their business. Infrastructure and various production facilities constructed in the period of preparation for the XXII Olympic Winter Games and XI Paralympic Games 2014 will promote the development of business, the increase in supply of services (including banking), the entry of new firms to the market. It is necessary to take into account the positive impact of the program on the development of infrastructure in the region, improve the investment and business climate that will ensure growth of gross regional product. The development of the tourism industry is an important component in assessing the social and economic consequences for the city of Sochi after the holding the XXII Olympic Winter Games and XI Paralympic Winter Games in 2014 [8].

On the one hand, they will attract more investment in the hotel sector of the city; on the other, they will create additional full-time and part-time jobs to serve the expected influx of tourists. While developing the Games legacy program it is necessary to ensure the operation of the Olympic venues with achieve the level of income sufficient for their maintenance without additional budget. The main objective is to ensure the return on capital investment in construction. Sochi is the main and busiest resort in Russia. The entire energy infrastructure will be in use after the Games are over. The city will become a base for training of the Russian and foreign athletes.

The Sochi Olympics will be the second Olympics held in our country, the first was the Olympics of 1980. According to the Western counterparts, the Olympics-80 was of high standards, but due to the increasing economic potential of Russia, the Sochi Games are expected as a world-class event. It is known and remembered even by those who were children in the 1980-s. However, in 1980 there were the Summer Olympics in Russia, at that time the Soviet Union, and as it is known the coming Olympics will be the winter ones. And so it like the first time, things are very different, and again the whole country is excited. At first it may be surprising that it was Sochi – the main resort city of Krasnodar region that was elected as the place of the winter sports event. However, it is almost immediately becomes

clear that such a choice is a reason for pride, because Sochi will be the first site where the Winter Olympics are organized, located in the subtropics [5, 6].

The 2014 Olympics will be held in two main locations. The ski resort with the beautiful name «Krasnaya Polyana» (Red Lawn) is located 39 km from Sochi. There will be outdoor sports activities including skiing, bobsledding, downhill slalom and many others. Bobsleigh track called «Rzhanaya Polyana» (Rye Lawn) and ski resort «Rosa Hjutor» (Rose Farm) already put in operation are the main Olympic venues in «Krasnaya Polyana».

In addition, there will also be an Olympic village built in the scenic mountains of Sochi Lesser Caucasus. Now in Sochi the construction of the Olympic Park is put on a grand scale. It will host the ice hockey, figure skating, skating and other indoor sports. The entire Olympic Park will consist of such Olympic venues as the Great Ice Arena, which will host hockey matches, designed for 12 000 spectators, and the Small Ice Palace, designed for the same purpose for 7 000 spectators, a skating center can accommodate 8 000 spectators. In the Ice Palace the competitions in figure skating will be organized and short-track is built, the capacity of the palace is 12 thousand people [7].

The Olympics opening is extremely important for each new Olympics. It is obvious that the Sochi Olympics should certainly be consistent with our native-Russian traditions. That is the characters of the famous Russian fairy tales as well as the first Emperor of Russia will attend the opening. The ceremony will begin on February 7, 2014 at the main Olympic stadium. In the course of preparation for the Olympic and Paralympic Games in 2014 a lot of participants are attracted to participate in the opening and closing ceremonies. Only at the opening ceremony of the 2014 Olympic Games will involve more than 2,5 thousand people, among them: acrobats, trapeze artists, opera and ballet soloists, children's dance and dance groups and puppeteers. The number of actors involved has been estimated as unprecedented. 2014 will see the culmination of the Cultural Olympiad. The oncoming Olympics are sure to pull forward the whole Krasnodar region [5]. The region is unique due to its climatic conditions, but it has not seen any large-scale changes since the middle of the twentieth century. And they were extremely needed for the entire country to enjoy this recreational area. The idea is to create a year-round sports and tourist center which is absolutely logical. The scale construction is due to the fact that the sports facilities and related infrastructure are to be built in strictly defined time period it is impossible to shift the terms of the Olympics. This process acceler-

ated the construction which changed the entire region radically. More than 300 kilometers of roads, 200 kilometers of railway track, a large number of hotels, power plants, and sewage treatment plants were built. Now Sochi employs 70 000 people – and the clock, in three shifts. But what is more important Sochi set an example how to implement large-scale sports projects. That is why nowadays we are trying to win the right to host such competitions as the «Formula 1», the football World Cup, the World Championships in Athletics, Aquatics Championships and the World Student Universiade [8]. Our main advantage is the ability to start from scratch to create the most compact, most modern and efficient infrastructure. In conclusion, we should pay special attention to the role that the Olympic Games in Sochi in 2014 are appealed to play for Russian citizens and the state as a whole. If we consider the international relations of Russia, it must be assumed that the results of the Sochi games should be, above all, the strengthening of Russia's position in the international arena not only as a country able to provide the necessary level of organization of such a big event, but as a state, which is fully able to manifest the strong national spirit.

The Sochi Olympic Games will give a powerful impetus to the economic development not only of Sochi, but the whole of southern Russia. The value of games in Sochi for our people first of all means the formation of national guidelines in the field of sports, to unite people with one common goal and the opportunity to prove that the fate of the national sport, as well as all other areas of life for the population of the state is important.

