CONTENTS

CONTENTS

TO PHARMACOLOGY OF DRY EXTRACT OBTAINED ON THE BASIS OF TRIBULUS TERRESTRIS COMMON IN UZBEKISTAN

Umarova G.Q.

Tashkent Pharmaceutical Institute, Tashkent, e-mail: pharmi@bcc.com.uz

Medicinal plants are widely used in folk and officinal medicine. Herb TribulusTerrestris is known since ancient times and it has successfully been used in Eastern Europe, China, India and the Central Asian Republics for the treatment of general fatigue, increase of the overall resistance. The purpose of this work is to obtain a dry extract of aerial parts Tribulusterrestris (Tribulusterrestris) of local flora and compare it with the pharmacological activity of the substance and medicinal form of tribestan tablets.

In Bulgaria, Tribulusterrestris (Tribulusterrestris L. Zygophilaceae) are used as medicinal plants for the preparation "Tribestan" which restores gonadotropin deficiency in the treatment of men and women. (1). In Pakistan it is included in the "Verona" drug. The plant contains steroidal saponins – Tribusponin, diosgenin and some saponins of furostane type of structure (4). Preparation under stressful conditions stimulates protein synthesis in the liver, heart and kidneys (2). Plant is rich in water-soluble polysaccharides, recently revealed immunomodulatory effect which is inherent in these chemical compounds. In the paper of Iskenderova G.B. (3) is shown that Tribusponinis excreted mainly via the kidneys in the urine.

Materials and methods of research

From herbs Tribulus Terrestris, collected during flowering and fruiting in the vicinity of Tashkent region by alcohol-water extraction was obtained dry extract. The extract is pale brown powder easily soluble in water. Substance of Tribestan drug and tabletsof Sopharma PLC (Bulgaria) production were obtained from the pharmacy network of the city. Determination of cute toxicity of the plant dry extract selected from the studied materials, and we called shareware "Tribulus extract" as well as substances and tablets Tribestan performed on white mice of both sexes weighing 18–22 g mice of each dose of test substance was administered as a single oral aqueous solutions atraumatic probe. 6 animals per group heads was administered at doses of 1000, 2000, 5000 10000 mg/kg as 5 to 25 % aqueous slurry. Monitoring was conducted for 14 days. By visual observation took into account the general behavior, coat color, condition of mucous membranes, respiratory rate, heart rate, frequency of defecation, activity of eating food and animal death. Mid-lethal dose of tested substances were calculated by the method of Litchfield and Wilcoxon (6).

Inflammatory response is the primary and basic syndrome for all pathological conditions. Effect of Tribulus extract, substance and tablets of Tribestan preparation on aseptic edema was studied in experiments on white mice. Study of the antiin-flammatory activity of the tested compounds was performed as described in "Guidelines" (7) for the formaline model of paw edema in mice. Experiments were conducted on 32 male and female mice weighing 20–22 g divided into 4 groups of 8 animals each.

1. Controlgroup – injected solvent water then formalineinjection.

2. Experimental – injected Tribulus extract + formaline.

3. Experimental – injected substance Tribestan + formaline.

4. Experimental – injected Tribestan tablets + formaline.

Tested samples of Tribulusextract, substances and tablets of Tribulusas aqueous solutions were administered orally at a dose of 150 mg/kg two times a day before the injection of formaline and 1 hour before killing the mice. Intramuscular injection of 0,1 ml of 2,5 % formaline solution was produced in the right hind paw left foot was control. 14 hours after the injection of formaline produced both legs amputated. Mass of tabs was determined by gravimetric method. Anti-inflammatory effect was calculated as described in the methodological recommendations (4). The results were processed by the method of variation statistics calculation of Student's t test (7).

Oxygenation of the body has a rather large space in pathological states in particular in inflammatory reactions. Was investigated the effect of Tribulus extract, substance and tablets of Tribestan preparation on toxic action of tissue poison – sodium nitroprusside and hemolytic – sodium nitrite in mice. Antihypoxic activity was studied in laboratory mice nonlinear male (10 mice in each group). Formulations were administered to animals in a dose of 150 mg/kg.

Acute hematic hypoxia simulated on 30 mice – male. The tested substance was administered to mice of the experimental group, all animals inside the probe, to the mice of the control group injected solvent – water. Then 30 minutes after the drugs were administered, intraperitoneally injected sodium nitrite solution at 300 mg/kg. Within a few minutes after the injection of the toxin in animals observed the development of general weakness, shortness of breath, convulsions leading to death of the mice. Evaluated the longevity and viability of animals receiving the tested drugs.

Acute condition of histotoxic hypoxia was simulated by 40 male mice (10 animals in each group). 40 min after administration of the tested substance solution was injected intraperitoneally at a dose of sodium nitroprusside 20 mg/kg. In animals observed the development of general weakness, inactivity, dyspnea, and seizures. Lifespan of the animals was evaluated compared with the control.

The results obtained are processed using the method of variation statistics (Belenky M.L, 1963).

Results of research and their discussion

The studies found that tribulus extract, substance and Tribestan tablets in doses tested did not significantly alter the behavior of mice, the animals were active, ate food, mucous external changes, skin and hair were not observed. During the monitoring period there were not the dead animals (Table 1). The results show that the obtained extract of local plant Tribulusterrestris is practically non-toxic formulation in accordance with the classification of substances (7), and in terms of toxicity it is bioequivalent to originating in Bulgaria substances and Tribestantablets.

to 39,2 %. Activity of Tribestan preparation-substance and Tribestan tablets was slightly less than the Tribulusextract and was 35,7 and 36,6 %, respectively. The obtained results by the action on the mice paw edema of Tribulusextract show the anti-inflammatory activity that is not inferior to Tribestan preparation of Spofa production, Bulgaria. In conclusion of these series of experiments it should be noted that the dry extract obtained on the basis of the local flora Tribulusterrestris is a potential raw material for the preparation of similar drugs Tribestan imported from abroad.

To clarify the actions of the processes of oxygenation of the organism was studied the effect on the hypoxia models. Oxygen plays

Table 1

Determination results of acute toxicity of tested drugs when administered into mice

Dosein, mg/kg	The number of dead mice /total		
	Tribulusextract	Tribestandrugsubstance	Tribestan drugtablets
1000.0	0/6	0/6	0/6
2000.0	0/6	0/6	0/6
5000.0	0/6	0/6	0/6
10000.0	0/6	0/6	0/6

Investigation of the effect of tested compounds on the course of inflammation showed that the formaline injection to mice in the control group resulted in an increase in weight of the affected paw up to 84,0 % compared with healthy. Prophylactic-therapeutic effects of tested drugs has led to a significant weakening of edematous action of formaline.

It was established that the compared formulations in tested have a reliable dose anti-inflammatory activity (Table 2).

a key role in supplying energy to the cells and all the processes occurring in the body. At various conditions or diseases may lack or deficiency of oxygen, i.e. hypoxia, which leads to disruption of the functioning of the body and structural damage of cells.

Investigation of drugs in the course of hypoxia is one of the main indicators of adaptogenic action of pharmacological substances. Hypoxia is a key element of most pathogenic diseases which may be both primary cells due

Table 2

Effect ofdrugson the weight ofedemapawswithformaline(M ± m, $n = \pm 8$)

Theexperimentalconditions	% increasing the mass oflegs...	Anti-inflammatoryeffectin, %
Control (Formaline)	84,0 ± 7,1	
Tribulusextract + formaline	44,8 ± 4,3*	39,2
Tribestan drug substance + formaline	48,3 ± 4,1*	35,7
Tribestan drug tablets + formaline	47,4 ± 4,1*	36,6

N o t e . * – significance of differences at P < 0,05 compared with control.

From the data in the table can be seen that, Tribulus extract reduces swelling action of phlogogenic agent formaline up

to insufficient supply of oxygen, or secondary, just due to the death of certain cells participating in oxygen transport chain.

Table 3

Effect of drugs on the lifespan of mice histotoxic hypoxia (M ± m, *n* = 10)

Number groups	Experimental conditions, the name of drugs	Lifespansec.	Effectin, %
1.	control (NaCN)	682,07 ± 30,5	–
2.	Tribestansubstance + NaCN	762,2 ± 33,3*	12,0 ↑
3.	Tribestan drugtablets + NaCN	758,1 ± 32,3*	11,1 ↑
4.	Tribulusextract + NaCN	840,3 ± 41,1*	23,2 ↑

N o t e : * – reliability of differences at P < 0,05 versus control.

Hypoxia caused by sodium nitroprusside intoxication, characterized by lesions of the respiratory chain of oxygen transport in the energy chain mitochondrial enzymes cells. As mentioned above, the death of the animals comes from shortness of breath, blue faces, pale ears, i.e. against the background of an explicit hypoxia for 682,0 ± 30,5 s (Table 3)

Prior administration of the tested drugs withdrew toxic effect of sodium nitroprusside, which indicates a valid antihypoxic effect of the drug on the level of body cells, probably due to activation of the mitochondrial enzyme unit cells. In the second model of hypoxia in case of poisoning mice with sodium nitrite lifespan of mice treated with the analyzed extract Tribulus and Tribestan was longer than control up to 48,5 and 20,8 %, respectively. Comparative study on the processes of oxygenation products indicates to the presence of antihypoxic action in both cases in hematic hypoxia. In the case of histotoxichypoxia drug did not significantly alter the toxic action of tissue poison.

Comparison of the drug effect in hematic and histotoxic hypoxia indicates its selective effect on the blood oxygen-transporting function and less expressed effect on the level of the liver tissue.

In conclusion, pharmacological studies conducted it should be noted that tribulus extract obtained on the basis of the above-ground parts of Tribulusterrestris common in Uzbekistan is almost a nontoxic substance like substance and tablets of Tribestan produced by Spofa, Bulgaria. Tribulus extract has characteristic inflammatory and antihypoxic action. Studied extract is a potential raw material for the preparation of similar drugs Tribestan imported from abroad.

References

1. Tomova M., Gyulemetova R., Zarkova S. e.a.1st International Conference of Chemistry and Biotechnology. – Varna-Bulgaria, 1981.

2. Taskov M., Sheitanov M., Khristov T. // Med. Biol. Inf. –1987. – № 2. – P. 22–25.

3. Iskenderov G.B. – Azerbaijan // Medical journal. – 1989. – Vol. 66 (8). – P. 47–50.

4. Tomova M., Panova D. Steroidal saponins // PlantaMedica. – 1977. – № 3. – 223 p.

5. HuangX.L., Zhang Y.S., Lang Z.Y., Yaoxue Xuebao Chine. – 1991. – № 26(8). – P. 578–583.

6. Methods for determination of toxic and dangerous chemicals. – Ed. I.V. Sanozkiy. – M., 1970. – P. 50–54

7. Preclinical studies of medicines Guidelines. Ed. Corr. A.F. Stefanova. – Kiev, 2002. – P. 91.

MUSEUM PEDAGOGICAL EFFICIENT FACILITY OF PREPARING THE FUTURE TEACHER TO HISTORIES

Hodzhaev B.H.

Tashkent state pedagogical university named after Nizami, Tashkent, e-mail: marina-20053@yandex.ru

Museum pedagogy as the means of civil education of pedagogical students the Tashkent state pedagogical university named after Nizami. There is considered the experience of civil education of pedagogical college students by the means of museum pedagogy on the basis of implementation of the museum educational programmed in local history for school by future teachers.

Museum pedagogical appeared as area of the scientific knowledge and practical pedagogical activity. The Idea of the joining to culture youth by means of museum not nova: and constantly develop the schools under leading museum, museum in educational institutions [1]. The Public crisis, being accompanied devaluation to value of the culture, consumer attitude to nature, disrespect to monument of the culture and histories, place, where was born and lives the person, as well as to representative of the senior generation, destroying acts upon personality and society.

Museum pedagogical integrates the museum culture and pedagogical. So on way of the joining to culture facility formation important place belongs to the muse: he can "come" in auditorium, become the source of the cognition, due to information technology, audio-visual facility of the education, and network Internet. Museum pedagogical appeared as area of the scientific knowledge and practical pedagogical activity. Her purpose – cultural valuables before future generations, she allows to graft the student, pupils skill to see in subject surrounding reality broad historian-cultural context; reveal the subjects of museum importance in surrounding world; have a belief about contribution of the different generations in culture of our native land.

They interesting and useful learn of past its families, schools, neighborhood, city, country. The traditions, relationship of the generations begin with love to small native land, pride for it, interest to past and persisting, respect to labor their own predecessor, and it's all that is valued in all times: respect, understanding, mercy, cooperation, industry.

The Museum gives integrated knowledge's, his subject helps to learn the psychology of the person past, promotes understanding lives, her sense, humanistic oriented systems of valuables. In museum of the knowledge are gained by other way, than on lesson, due to spatial displacement, possibility of the cut-ins in creative cognition and activity [4].

Value of the museum ambience and museum subject is expressed in abilities to cause emotional, aesthetic reaction, which particularly significant for forming personalities. The potential museum pedagogical for civil and patriotic education to personalities is realized in museum space through functions museum: communication, aesthetic, exploratory [3].

The main principle museums pedagogical are principle:

– an orientation on participation museum in scholastic-education process;

– a broad shaping the humanistic world outlook, making the conditions for cognition of the development to personalities in condition of the residence given region;

– an opening history phenomena's and processes, occurring in nature and public life of our edge;

– an association different aspect condenses museum pedagogical in united integer with provision for problems and need of the region;

– an education ecological formed to personalities responsible before modern and future generations, for conservation and improvement of the nature of the native edge.

In Tashkent state pedagogical university named after Nizami in process of history preparing the specialist is provided study future teacher – museum pedagogical of the material on the base district museum.

The teachers and students of the pedagogical university with employee history museum have developed museum-educational program on the study of a particular region for pupil schools, since study of a particular region is an important facility of the patriotic education. To love its city, it is necessary to know his history, his traditions, and his people. So use local material is main стержнем given program.

The program expects in conditionally-playing form (the play-excursion, quiz, lesson-riddle, presentation on the base museum), in emotional and knowledge-based atmosphere to introduce the pupil with the world of the nature, culture of Russian folk, rite, creative activity i.e. restore receivership in spiritual development, rebirth cultural tradition.

The purposes of the program:

– a development of the creative abilities pupil;

– an education valid relations to moral notion past;

– a deepening the relationships museum with school (the museum must become special "class cabinet of" all schools of the city);

– an education feeling to responsibility for conservation natural wealth, artistic culture of the edge, pride for its Fatherland.

Museum, – educational program includes the following sections: "Nature of our edge" (the journey on division of the nature);

– "World of the public culture" (the acquaintance with tradition, custom, holiday, creative activity fames people (painting, poetry, theatre, applied arts, theatre);

– "Our city" (the acquaintance with historian of the arising the city, architectures – monument, heraldry and etc.);

– "Nobody not forget and nothing be not forgotten" (the acquaintance with military historian of our edge).

The students of Tashkent state pedagogical university named after Nizami given functioning realize within the framework of study of the methods of the teaching of history. The total qualification on given discipline includes protection a project, undertaking test lesson and extracurricular action on the base historian-regional museum.