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## SCORM 2004 TRAINING SIMULATORS IN E-LEARNING SYSTEM FOR TRAINING BACHELORS DURING STUDY OF COMPUTER SCIENCE

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This researching is directed on the urgent scientific problem solution which consists in development of high-quality electronic manuals on the basis of modern computer technology for learning computer science. There have been developed and implemented two training simulators in SCORM 2004 for two subjects: Arithmetic and Logical Foundations of Computer Science. Training simulators are used in e-learning systems in National research nuclear university «MEPhI». AdobeFlashProfessionalCS5 using integrated programming language ActionScript 2.0 has been used as the development environment. The results of students learning before and after adoption of training simulators has been analyzed by using cluster analysis k-means. Statistics demonstrate that using information-educational resources in format SCORM 2004 is more effectively than using worksheets.

**Keywords:** information-educational resources, methodology SCORM, systems of electronic training, program training apparatus, cluster analysis k-means

The development of information technology cause the advent of many tools for development e-learning elements. To use e-learning elements and e-learning systems which have been developed by various technology, the standards are applying. Standard SCORM (Sharable Content Object Reference Model) 2004 have been received the widest recognition among all of the e-learning standards. The standard SCORM 2004 based on the following basic requirements for educational assets, such as accessibility, adaptability, affordability, durability, interoperability, reusability.

At the National Research Nuclear University MEPhI (NRNU MEPhI) has been developed a system of e-learning «MEPhIst» which allows to use courses of various vendors supporting standard SCORM. Standard SCORM assets are formed into a common SCORM package, which is a bundle of several or more packages containing content of Web-pages. The material in SCORM-package presented by individual small blocks which can be included in different training courses and regardless of development tools can be used by e-learning system. SCORM packages may contain the following educational components: electronic lectures and presentations, tests, training simulators, etc. [2, 3].

There are many online – calculator to convert numbers from one system of numeration to another and to study the laws of mathematical logic in the public domain currently. Also there is a set of theoretical programs but they don't formation practical skills of the students. To increase the quality of education have been developed and implemented two training simulators in SCORM format for two subjects: Arithmetic and Logical Foundations of Computer Science.

### Materials and methods of research

Training simulators are part of software simulators in SCORM-format packages, the elements of which are also lectures and tests.

This packages also include the xml-file (the manifest). This file describes the structure of the package and the files which included into training unit. This file should be named «imsmanifest.xml» and have to be in the root directory of the package.

Blocks of educational material which included into the package can be of two types: asset and sharable content object (SCO). Asset – an element which interacts with the LMS-server. It could be a html-page, a picture, a flash-file, etc. SCO – an element that interacts with the LMS-server: reports on the progress and results of the study, receiving and transmitting additional data, etc. Sample of the code manifest is represented at Fig. 1.

Adobe Flash Professional CS5 using integrated programming language Action Script 2.0 has been used as the development environment.

Training simulator «Arithmetic Foundations of Computer Science» provides tasks to convert the number of decimal number system to binary, octal, and hexadecimal [6].

Training simulator «Logical Foundations of Computer Science» consists of four tasks on topics such as the distributive law, the law of Blake-Poretsky, law clutching, absorption law [4].

Training simulators are operated in two modes: self-training and knowledge control [2, 3]. While self-training the user can choose the topic of task. If the answer is incorrect, the user can't start other task and the system generates an error. Remarks for the competed task doesn't accrue. While knowledge control user have to go through all the stages of the training simulator to obtain the remarks. In both modes, the student is offering to construct the answers from the given elements.

Passing algorithm and scoring of training simulator «Arithmetic Foundations of Computer Science» is represented at Fig 2.

Passing algorithm and scoring of training simulator «Logical Foundations of Computer Science» is represented at Fig. 3.

### Results of research and their discussion

Self-training of the course «Computer Science» in 2011 was provided by lectures, homeworks and written tasks. The difficulty of checking tasks was more than 200 hours because more than 80% of the students were able to take the job in the second or third time only with the help of interactive communication with the teacher.

```

<manifest identifier="FlashTestSCO" version="1.1"
xmlns="http://www.imsproject.org/xsd/imscp_rootv1p1p2"
xmlns:adlcp="http://www.adlnet.org/xsd/adlcp_rootv1p2"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://www.imsproject.org/xsd/imscp_rootv1p1p2      imscp_rootv1p1p2.xsd
http://www.adlnet.org/xsd/adlcp_rootv1p2      adlcp_rootv1p2.xsd">

  <organizations default="TOC1">
    <organization identifier="TOC1">
      <title>Arifmeticheskie_osnovi</title>
      <item identifier="ITEM1" identifierref="RESOURCE1">
        <title>Trenazher</title>
      </item>
    </organization>
  </organizations>
  <resources>
    <resource identifier="RESOURCE1" type="webcontent" adlcp:scormtype="sco" href="Kontr.html">
      <metadata>
        <schema>ADL_SCORM</schema>
        <schemaversion>1.2</schemaversion>
        <adlcp:location>sco.xml</adlcp:location>
      </metadata>
      <file href="Kontr.html"/>
      <file href="Kontr.swf"/>
    </resource>
  </resources>
</manifest>