Museum pedagogical expects the organization and undertaking the research functioning. The students Tashkent state pedagogical university named after Nizami in close co-operations with museum conducted the краеведческие of the study on subjects: "Honorable people of the city Tashkent", "Tashkent – a history city-monument", "Glorious people of the Land Uzbek". The Projects have got the high estimations on regional scientific student conference and republican contest.

For development on the base museum to histories Tashkent state pedagogical university named after Nizami of the direction on base cooperation with district history museum was designed project "Patriotic education youth facility museum pedagogical", which task were:

1. The Development and introducing the system action on the study of a particular region.

2. Education student method museum to activity including on base of the use information-computer technology.

3. Shaping the interest beside student and schoolboy to histories and culture.

4. The Development communication and creative abilities future teacher.

5. The Participation in scientifically-practical conference, seminar on problem of the theories and practical persons functioning. On base museum within the framework of realization of the project were organized lessons: "Do-it-yourself providences of the city Tashkent", "History excursus in world ремесел", "Shrines of the city Tashkent", "Tashkent at years of the Great Domestic war", "Our countryman's – a hero of the Great Domestic war".

"Study of the study of a particular region on lesson of the histories, as base of the patriotic education". During these lesson pupil became not only listener and spectator, perceiving information, but also accessory of history searching for, cognitions.

The main and constant form of the functioning museum college is an excursion. The Guides in museum – a student's Tashkent state pedagogical university named after Nizami. All excursions are accompanied the demonstration an video rollicks, photography, electronic presentation. This promotes shaping to feedback: visitors are included in contact with guide. Resting in interest to functioning in museum, participating in museum lesson, exploratory functioning students successfully they are realized: many of them use the got knowledge's and experience in process pedagogical practical persons.

For efficient pedagogical and museum activity are used varied such forms of the functioning, as excursions, literary-music compositions, meeting with creative people, lessons. At present in college is accumulated methodical and reference-information material on program: abstracts, term papers, scenario holiday, video lesson.

Museum pedagogical vastly increases the possibility of the teacher in decision of the tasks, in accordance with history, formation. She is directed on increasing of attention training to surrounding reality, helps to find around itself museum importance, value the authentic belongings of the gonad epochs, household relics. This does their life more saturating and interesting, raises their cultural level, develops the intellect, gives him in hands new instrument for cognition of the world.

References

1. Andryuhina L.M. The Regional policy, culture, contents. – M., 2000.

2. Vanslova E.G. Museum pedagogical in XXI age // World museum. – 2005.

3. Potapov A. Maksimenko YU. Museum subject and his(its) emotional perception // World museum. – 2004.

4. Yuhnevich M.YU. Museum pedagogical – a profession // Museum. – 2004.

TO THE QUESTION OF LEARNERS' PERSONAL
AND COGNITIVE GROWTH THROUGH THE DEVELOPMENT
OF CRITICAL THINKING SKILLS

Kopzhassarova U.I., Astrakhambetova S.A., Kadina Z.Z.

Academician Buketov Karaganda State University, Karaganda, e-mail: umit-55-hope@mail.ru

The article focuses on the vital issues of modern education system: problems of personal growth and cognitive potential of students by means of improvement of their analytical, evaluative abilities based on the development of their critical thinking skills. It contains theoretical analyses of researches on the research problem, on the base of which the authors reveal learners' personal qualities, cognitive potential and also criteria, identifying their critical skills formation.

Critical thinking, being one of the types of human mental activity, is characterized by high level of intellectual perception, comprehension and objective treatment to the surrounding information field.

Development of learners' critical thinking skills is an integral part of the modernization of current education system on the whole and foreign language learning in particular.

In accordance with the requirements of Common European Framework of Reference for Language Learning and Teaching (CEFR) it becomes obvious the necessity of development of analytical and evaluative skills among high school students. In addition to spontaneity and fluency, students should develop skills of arguing their personal opinion, as well as analyzing positive and negative aspects of people opinions. As emphasized in the European requirements for language proficiency, high school students should be able to produce clear, detailed reports on a variety of subjects and express their viewpoint on a required topic, demonstrate advantages and disadvantages of various opinions, build a reasoned statement [1].

The issue of individual development and formation, possessing certain qualities of thinking ability, has become a vital problem at the present time. It is caused by the evolutional development of the country as a democratic society. For the formation of free creative citizens of such a society, it is important to develop their critical thinking skills. In the foreign language classroom learners' critical thinking skills formation is developed within the use of such speech activities as reading, writing and speaking [2].

There are a variety of opinions and assessments about the concept of "critical thinking". On the one hand, it is associated with something negative, as it implies dispute, conflict; on the other hand, it combines the concepts of "critical", "analytical", "logical", "creative" thinking, etc. Although the term of "critical thinking" is known for a very long time from the work of famous psychologists such as Piaget [3], Vygotsky [4], etc., in the educational process it occurred recently.

J.A. Brouse and D. Wood define critical thinking as a reasonable reflective thinking, focused on solution of what to believe in and what to do [5]. Critical thinkers try to be objective, logical, and understand other points of view. Critical thinking, in their opinion is a search for common sense and the ability to refuse of own prejudices. Students with critical thinking skills are capable to put forward new ideas and see new opportunities, which are very important in solution of problems.

D. Kluster argues that critical thinking begins with asking questions and clarifying the problems that could be solved [6]. He connects the definition of the concept of "critical thinking" with the problem solving and the ways of its solution. In our opinion, critical thinking is an ability to analyze incoming information and treat it both from positive and negative sides without any subjective intervention.

D. Halpern defines the concept of critical thinking in the research "Psychology of critical thinking" as a directed way of thinking, being logical, and action oriented, it is characterised by the use of cognitive skills and strategies that increase the probability of obtaining the desired result [7].

D. Halpern treats critical thinking as an equivalent to creative thinking. However, it is considered by some researchers that there is a difference between them and they are not identical [8, 9]. Critical thinking can be characterized as an open way thinking, it does not accept any dogmas, and it is developing by applying new information on the personal experience of life. Critical thinking is the starting point for the development of creative thinking, they are being evolved in the synthesis, interdependently.

It is natural that human mind development is specific for every individual, so we believe

that human's ability to think critically is not developed at one and the same level in every person, and for this purpose it should be improved. But the question is at what age the students are able to think critically? Piaget J. wrote that the stage when the best conditions for the development of critical thinking appears is the age of 14–16, but it does not mean that this ability is equally developed in everybody.

To develop learners' ability to think critically, it is important for them to possess a number of qualities, among which D.Halpern highlights following:

1. Ability for planning. Human thoughts often occur randomly. It is important to organize them, build a sequence of presentation. Well-ordered thoughts are the sign of selfconfidence.

2. Flexibility. If the students are not ready to accept the ideas of others, they can never become generators of their own ideas and thoughts. Flexibility allows them not to make spontaneous judgment until the students do not have the wide variety of information.

3. Perseverance. Facing difficult problems, we often postpone its decision for later time. Generating persistence in suspense mind, the student will manage to achieve much better results in learning.

4. Willingness to correct one's own mistakes. Critically thinking person would not justify his wrong decisions, he will draw conclusions, taking into account his mistakes for further cognitive improvement.

5. Awareness. This is a very important quality, that requires the ability to observe oneself in the process of mental activity, monitoring the progress of reasoning.

6. Search for compromise solutions. It is important for the decisions to be perceived by other people, otherwise they will remain at the level of statements [7].

There are also other criteria, selected by researchers for identifying the students' skills of critical thinking:

1. Ability to ask essential questions on the studied material.

2. Ability to assess and put forward one's own arguments.

3. Ability if necessary to admit lack of information or understanding.

4. Desire to explore the views or postulates, contained in the source, and compare them with the facts.

5. Possess certain set of criteria for analyzing ideas.

6. Ability to carefully listen to other students and then express his own point of view.

7. Ability to search for arguments for supporting one's own ideas.

8. The skill of searching for critical information as an integral part of the process of cognition.

9. Ability to draw logical conclusions based on the information got.

Indeed, understanding the differences between the fact and personal opinion, the ability to make inferences on the basis of the information is necessary and significant skill. American researcher D.Ellis in his manual "Active thinker" focused on the fact that students, possessing the critical thinking skills are able to understand the difference between fact and opinion; ask questions, make detailed interest observations [10].

In conclusion, it should be noted that the critical thinking, being a natural way of interaction with ideas and information enables modern educational system to rise on a new level.

At the present time the problem of selecting information has become a vital problem. It is important not only to possess it, but also to evaluate critically, interpret, process and apply in real-life situations. Getting new information, students should be able to analyze it from different points of view, draw conclusions about its value and accuracy.

In language teaching and learning process, it is necessary to use approaches, technologies and techniques, which allow the students to be aware of the issues discussed in the framework of intercultural communication, search and find their own problem solutions, rather than proposed by a teacher.

Modern life sets new priorities for independent cognitive development of the students: it is the ability not only to know the facts, but use them appropriately; it is the ability to receive and model information rather than possess it; it is a creative, fruitful work and cooperation rather than consumerism. Thus, in our opinion, the development of students' critical thinking skills creates better opportunities for their personal growth, i.e. such work is primarily addressed to the child's individuality, as well as to the improvement of his skills to think critically and find his own way for problem solution.

References

1. A Common European Framework of Reference for Languages Learning, Teaching, Assessment. – Strasbourg, 1986.

2. Vlasova E.B. Critical thinking in teaching English // Foreign languages at school. 2008. – № 8. – P. 24.

3. Piaget J. Genetic aspects of language and thought // Psycholinguistics. – M., 1984.

4. Vygotsky L.S. Psychology of Human Development. – M.: Publishing House of meaning; Exmo, 2005.

5. Brouse J.A., Wood D. Environmental education at schools: Translation from English. NAAEE, 1994.

6. David Klooster // Critical thinking and new literacy. – M.: TSGL, 2005. – P. 5.

7. Halpern D. Psychology of critical thinking. – Peter, 2000.

8. Bolkov E.V. Development of critical thinking. – M., 2004.

9. Maklakov A.G. General Psychology – SPb: Peter, 2001. – 592 p.

10. Ellis D. An Active Thinker. – New York: Pantheon Books, 1999.

Materials of Conferences

CONCEPTUAL MODEL OF TEACHING STUDENTS A COMPUTER PROGRAMMING UNDER CREDIT-BASED TECHNOLOGY

[1]Baisalbayeva K.N., [1]Madiarova G.A., [2]Skakova A.J.

[1]*Almaty Academy of Economics and Statistics, Almaty, e-mail: k.bais@mail.ru, madyarova-gulnar@mail.ru;*
[2]*Ryskulov Almaty University, Almaty, e-mail: jum_aigul77@mail.ru*

The paper provides differences between traditional and credit-based education systems. Post-classical education assumes an individual approach to a student to provide him with a broader education and teach him to replenish and renew his knowledge as and when needed. Introduction of new information technologies into practice in the context of the credit-based education system should help to change most academic disciplines and major methodological approaches. A conceptual model of teaching students to a computer programming has been developed and a scientific substantiation of the proposed methodology has been given that provides integrity of an educational process.

The traditional programming technology developed under conditions when major consumers of computer programs were represented by scientific institutions only, while computing resources were limited and maintenance problems were virtually unknown. Program efficiency and compactness, which are narrow-minded concepts, were the main criteria to asses the quality of a computer program. In the course of time, the complexity of the programs has increased so much that their development took years of hard work by a large team.

Modern criteria to assess the quality of a program include, above all, reliability and ability to accurately plan a program development process and its maintenance.

Computer programming disciplines aim to improve attainment level of highly-skilled professionals for business areas related to data compilation, reservation, management and processing, including the use of IT equipment. Development of a conception, a coherent system of general rules and their execution, ensures an educational process at a high level [1].

Transition to the credit-based education system changes the situation in higher education environment compared to classical education. One of the main objectives of the higher education modernization process is to prepare students for lifelong education, focus them on self-education, develop a motivation to supplement their knowledge and make them ready for retraining based on the needs of the labor market. Classical education was massive, stable, traditional and usually completed. Classical education results in the knowledge and a specific profession obtained. However, in the modern rapidly changing world the knowledge becomes obsolete very quickly. Therefore, post-classical education assumes an individual approach to a student to provide him with a broader education and teach him to replenish and renew his knowledge as and when needed. Such an education results in a number of general cultural and professional competences provided by a general education standard among high school graduates.

A special role in the credit-based education system is given to students' independent work, which requires time twice as much as lectures and seminars, which is distinctive feature of this system [2].

Thus, requirements to the quality of education have changed significantly, therefore, to meet the requirements it is necessary to use new methods and training schemes that will help to achieve the main goal – to bring up a competent professional, a creative personality, who possesses necessary professional, cognitive and communicative competences.

The need to use new methods is due to the introduction of the credit-based education technology:

● reduction in the number of class hours;

● increase in students' independent work and supervision by a lecturer;

● increase in the complexity and scope of information learned;

● quality preparation of class rooms;

● need to visualize inter-discipline relations.

The number of class hours, including core disciplines, is reduced that requires to change an educational material presentation plan and to enhance a self-learning process.

Increase in the complexity and scope of information learned requires a conceptual presentation and teaching materials [3].

For example, after completing the discipline "Algorithms, Data Structures and Programming", students should be able to develop structural diagrams of various algorithms, organize tasks depending on the requirements, organize necessary data structures, select a programming language, develop programs using the selected programming language with the use of language tools and develop programs in a proper style as well as adjust and test programs, prepare high-quality software documentation.

When preparing a conception one should be guided by a system and use the most developed conceptual principles: *goal-setting, comprehensiveness, unity, consistency, integrity, decomposition, compliance, and analysis*, which often give an opportunity to form private conceptual principles, which are specific to a given subject area.
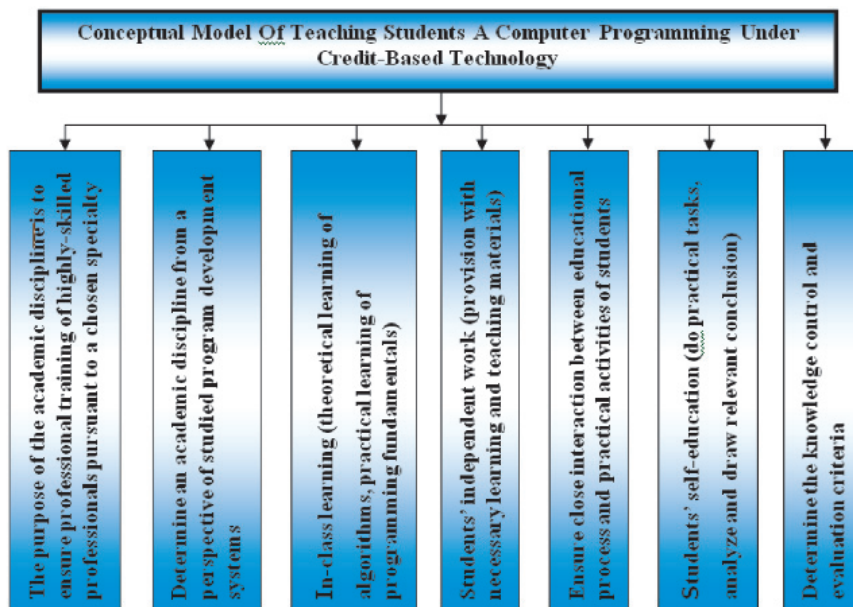
Conceptual Model Of Teaching Students A Computer Programming

As for the goal-setting principle, we should note that the main purpose of the discipline "Algorithms, Data Structures and Programming" for students of information systems is to teach them the fundamentals of task algorithmization, classification of programming languages, data types, classification of Turbo Pascal language operators, program development using subprograms, debugging techniques and program tests, and basics of object-oriented programming. We should outline main objectives to achieve this goal. The primary requirement to a task system is to ensure comprehensiveness that is requirement to examine tasks in close connection with each other that covers the relevant subject area, and to learn the fundamentals of task algorithmization, data types, operators, subprograms, debugging techniques and program tests [4].