```

Fig 1. Code of xml-file (the manifest) for describes the structure of the package and the files which included into training unit «Arithmetic Foundations of Computer Science»

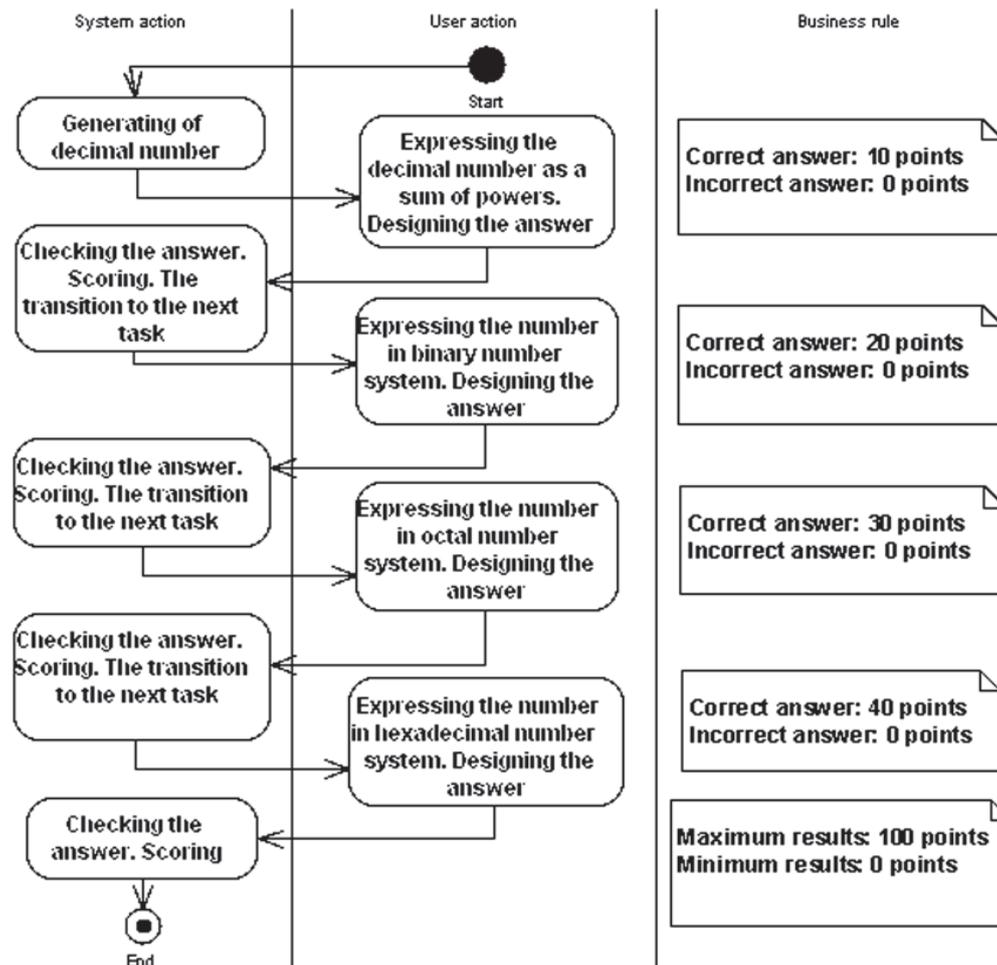


Fig. 2. Activity diagram in Enterprise Architect describing passing algorithm and scoring of training simulator «Arithmetic Foundations of Computer Science»

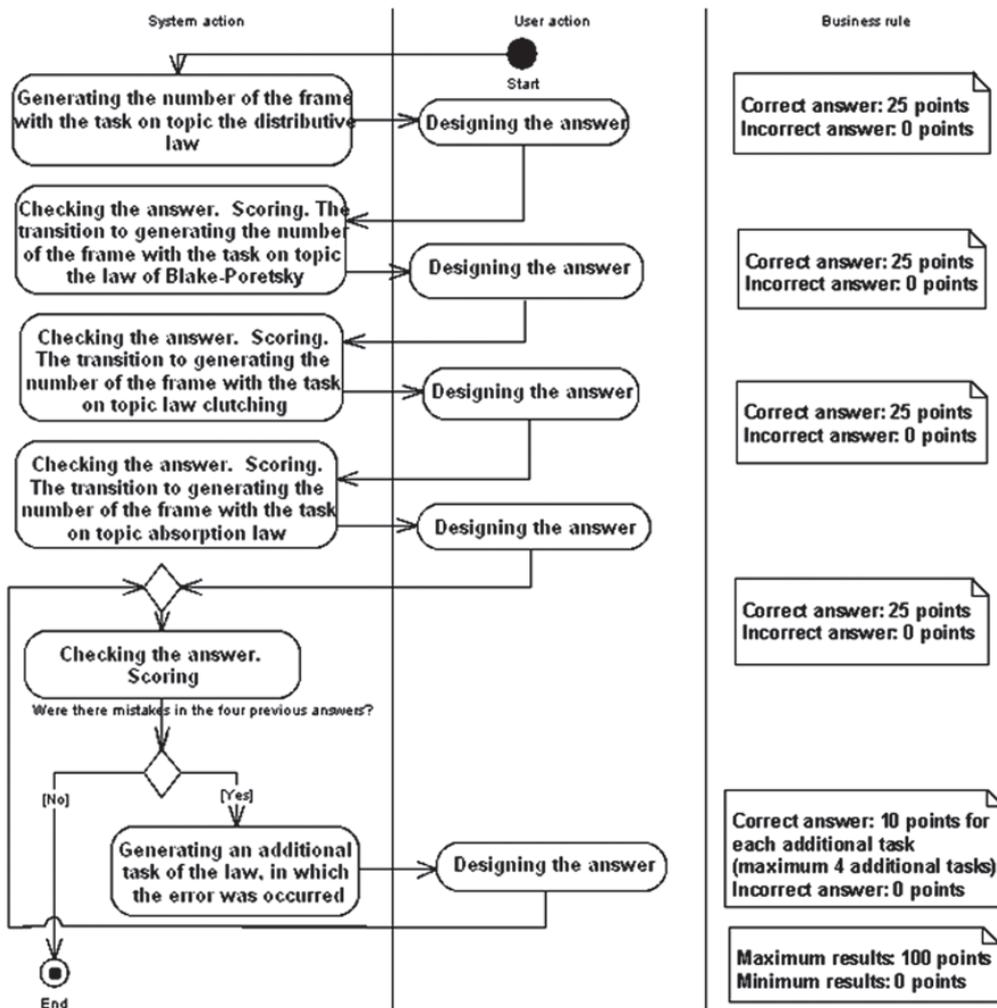


Fig. 3. Activity diagram in Enterprise Architect describing passing algorithm and scoring of training simulator «Logical Foundations of Computer Science»

In 2012, to reduce the difficulty of checking tasks were used two training simulators: «Arithmetic Foundations of Computer Science», «Logical Foundations of Computer Science». Students were suggested to use training simulators in self-training mode for developing skills for solving practical problems. After one week training, was given access to training simulators in the knowledge control mode for students.

The results of final tests of the course «Computer Science» have been thoroughly analyzed. Cluster analysis has been chosen for test's results statistical processing. This method is used for objects classification into relatively homogeneous groups which are called clusters. Objects must be similar together in each cluster and differ from objects in other clusters.

To perform clustering method was chosen clustering k-means (k-means). This method based on the definition as long distances as pos-

sible between k-clusters. By using this method could be selected the number of clusters and thus were hypothesized of a partition of test results into four clusters: «unsatisfactory», «satisfactory», «good» and «excellent». Analytical platform Deductor Studio has been chosen for doing cluster analysis.

The partition into clusters in Deductor Studio according to the following algorithm:

1. The initial distribution of objects into clusters. Center of the cluster – the average value of the variables of objects in the cluster. Sets the number of k and in the first step, these points are considered the «center» of the clusters. Each cluster corresponds to one center. The choice of initial centers are randomly. As a result, each object is assigned to a particular cluster.

2. Iterative process. Selected new centers of clusters and objects redistributed. The process of computing centers and redistribution of

objects continues until the centers of the clusters are stabilized that is all objects will belong to the cluster to which they belonged to the previous iteration.

The results of the clustering were divided into 4 clusters. Evaluation results were a hundred point scale. Comparison cluster's volume in 2011 and 2012 years is represented at Fig. 4:

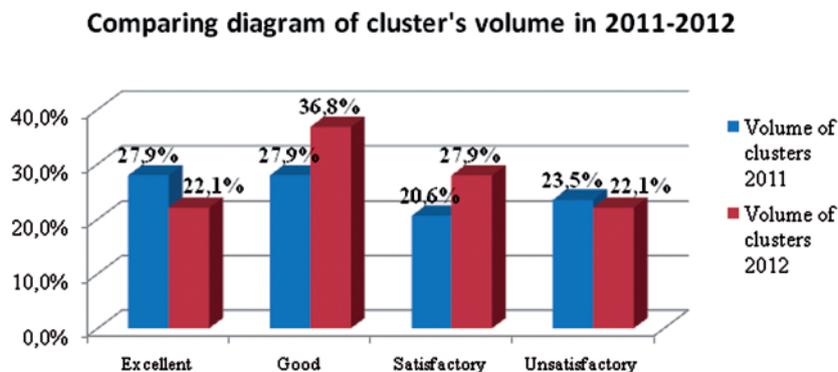


Fig. 4. Comparison cluster's volume in 2011 and 2012 years

The diagram shows that the cluster with the results of «good» increased in 2012, and the cluster with the results as «satisfactory» also increased. In turn, the clusters are «excellent» and «unsatisfactory» decreased due to redistribution of clusters. The cluster with the results of «good» added the results of the clusters «satisfactory» and «unsatisfactory».

### Conclusions

Statistics shows that the using of training simulators as effective as the written job almost.

For all clusters using training simulators a smaller spread in the center of the cluster the variance is reduced by half, so that changes of clusters is less than 2%. In this case, the difficulty of test results of each training simulators is less than a minute.