A conceptual basis for a variety of data processing methods is an algorithm. The ability to automate processes is provided by appropriate algorithms. Formal definitions of algorithm are associated with special mathematical structures (Post machine, Turing machine, Church's recursively computable functions) [5].

Comprehensiveness in teaching a discipline assumes use of all teaching aspects: from motivation, teaching and learning methodologies, organizational issues and forms of discipline teaching and learning and their compliance with the practical needs, to forms and methods of knowledge and skill control.

The principle of unity assumes common approaches and close relations when using various aspects of teaching and learning at semantic and structural levels. Given that for the development of complex systems some specialists widely use a decomposition method – from general to specific – that means a common project is divided into slightly coupled parts until these parts become easy to develop, then the principle of unity is used for all parts of the decomposed project.

When implementing the project it is important to take into consideration that when developing different parts of the project one should remember about subsequent integration of these parts into a single system. This is the principle of consistency.

Finally, when considering a set of selected conceptual principals one should remember principles of integrity and compliance. The principle of integrity assumes an internally consistent system covering necessary knowledge to study. The principle of compliance assumes an externally consistent and coherent system of interaction between a discipline support system and a system of disciplines covered by the curriculum [6].

The above approaches are fit to any systems regardless of their nature, content and structure and, therefore, applicable to educational systems.

Using these conceptual principles, we can create a conceptual model of the academic discipline "Algorithms, Data Structures and Programming" for the study by students of the Information Systems Department (Figure).

Analyzing the conceptual model we should draw conclusion that use of conceptual modeling greatly facilitates the development of teaching documentation and the organization of an educational process and makes these processes more manageable.

References

1. C/C ++. High-Level Language Programming / T.A. Pavlovskaya. – St.Petersburg: Piter, 2013. – P. 461.

2. Conceptual Framework of Teaching Students A Computer Graphics Under Credit-Based Technology / M.Zh. Balabekova, K.N. Baisalbayeva // Modern Problems of Science and Education: Proceedings of the International Conference, Russia (Moscow) – International Journal of Experimental Education. – 2014. – № 3 (Part 2). – P. 205.

3. Basics of Case-Method [electronic resource] – Link: http://www.casemethod.ru.

4. Typical Learning Programs For the Specialty – 050703 Information Systems // Satpaev Kazakh Technical University. – Almaty, 2006. – P. 23–26.

5. Theoretical and Methodological Framework of Teaching A Computer Programming: monograph / Zh.K. Nurbekova. – Pavlodar, 2004. – P. 225.

6. Information Innovations for Quality Management of Educational Process at Universities / A.G. Zezyulya. – Minsk.: BDUKM, 2011. – Vol. 2. – P. 250–253.

FROM THE EXPERIENCE OF REFLEXIVE SKILLS FORMATION OF THE TEACHERS IN LEVEL COURSE OF PROFESSIONAL DEVELOPMENT

Baktybayeva K.S., Smailova U.M.

Branch of JSC «National Center for professional development «Orleu», Institute for professional development in Zhambyl region, Taraz, e-mail: kuli_66@mail.ru

The processes of education reforms, upgrading education and consequently the change of system of teachers' professional development are the purpose and means of socio-economic and moral progress of society. Only those specialists who have the potential to create in new environment, who are characterized by unconventional style of pedagogical thinking and can competently solve professional problems, are capable to change the reality of teaching and to achieve effective results [1, p. 5].

Kazakhstan initiated a radical transformation of teachers' training. The process of reforming education is being purposefully conducted, the problem of improving the quality of teaching is being solved and interactive teaching methods are actively being introduced. In this regard, an important role is played by the training of teachers, organized on the basis of the Program developed jointly by the Centre of Pedagogical Excellence of the Autonomous educational organization "Nazarbayev Intellectual Schools" in conjunction with the Faculty of Education, University of Cambridge. This project provides organization of teacher training for teachers from secondary schools on a special training program which corresponds with the best international practices. The program is aimed at developing creative personality feature of a teacher and personal responsibility for the content and results of his work; it enables teachers to introduce interactive teaching methods in the educational process. Also one of the most important teacher's professional qualities which are being formed and developed in these level courses is reflection, which is considered the most powerful tool of teacher's self- development.

A reflecting teacher is a cogitative, analyzing and examining his experience educator. Reflection- is turning inward of the activities with the aim of their further improving, which involves awareness of the teacher of his inner world and his actions [1, p. 8].

The attitude of a teacher to his mistakes is truly a tentative step for his professional reflection. As J. Korczak wrote, a good educator differs from a bad one only in the number of errors made and harm caused to children. There are mistakes that a good educator does only once and after critical assessment does not repeats them, remembering his mistake for long. A bad educator lays the blame for his errors on the children (Korczak, 1966, p. 107) [2, p. 47].

Unfortunately, insufficient level of manifestation of reflection hampers the successful implementation of education reforms. So the problem of development of reflective skills has not only professional, but also a wide social meaning.

On the level courses the formation and development of reflective skills of teachers are being paid sufficiently large attention. This is because it is reflection that allows teachers to critically evaluate their activities, gives them the opportunity to experience problems in teaching and learning and find ways to tackle them. The second "face to face" stage stipulates writing reflective reports by the participants on their implementation of activities in the period of practical training in school. At this stage we are trying to develop their skills in understanding their activities through self-analysis, i.e. reflection on professional difficulties, mistakes, problems and increased accountability for their performance.

But unfortunately not all teachers possess reflexive skills, and the coaches often encounter this problem during the course. The problem is that the course participants do not usually find the causes for their results or problems; it is difficult for them to say and write what really happens in the course of their activities.

As a support for reflective activity the teachers are given the following guiding questions (for self-study or discussion with the coach):

– What are your main results, what have you understood, what have you learned?

– What tasks have been most interesting and why?

– How did you carry out the tasks, in what ways? What did you feel in the process?

– What difficulties have you encountered and how did you overcome them?

– What are your comments and suggestions for the future (yourself, the coach)?

In the training sessions reflexive questions offered to the teachers, are close to the studied material

and the content of the program. In the formation and development of reflective skills the involvement of the teachers in active participation through interactive teaching methods is effective. A special role is played by training sessions, discussions, brainstorming, dialogue learning that provide the establishment of trust relationships between the participants. Psychological approach to organization of reflection of the teachers is also very important. The coach's task is to create such conditions so that the participants are willing to discuss educational materials or their activities.

In order to provide feedback during training sessions, we often at the end of the lesson offer the participants to give written answers to a number of questions, because many teachers find it difficult to express their thoughts in writing about their attitude, feelings, achievements and challenges that arose during class. For example:

– Did you enjoy the activity? If yes / no, why?
– What did you do best in the class?
– What was challenging?
– What has changed?
– Give your suggestions and recommendations.