The use of e-learning elements allows to realize systematic monitoring of results of training for the organization of independent work of students. Electronic journals jobs enable not only for automatic collection of student's solved tasks, but they're also create an environment for interactive communication with the teacher for correction and rework tasks. This individual work with the teacher sharply increases the number of students, academically as «good» or «excellent», digestibility of educational material in these groups of students using e-learning elements of the tasks on average 1,5 times higher than without them. However, at high flows of students, the difficulty of test results is overrun at several times the required standards of labor.

In some cases, when performing tasks based on an algorithm the process of learning

can automate through interactive software simulators developed methodology SCORM. The results of solved tasks are automatically evaluated and passed to the learning management system LMS. And in this case there is a sharp increase in the number of students, academically as «good» or «excellent». Digestibility of study material in this group of students, only 4% less than when using electronic journals jobs. The difficulty of test results with training simulators is very low.

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*Materials of Conferences***THE COMPUTER METHODS FOR THE DATA PROCESSING AND ANALYSIS**

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At present, a specialist of any profile, daily, should be solved many challenges, having related with the production organization, the activity efficiency improvement of the staff, the marketing, and etc. It is quite needed the quality information and the data informed use, for the actions taking and the right decisions making. Therefore, the important skill to be obtained, to be presented and to be explained all the necessary data have already become for the modern manager.

In the most cases, the decisions making is practically borne the probabilistic character in its nature. It is not always, the right decisions are practically led to the desired effect. But the more accurate, and more reliable are the analysis results, the sooner you'll be reached the desired final result. And, therefore, the adequacy of the used analytical techniques and their methods, the receiving correctness, and the data measurement have been become the particular important aspect. So, the efficient solutions are not practically based only on the human intuition or the reasoning, but they are usually based on the accurate, reliable, valid, timely information.

The methods widespread introduction of the data analysis in daily practice has been stimulated the personal computers spreading. However, for the meaningful operation, the user must have to be possessed some certain and the definite training: to be understood the situations, in which the various statistical methods are being applicable, to be known their possibilities and the limitations, to be able correctly to interpret the results.

What methods are used in that or another case? This is depended on the research aim and the analyzed data nature and their character. And the main goal of the quantitative researches – is the accurate information getting and its analysis on the basis of the comprehensive statistical data processing and their analysis.

In the processes of the data processing and their further analysis, as a rule, the following main stages are presented: the data collecting and their entering; the data visualization; the data processing and their conversion; the statistical analysis; the results presentation.

At present, the statistically analysis programs, having operated in the «Windows» environment, are the most widely used software program.

The Analysis Package is the most affordable software tool to be analyzed in the «Excel» spreadsheets, which is designed to be solved the complex statistical and the engineering challenges. It has the basic tools in itself, with which it can be performed the following operations: the descriptive statistics; the regression analysis; the variance analysis, the exponential smoothing, and the other types of the analysis. For the data analysis performing, by means of all these tools, it should be specified the input data and to be selected the options parameters; the necessary analysis will be conducted by means of the appropriate statistical and the engineering macro – function, and the obtained result will be placed in the output range. If it is necessary to be performed the work in the «Linux» operation system, for the statistical analysis carrying out, it is quite possible to be used the «Gnumeric» spreadsheets, as there is the «statistical analysis» component in this program [1]. The processing and the data survey analysis of the KU «Bolashak» students have been performed, with the use of the computer – based methods of the data. So, the obtained data analysis results have already been used at the arrangements and the measurements development to be improved the students' environment and their learning conditions [2].

So, the «Statistica» special system is practically one from the modern packages of the information technologies, having produced the data statistical processing. This special Program is practically allowed the real possibility to be obtained the descriptive statistics; the frequency tables; the conjugation; the use of the variance; the regression; the multivariate analysis and the other analysis methods; the wide range of the linear and the non – linear modeling tools; the support for the continuous and the categorical predictions; the models' automatic selection. So, this program using is practically given the highest accuracy, the results obtaining reliability of the data processing [3].

So, one of the most obvious methods for collecting, so – called the primary data, is consisted in the questionnaires using (e.g. the questionnaire). Just after the collection, the encrypted records coding is being conducted in one of the well – known special coding methods, and the obtained results are being recorded into the table, and more often into the «Excel» tables. Then, the prepared survey results are being imported into the «STATISTICA» system. So, the researches, having carried out among the students' KU «Bolashak» from 1 to 4 courses of the various specialities and the vocations, in an amount of 100 people, have already

been obtained and collected, as the initial data. After that, the special questionnaire has been developed, having consisted in ten questions. According to the survey data, the data encoding scheme has already been compiled. One of the «Statistica» presented advantages is, that instead of the numerical data may be displayed and the text data, having obtained by the text editor tags. So, it should be noted, that although the text labels display, the numerical values (e.g. the codes) are practically used at the system analysis carrying out.