At first, during such small notes, many teachers try to briefly express their thoughts, give the same type of responses such as "yes, I liked the session", "I had no difficulties", "I do not have any suggestions and recommendations, everything is good", "I like everything very much", etc. In our opinion, these answers are affected by several factors, such as not willingness to give a detailed respond, or the participants think stereotypically, hurry home, etc. This implies that the teachers did not initially feel the need for awareness of what is happening with them; they have no idea of reflection and are not able to carry out a reflective analysis of their activities. But after some time, due to more frequent use of such techniques they develop skills of written reflection. So coaches try to bring the teachers to writing reflective reports.

During an internship at school the coaches offer the teachers to keep reflective diaries as one of the most acceptable ways of forming reflection. It should also be noted that just the records is not enough, because without reflection, which gives food for subsequent behavior and actions, it loses its meaning in this context. Upon completion of teaching and learning (after each lesson), we offer the teachers to make the following notes in their diaries:

– How was your lesson?
– Was my lesson strategy successful? If yes / no, why?
– What can be changed in the lesson structure to make it more efficient?
– What would I have changed if I conduct this lesson again?
– Have my students learned anything in the classroom? If yes, due to what? If not, why?
– Next time I'll...etc.

Such a diary serves as a useful note for the future when planning the next lesson, allowing the teachers to benefit from the views recorded, as well as those moments that need to be paid attention to in order to improve their subsequent teaching.

At the end of the three-month course the teachers write five reflexive reports (7000 words), which helps them to identify and reinforce the results of their educational and practical activities. The trainer gives these reports summative and formative assessment which is directed at a deep analysis of their practical work. Namely, it gives answers to the following questions regarding their experience: why something happened or did not happen? how to turn my "minus" into "plus"? how to improve my practices in the future? But in the course of writing reflexive reports by the teachers the coaches often encounter the following problems:

– the teachers sometimes partially or completely copy someone else's work from the Internet or do not make references to the source of information;
– often deviate from the topic and do not keep to the point;
– most of the reports are descriptive rather than analytical in nature, i.e. more is written about how something happened, but do not answer the question of why something happened;
– they are afraid to write about what did not work for them during practice at school and can not identify the problems on which they should work in the future;
– not all teachers comply with the criteria for assessing the portfolio, for example, they neglect the set number of words: they write either too little or too much;
– the teachers do not give a list of references;
– they forget to refer to the literature sources used.

To solve these problems and overcome difficulties the coaches of the Center conduct systematic work with teachers, namely:

– in the course of training at the first "face to face" stage, after each training session a systematic oral and written feedback is conducted, which forms the skills of oral and written reflection;
– at all stages of the course the teachers are keeping a reflexive diary in which they develop their skills of written reflection;
– in the third phase of training the coaches conduct individual consultations with each teacher on writing reflective reports. During these consultations the coaches help the teachers to develop their ability to analyze and assess their values, strengths and weaknesses of their activities and to express them in writing. They also help the teachers to draw conclusions on the work done, make recommendations for compliance of the reports with three criteria: knowledge/comprehension, application, analysis (reflection).

Being efficient and thinking, i.e. reflecting, a teacher must be able to clearly set goals, teach in an interesting way, respect and care for students,

adequately assess them, be independent and actively engage students in the learning process and learn from them. All these are very important for reflective teacher, and there is a hope that these level courses will help our teachers in rebuilding their own methods of learning and teaching to reflect on effective, appropriate and relevant strategies which meet individual, age and psychological needs of their pupils.

Reflexive skills that are formed and developed during these courses provide self-regulation of activity and interaction, self-improvement and self-development of the teacher's personality.

References

1. Zadorozhnaja N.P., Nizovskaya I.A. From teaching experience to teacher reflection: Guidelines for the organization and conduct of educational workshops / general edition by T.A. Matohina. – B.: Maxprint, 2011.

2. Bizyaeva A.A. Psychology of a thinking teachers: pedagogical reflection. – Pskov: S.M. Kirov STTI, 2004. – P. 216.

POLIETHNOCULTURAL COMPETENCE OF A PEDAGOGUE AND ITS INFULENCE UPON FORMATION OF POLIETHNICAL CULTURE OF A PUPIL

Slesar M.V.

Branch office of National center of qualification improvement «Orleu», Institute of improving qualification among pedagogic workers of Kostanay region, Kostanay, e-mail marionellav@mail.ru

Influence of poliethnocultural competence of a pedagogue upon formation of poliethnocultural culture of pupils is studied by this work as well as necessity to develop poliethnocultural competence of a teacher as a foundation of their professional position in solving the defined problem.

Humanistic orientation of human civilization development changes our ideas on objectives of education that broadcasts and unites values of general human and national cultures.

Modern situation on planet Earth that is described by continuous ethnical wars, shows us that the basic values are peace and consent. Transiting it to the growing generation is the most important problem of educational institutions.

Analysis f modern researches on this problem has led us to a conclusion that the foundation of reserving peace and consent in a multinational country, poliethnical world is poliethnical culture of the growing generation.

In regard to pedagogic phenomenons we have suggested the following definition of poliethnical culture of a pupil: it is a system-logical education that includes knowledge, skills, value orientations and personal qualities that provide for interethnical integration of person with preservation of its ethnocultural originality for efficient life in a multinational environment [1, p. 104].

From our point of view, process of forming poliethnical culture among pupils can be efficient in terms of systematic and targeted work of a pedagogue with a condition that their professional position will influence this process constructively.

Position of a pedagogue is a system of their intellectually-willpower and emotionally-evaluating attitude towards the world [2, p. 81]. According to different definitions that are, however, similar in their message, professional position is one's attitude towards professional activity, pedagogic work as the basic meaning of life, attitude towards children, based upon humanistic principles. An important characteristic of a pedagogue's professional position, according to modern researchers, is a new pedagogic thinking, thinking from the position of pupil as an object of educational process, directed towards their development, interests, and spiritual needs, it, from our point of view, provides for a successful formation of poliethnical culture of a pupil.

In this situation poliethnical culture of a teacher obtains a special significance, as the basic component of pedagogic competence. The foundation of a pedagogue's professional competence, including its poliethnical type, is knowledge. Especially significant becomes knowledge of a personal example, life experience of great men that found reflection in their masterpieces and ideas.

The content of poliethnical competence includes realization of new concept of history that rejects philosophy of war, the foundation of which lies in internationality of history and understanding of the following important fact: "when history registers only conflicts, in future history and minds of generations it is reflected by pain for trampled dignity and freedom. If such feelings are "cherished", constantly recalled and being reminded of, they formulate, fix, and are reproduced in new conflicts, debates, rejection of "aliens", "enemies", and provoke wars again "[3, p. 209].

Knowledge of ethnology, ethnopolitics of our country – these are important components of sensual component in poliethnocultural competence of a pedagogue.

Motivation-technological and diagnostic-corrective component must, from our point of view, enrich the content, and together they form poliethnocultural competence of a pedagogue that reflects in:

– Realization of poliethnocultural features of pupils, constant conflict between ideals and reality.

– Ability to organize constructive interethnodultural understanding with pupils, form values, relations, and ways of behavior that support ethnical pluralism.

– Knowledge and consideration of psychological features of apprehension and personal behavior, defined by ethnocultural belonging of a person.

– Ability to create motivational environment that will form skills, required for an efficient

participation in social life for which ethnical diversity is typical.

– Prediction, prevention, and correction of behavior among pupils and skill to solve possible ethnical conflicts.

– Ability to establish poliethnocultural direction of educational process, integrate poliethnical content into all given subjects during the whole period of education.

– Change in school culture in such degree that is necessary to reflect cultures and cognitive styles of children who belong to different ethnical groups [4, p. 257].

The basis of a pedagogue's professional position is knowledge of general didactic principles as components of poliethnocultural competence. Principles of humanism, adaptability, consciousness, psychological comfort are especially important in process of forming poliethnical culture.

References

1. Slesar M.V. Spirituality is a foundation of poliethnical culture of a pupil // Social pedagogy in spiritual-moral formation of a modern person: Collection of an international scientific-practical conference. – M.: MSPTU, 2013. – 292 p.

2. Pedagogy: theories, systems, technologies / S.A. Smirnov, I.B. Kotova, E.N. Shiyanov, and others. Ed. by S.A. Smirnov, ed. 8. – M.: Publishing center "Academy", 2008. – 512 p.

3. Zhakupova T.S. Ethnopolicy: civilizational aspect of modernization. – Kostanay, 1998. – P. 219.

4. Encyclopedic dictionary. Education and science. Republican scientific – practical center "Uchebnik" of the Ministry of education and science of Republic of Kazakhstan. – Astana, 2008. – 447 p.

THE PROBLEMS OF TEACHING BIOLOGY TO FOREIGN STUDENTS AT THE PREPARATORY FACULTY OF RSMU AND THEIR SOLUTIONS

[1]Voloschenko O.I., [1]Zadorozhniy V.I., [2]Roginskaya A.A., [1]Abakumova L.V.

[1]Rostov State Medical University, Rostov-on-Don, e-mail: alara2008@mail.ru; [2]Southern Federal University, Rostov-on-Don

Many years experience of lecturers of the General biology and Anatomy Department of the preparatory faculty shows that foreign students have some typical problems, the main of them are the language barrier, the low level of basic knowledge, and the late arrival.

The first problem could be easily solved by the lecturers who possess the intermediate language. However, the practice shows that student groups are international, so it is difficult to communicate in one intermediate language. But, most importantly, the presentation of the educational material in the intermediate language inhibits the formation of motivation to learn Russian, which will be an obstacle to their further education at the Institute.

The second problem also influences the complete and high-quality work of the lecturer, as in groups with different levels of basic training he has to adapt the training material, focusing on the "average" student.

The third problem can be solved by the training schedule adjustment aimed on unification of the subject material that increases the intensity of the training session, and, therefore, extends the load of the student and the lecturer.

In case of insufficient language competence of international students the use of various means of nonverbal communication (pictures, charts, models) that serve as visual support for mental activity is playing an important role. The substantial assistance in the mastering of the theoretical material have the created in the framework of the educational and methodical complex training manuals and methodical works approved by the Health Ministry.

Thus, the creation of the educational-methodical complex in accordance with modern requirements to the content of education, which would take into account the specifics of working with foreign students of pre-University training, serves as an effective tool for the organization of educational work at the Preparatory faculty and allows to eliminate the contradictions in the educational levels of students from different countries.

ABOUT THE SUCCESSION OF TEACHING BIOLOGY TO THE FOREIGN STUDENTS OF THE PREPARATORY FACULTY AND THE MAIN FACULTIES OF THE ROSTOV STATE MEDICAL UNIVERSITY

[1]Zadorozhniy V.I., [1]Voloschenko O.I., [2]Roginskaya A.A., [1]Abakumova L.V.

[1]Rostov State Medical University, Rostov-on-Don, e-mail: alara2008@mail.ru; [2]Southern Federal University, Rostov-on-Don

To optimize the teaching process and ensure the succession at the General biology and anatomy Department an educational-methodical complex (EMC) was created and is constantly being improved. The materials of this complex are composed in accordance with modern requirements to education, they are taking into account the specifics of work with foreign students of pre-University training, and they serve as effective tools in the organization of educational activity at the preparatory faculty. The complex includes a thematic plan indicating the amount of hours for the study

and going through each topic, depending on the time of the foreign students arrival. One of the technologies used for teaching biology is modular training. This education technology is used overall in the departments of the main faculties. It is an important element of educational succession at the preparatory stage of training and further studying at the various faculties of the University. The supposed modules are shared among semesters, taking into account their complexity and the students' level of language competence. Composing the programme one should take into account the future professional orientation of the students and the requirements for students at the main faculties. The Department of General biology and anatomy is also using the rating system as the evaluation of educational activity and its results, which reflect the achievements of studying goals. It is also one of the elements of continuity in teaching, because the foreign students are getting accustomed to the rating system as a universal method of knowledge control from the time they are at the preparatory faculty. The succession of teaching is also evident in the fact that the preparatory faculty provides a knowledge base in anatomy: the students learn anatomical terminology, get acquainted with the general plan of the systems of organs structure, and with the mechanisms of their regulation. In this regard, the EMC section "Human Anatomy" is significant. Latin terminology is not obligatory for students of the preparatory faculty, but its use in the illustrative materials creates an additional motivation for mastering and further use of this terminology at the Department of Normal Anatomy at the main faculties of the of the Rostov State Medical University.

Thus, the EMC materials, as well as the methods of learning organization provide an additional pre-University training of foreign students and ensure the continuity of teaching at the preparatory faculty and main faculty of the University.

TEACH COMPUTER SCIENCE AND GEOMETRY COURSE WITH INTERDISCIPLINARY USING INFORMATION TECHNOLOGY

Zhaydakbaeva L.K., Toktarova A.B., Abdimanapova G., Esenkulova Z.Z.

Auezov South Kazakhstan State University, Shymkent, e-mail: luizca@mail.ru

In this article, the teaching of computer science and geometry of Natural Sciences and Mathematics classes taught in professional-oriented in the direction of the information reported on the effectiveness of interdisciplinary teaching with information technology.

In "Program for Development of Education" for 2011–2020 years of the Republic of Kazakhstan: "The main goal of the education – knowledge, skills, skills not only to apply this knowledge, self-education, living in the era of effective changes, development of work skills and have the ability to select a personalized education programs for students. Creative Services and will be given a special place in the development of the individual. The desire to learn the creative use of the knowledge gained, the world, society and expand the standard concepts of the person, will be provided to the in-depth development" [1].

In General standard of education of the Republic of Kazakhstan 6.3.2 "Mathematics and Computer Science" chapter of education shows: referred to the secondary level of education depends on the geometry of the course:

– practical problem solving specific forms of lengths, areas and volumes, it is necessary to take into account the case with the use of the calculation of the reference materials;

– geometry reports Math and algebraic geometry, based on the properties of figures hardware, as well as coordinate with the use of methods to produce;

– formulas and figures to be able to study the properties on the basis of practical situations;

For Computer Science at the rate of:

– to learn new software;

– to know graphic programs;

– to know fundamentals of vector images;

– the concept of multimedia technology [2].

General standard of education and science and on the basis of the annual plan for the discipline of geometry, natural sciences and mathematics classes taught in professional-oriented in the direction of interdisciplinary teaching effectiveness is infinite So far, the process of learning the existing "traditional learning" methods illustrations students through the use of information technology will be able to see not only increase the interest and abilities. For example, information technology still does not penetrate into the education system, school geometry course imagine geometric shapes, wood, glass work carried out by the figures. Even beads chips figures points and threads to build Streams Stereometry figures plains and through the cross sections have to imagine it or seeds and matches the usual geometry figures compiled by using plain paper.

Today, taking into account the efficiency of interdisciplinary communication, to show the geometry in the course of computer science classes.

For the professional classes, as shown in the annual plan for the discipline of geometry, during the training course, first of all, there will be a lot of commenting on the left, that is the definition of parallelepiped, pyramid correct entries and multilateral issues of computer science course on 3D MAX multimedia and implementation of Auto Cad programs.

For example, demand in modern society who strained to go to high school students in a variety of engineering drawings, as well as to take part in during the lesson shapes drawn graphic with open interest, through the use of ICT can be no problems in the implementation of the coverage.