So, the frequency table's construction is preceded by many types of the analysis. The frequency tables' construction is also built in the «STATISTICA» system and that by the different methods, depending on the type of the data presentation. In order to be constructed the frequency table, the variables have already been specified, and the categorized diagrams have already been built, corresponding to all these variables. So, there is the possibility to be built more complex diagrams in the «STATISTICA» system, depending on the variables number. So, the crosstabulation obtained results (e.g. the contingency) have been visualized with the categorized diagrams and the 2D-, 3D-diagrams, having selected the required number of the variables. The main purpose of the summary diagrams construction – this is the answer to the question, whether there is any link between the crosstabulated variables. In the most cases, the analysis performing – this has been become clear and reliable. However, much caution is needed in drawing the conclusions on the relationships nature between the variables, having based only on the outward difference between the crosstabulated data [4]. As a result, it can said, that the use of the computer processing methods and the techniques has quite been justified, because this is increased the data reliability level, that can be practically used for the further findings and the correct decisions making.

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#### NANOMATERIALS BASED ON GAMMA-ALUMINA OF LABELED TECHNETIUM-99M FOR LYMPHOSCINTIGRAPHY

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During recent years a significant increase in interest towards utilizing radioactive colloid nanomaterials in medicine has been registered. Their implementation in oncology is based upon a possibility of a quick and efficient revelation of «guarding» lymphatic knots, and also their ability to mark autolexics in order to diagnose inflammatory processes. Short-life masurium-99m is the most demanded radionuclide as a marker of autolexics. First of all, it is defined by its cellular-physical characteristics: a relatively short T1/2 (6,02 h) and energy of  $\gamma$ -radiation of 0,1405 MeV that provides for a small exposition dose, but also a significant penetration ability that is need for radiometric evaluations.

A defining factor in selection of radioactive indicator for certain researches is a size of colloid particles. Thus, for example, it is known that an optimal size of particles for radionuclide lymphoscintigraphy equals 20–100 nm. Such particles are discharged from tissues with a speed that does not allow them to penetrate blood bed. Particles of size less than 20 nm can easily enter the blood bed. It complicates visualization of lymph nodes.

This works studies processes of placing radioactive mark  $^{99m}\text{Tc}$  on aluminium gamma-oxide in presence of a restoration agent of stannum. In order to increase an output of nano-colloid of size up to 100 nm and radiochemical clearness of preparations, we used ascorbic acid, natrium pyrophosphate, and gelatin. Results of medical-biological tests of preparations are provided. The work also shows their functional suitability to carry out radionuclide lymphoscintigraphy.

The work was submitted to International Scientific Conference «Innovative medical technologies», Russia (Moscow), May, 21-24, 2013, came to the editorial office on 24.04.2013.

*Materials of Conferences***THE STUDENTS' LIPID PROFILE  
COMPARATIVE ANALYSIS**

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The Tyum SU students' lipidography analysis has already been conducted in the different seasons of the years. A total of 250 students (e.g. 62 young males – 25% and 188 young females – 75%) have already been examined. The average age – is  $19,8 \pm 1,4$  (e.g.  $236 \pm 16$  months). So, the following data have already been defined by the biochemical methods: the total cholesterol (TCE), the triglycerides (TG), the low – density lipoproteins (LDLP), the high density lipoproteins (HDLP). The following very low density lipoproteins have been computed by the calculated way:  $VLDLT = TG/2,2$ ; the atherogenicity index:  $AI = (TCE - LDLP)/LDLP$ . The statistical analysis – is the Statistica (SPSS Inc., ver. 11,5).

It, moreover, has been revealed, that the average lipid profile indicators – are practically within the framework of the normative values (e.g. the GFCF recommendations, 2009). The values' series  $TCE > 5,0$  mmol/l,  $LDLP > 3,0$  mmol/l,  $TG > 1,7$  mmol/l have already been determined, as the dyslipidemic ones. The dyslipidemia prevalence has been recorded at 27% of the young females, and at 9% of the young males. The TCE level has been significantly higher at the young females in the fall period, than that at the young males (e.g.  $4,17 \pm 0,67$  and  $3,89 \pm 0,70$  mmol/l,  $p = 0,05$ ). The TCE higher values at the young females, in compar-

ison with the young males, had been celebrated in the winter and the spring seasons of the year, however, all these differences were not quite reliable. So, the HDLP level at the young females in all the seasons of the year has been significantly higher, than that at the young males (e.g. the fall –  $p = 0,005$ , the winter –  $p = 0,032$ , the spring –  $p = 0,05$ ). So, the LDLP and AI values were not significantly different, depending the examination season. The VLDLT and TG indicators in the fall and the spring did not have the significant difference, according to the sex. In the spring, the young males have been found more atherogenic lipid profile structure, due to the significantly higher TG and VLDLT levels, against the background of the significantly lower HDLP values, than that at the young females (e.g. the young males:  $TG -1,26 \pm 0,65$  mmol/l,  $VLDLT - 0,57 \pm 0,30$  mmol/l; the young females:  $0,94 \pm 0,41$  mmol/l,  $p = 0,038$ ;  $0,43 \pm 0,19$  mmol/l,  $p = 0,038$ , respectively).

Thus, the young females' lipid profile can be characterized, as the pro-atherogenic one, due to higher levels of the TCE and HDLP indicators, in comparison with the young males. So, in spring, more atherogenic lipid spectrum structure has been found at the young males, due to significantly TG and VLDLT higher levels, against the background of the HDLP statistically lower values, than at the young females.

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## Materials of Conferences

## REACTION OF 3H-FURAN-2-ONES WITH TETRAZONIUM SALTS

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Synthesis of novel compounds having practical application as biologically active substances or structural blocks for building of new compounds is a fundamental problem of preparative organic chemistry. From this viewpoint, of considerable interest is the azo combination reaction because it allows easy (in soft conditions) getting some compounds used as dyes either of food application or for dyeing of fabrics. Many azo dyes, depending on the medium pH, change their structure and coloring, which determines their application as indicators.

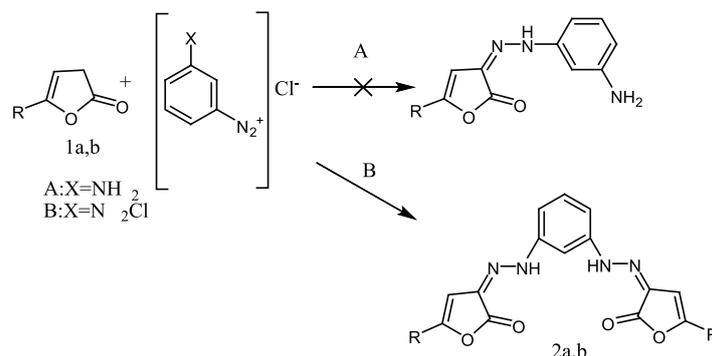
Earlier, we studied azo combination in the series of 5-aryl-3H-furan-2-ones with aryl(hetaryl) diazonium salts. These reactions have been shown to proceed easily, in soft conditions, and to form

3-aryl(hetaryl)hydrazone substituted products with a good yield [1].

*O*-phenylenediamine is known to produce no diazonium salts. In the diazotization reaction conditions, a cyclic diazotype compound (benzotriazol) is formed [2].

We used *m*- and *p*-phenylene diamines in the reaction of tetraazotization. To bring about the diazotization reaction, it is necessary to carefully observe the corresponding technique, the reagent mixing order, and the temperature mode, since a side reaction to form the vesuvine dye is possible. Diazonium salts without isolation from the reactionary mixture are used as the diazo components in the azo combination reaction with 5-aryl-3H-furan-2-ones. The reaction was conducted in a water-alcoholic solution at a temperature within 0–5 °C.

As the used diamines are diazotized, depending on conditions, by one or both amino groups, it is possible to expect the reaction passing by Path A to form monohydrazone substituted compounds, or by Path B to form *bis* products.

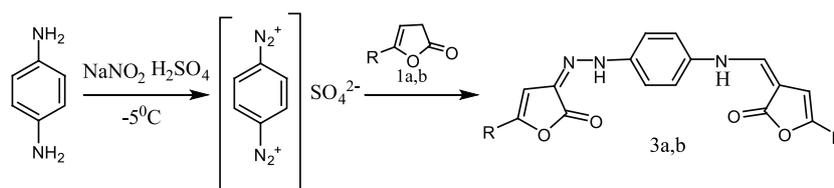


**1,2a:** R = C<sub>6</sub>H<sub>5</sub>, **b:** R = C<sub>6</sub>H<sub>4</sub>CH

According to our physical and chemical studies, it has been shown that *bis*-hydrazone-substituted 5-aryl-3H-furan-2-ones (2 a, b) are products of tetraazotization of *m*-phenylenediamine and the subsequent azo combination with two molecules of 5-aryl-3H-furan-2-ones.

Treatment of *p*-phenylene diamine with sodium nitrite in an acidic medium is known to form a tetraazonium salt.

Interaction of 5-aryl-3H-furan-2-ones with a tetraazonium salt in soft conditions leads to compounds 3a, b – *bis*-arylhyazone-substituted 5-aryl-3H-furan-2-ones.



**1,3a:** R = C<sub>6</sub>H<sub>5</sub>, **b:** R = C<sub>6</sub>H<sub>4</sub>CH<sub>3</sub>

The intramolecular hydrogen bond stabilizes products **2**, **3 a**, **b** in the hydrazone form, which is confirmed by IR spectroscopy data.

Thus, for the first time, in the series of 3H-furan-2-ones, conditions were developed and the reaction of azo combination with tetrazonium salts was brought about to form compounds of interest as potential biologically active substances and as tetradentate ligands in complex formation reactions.

#### Experimental

IR spectra were recorded on an FSM-1201 Fourier spectrometer in KBr tablets, the spectral range being 400–4000  $\text{cm}^{-1}$ ,  $^1\text{H}$  NMR spectra were obtained on a Varian-400 spectrometer within 20–25 °C in  $\text{CDCl}_3$ , TMS being the internal reference. The working frequency was 400 MHz.

A solution of 1 g (6,25 mmol) of 5-phenylfuran-2(3H)-one was added dropwise under stirring to a freshly prepared solution of 0,8 g of (6,25 mmol) of fenilen-*bis*- tetrazonium chloride, cooled to –5 to 0 °C. The precipitate was filtered off and recrystallized from hexane–chloroform.

**For 2a:** Yield 81 %, mp 139–140 °C. IR spectrum,  $\nu$ ,  $\text{cm}^{-1}$ : 1756–1752 (C = O), 1648–1645 (C = N), 3078–3047 (NH). Found, %: C 68,57; H 4,28; N 12,16.  $\text{C}_{26}\text{H}_{18}\text{N}_4\text{O}_4$ . Calc. for, %: C 69,33; H 4,00; N 12,44.

**For 2b:** Yield 88 %, mp 151–152 °C. IR spectrum,  $\nu$ ,  $\text{cm}^{-1}$ : 1791–1786 (C = O), 1659–1653 (C = N), 3071–3065 (NH). Found, %: C 69,68; H 4,76; N 11,53.  $\text{C}_{28}\text{H}_{22}\text{N}_4\text{O}_4$ . Calc. for, %: C 70,29; H 4,60; N 11,71.

**For 3a:** Yield 84 %, mp 143–144 °C. IR spectrum,  $\nu$ ,  $\text{cm}^{-1}$ : 1756–1752 (C = O), 1648–1645 (C = N), 3078–3047 (NH). Found, %: C 68,87; H 4,13; N 12,27.  $\text{C}_{26}\text{H}_{18}\text{N}_4\text{O}_4$ . Calc. for, %: C 69,33; H 4,00; N 12,44.

**For 3b:** Yield 85 %, mp 153–154 °C. IR spectrum,  $\nu$ ,  $\text{cm}^{-1}$ : 1791–1786 (C = O), 1659–1653 (C = N), 3059–3053 (NH). Found, %: C 70,15; H 4,51; N 11,84.  $\text{C}_{28}\text{H}_{22}\text{N}_4\text{O}_4$ . Calc. for, %: C 70,29; H 4,60; N 11,71.

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*Materials of Conferences***CUSTOM AS A SOURCE OF CIVIL RIGHTS**

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Since our country's transition to a market economy, the creation of a new financial and economic infrastructure, business development, in addition to legal and contractual regulation, securing additional resources required regulation. Causing this need, the Civil Code of the Russian Federation (Civil Code) included the concept of «business custom». This was due to the fact that the state is to minimize its impact on private-law relations, providing a great opportunity for the participants to independently interact with each other. However, the approach of the legislator is expressly limited to the rights of subjects of civil relations. As you know, habits can be applied not only in business, as evidenced by the standards of other legislative acts

Official legalization business practice has occurred with the adoption of the Civil Code, Art. 5 (part 1), defining it as «established and widely applied in any field of business rule of conduct, not provided for by law, regardless of whether it is recorded in a document». In this case, paragraph 2 of Art. 5 of the Civil Code, outlined and place business practice in the hierarchy of other legal sources of civil law, pointing out that «business practices that are contrary to mandatory provisions of the parties to the relationship or contract law do not apply». But such a lengthy statement of the Civil Code has not introduced significant clarity in understanding the nature and content of business practice. This does not appear clear and after the Plenum of the Supreme Court and the Supreme Arbitration Court of the Russian Federation № 6/8 of July 1, 1996 «On some issues related to the application of the Civil Code of the Russian Federation». General provisions of the Civil Code did not remove the question of whether the concept is identical whether the notion of customary business practices legal custom and other forms of «normal» in the civil law in Russia.

Practice shows that the business practices are applied to the regulation of labor relations, although in this case their use is generally not sanctioned by the state. The need to expand the scope of business practice has led to the fact that this situation

has been addressed by the legislator. As a result, the Concept of Civil Legislation of the Russian Federation noted the following: «Article 5 of the Civil Code as a source of civil law called business custom. Meanwhile, the custom is widely used not only in business, for example, in relationships related to the definition of the order of citizens to use the common property». Continuing the list of «no business» civil relations in which actual business practices, you can call the relationship in the provision of health services and banking, insurance, etc. Thus, it is obvious the need for in Art. 5 of the Civil Code, the relevant changes.

Passed in the first reading of the draft Civil Code took the proposal and secured, and from March 1, 2013 enacted that «the prevailing custom is recognized and widely used in any area of business or other activities of a rule of conduct, not provided for by law, regardless of whether, whether it is recorded in a document». As can be seen, not only expands the scope of customs, but are relinquished by the institute business practice in general – in favor of customs in general, the corresponding provisions of other regulations in force in the Russian Federation. This is due primarily to the fact that references to the custom as a source of civil law (along with the business custom or usage of trade) are contained in international documents, including the Russian Federation concluded international treaties, and are included in the civil code of a number of . Therefore, in the Civil Code as a source of civil law should not only mention the business custom, but any charge the same token, custom.

Thus, changes in the art. 5 of the Civil Code is due, including the need for uniformity in the legislation, as a number of international agreements, including the prisoners of the Russian Federation, the custom is listed as a source of civil law. Thus, at present the scope of the customs to regulate civil relations will expand, which corresponds not only to the emerging practice, but the logic of the legislator, as reflected in other than the Civil Code, the laws and the requirements of international treaties to which the Russian Federation.

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