In "Teaching in the dictionary" defined by the interdisciplinary approach to understanding the mutual consent of the educational program. To determine the relationship between the various academic disciplines and education and training is one of the requirements of the contract. Interdisciplinary training in communication and education, with the deep horizons of the students in the education system, and help to increase the effectiveness of teaching is recognized as evidence in research and teaching. Students should be able to understand the various disciplines of the theories in their minds of the general cognitive actions of the terms of the creative impulse of the property and all of the systematization of knowledge.

Only calculate the geometric shapes of the line, but it also illustrates what students in any of the following people, beautiful and absorbing it is important to make it clear conscience.

Interdisciplinary connections are convinced that it's impossible to maintain the integrity of the use of ideological opinion. Interdisciplinary found that it is difficult to implement, because it is not only his knowledge of the teacher, the depth of the culture as a whole, focusing subjects required to be notified to install the interdisciplinary connections. Vocational training – general education and training of the next generation of high-personalization of the school, pupils socialization, as well as the high school level and in secondary and higher vocational education system to prepare for the implementation of continuity.

As for the so-called goal-oriented implementation of the training and he was in secondary school, high school students, taking into account the specific needs of the labor market is to create a special system of socialization [3].

Oriented structure of the teaching learning process, by changing the content and organization of the development of the ability to more fully take into account the interest of their students, their professional interests and high school students to continue their studies in accordance with the orientation with regard to education is a tool that allows you to create conditions for differentiation and personalization.

With this in mind, natural sciences and mathematical disciplines of computer science and geometry school students with interdisciplinary training of future interest to the profession, increase the ability and inclination.

Professional disciplines of computer science and geometry classes interdisciplinary teaching students logical thinking is the key to the development and expansion of horizons. The unique requirements set by children in a comprehensive way to develop a reasonable and healthy.

References

1. Employ of president of Kazakhstan Republic for people. – 2014.

2. State Compulsory Education Standards of Kazakhstan Republic. – 2014, point 6.3.2.

3. Kazakbayeva D. Journal of Informatics, Physics, Mathematics. –1997. – Vol. 5, № 2.

4. Baigelova U. Dissertation. – 2014. – P. 56–58.

The work is submitted to the International Scientific Conference "Priority directions of development of science and technology", Italy (Rome), April, 10–17, 2015, came to the editorial office on 12.03.2015.

EVERYDAY CONSCIOUSNESS IN GLOBAL CIVILIZATION

Chelyshev P.V.

National University of Science and Technology «MISiS», Moscow, e-mail: simeon5@rambler.ru

The article examines the ordinary consciousness as an everyday, not specialized, prescription, empirical consciousness associated directly with the practice. This is a set of everyday concepts, reasoning and recipes, obtained in the course of labor activity. In the era of globalization ordinary consciousness is maximally unified and simplified. This process prevents the development of man as a personality. Only traditional religions, such as Christianity, leading man to God, to much as possible humanize and spiritualize everyday consciousness. However, there is a serious danger in the form of religious extremism and fanaticism, creating a new threat to humanity.

Everyday consciousness became a topical subject in the twentieth century philosophy. This was due to the loss of superiority of spiritual values by modern man and «propriety restriction of the individual» (Marx), as well as the crisis of philosophy itself, which was unable to meet the ideological needs of man because of the rule of positivism in all spheres of intellectual activity. So society had to look for new bases of life, which it saw in everyday consciousness.

In its origin and functioning everyday consciousness is associated with daily practice, «interwoven with the material activity and the material intercourse of men, into the language of real life» [4, p. 24], for «the natural man ... in all their affairs and concerns focused on the world» [2, p. 121]. He wants the only thing – at any price to win his «place in the sun» and live with a maximum intensity of the vital tension, breadth and selfish pleasure of self-affirmation. «It is human nature to strive to increase. This may be an increase in the number of rubles, paintings, horses, ranks, muscles, knowledge, but the only increase is necessary: the increase of kindness» [5, p. 259].

Everyday consciousness almost exactly reproducing the logic of practice, improves and develops on the basis of the historical development of labor and social relations. This is a natural, not-uniform and contradictory education, a set of feelings, attitudes, opinions, ideas and people's knowledge about the economic, political and legal conditions of their lives, as well as in relation to morality, art, philosophy and religion. From the experience of domestic relations and everyday life people take knowledge which is the foundation of their life. Therefore, everyday consciousness, helping people earn their daily bread, always enabled him to survive in specific historical circumstances.

During the crisis everyday consciousness is usually saved by its pragmatism, its direct connection with life, which always revived it as a magical phoenix. Today, however, the vital factor, paradoxically, only worsened the situation of the spiritual crisis of everyday consciousness. The fact that within Western European and American civilization people have long noticed a pragmatic attitude of ordinary consciousness and started to use it in every way. Already in the XVI century Protestants put salvation in direct dependence on the commercial success and the thickness of the purse of a person. At the beginning of the XX century in Europe there appeared a philosophy of pragmatism, which theoretically condensed fundamental principles of the common sense of everyday consciousness. This conscious orientation to society pragmatism of everyday consciousness has increased dominance of material relations over human relationships, has led to the neglect spiritual values by contemporary human. Social production of «useful» person actually closed the opportunity of education of man as personality. Highlighting the pragmatic principle in human life leads to a distortion of his mind and psyche. This is manifested in the development of a consumer attitude to life, which has no boundaries in modern civilization. In this world everything is bought and sold. Even religious life distorted by everyday consciousness. If religious everyday consciousness turns to God, then it tries to make Him serve its practical purposes. People seem to forget the main purpose of religion – communion with God and begin to engage in religious commerce making it the meaning of their pseudo-life. Jesus criticizes the principle of pragmatism of man sticking in endless affairs and worldly vanity, and reminds that people do not live by bread alone, but by every word of God.

To such narrowing in state of the mind modern man is lad not only pragmatism, but by algorithmic common knowledge, answering the question «how» you need to act in a given situation. Fixing the image of already committed action with a particular subject in a particular situation, it usually exists in the form of a prescription, the algorithm of activity. Indeed, in everyday life, it is important

to know the subject not in the abstract, not in its comprehensiveness, and as a subject of practical operating in order to quickly and efficiently obtain the desired result. If a person knows a set of specific technologies and ways to use them, he does not need to speculate about the nature and meaning of a process, or an event. Worldview question «why» is removed by the question «how» and gradually some part of the soul responsible for the feeling of «ideological hunger» disappears. As a result, the world looks like as a set of useful things, effective techniques and technologies for their use to a person of ordinary consciousness. Today, even the most intimate aspects of human life are subjected to commercial exploitation. There are technologies not only in industry but also in the field of marriage, sex and even love. Fewer people think by philosophical categories. Nobody cares about «the curse of eternal questions» that worried heroes of F. Dostoevsky. But rapidly as infection mass confusion spread about the importance of only sensual pleasure, especially of a sexual nature. There is substitution of values: a man is looking for the meaning of life not in spiritual, but in the material sphere of life. Thus, a contemporary ordinary person is «killed» by a pragmatic and technological relationship to the world. It permeates all his actions, thoughts and feelings, as a natural consequence of the practical relations of the world market economy. There is a narrowing of horizons of perceiving the world. Iinstead of searching for the meaning of life man is busy only looking for money.

Modern man has become less interested in history, philosophy, and traditional forms of religion as a result of domination in his mind the material side of life over the spiritual. If he turns to the spiritual realm, then quickly converts all these spiritual values to rubles, dollars and pounds sterling, trying to understand how it is possible to earn more and more. The outcome of these processes in the field of culture is the emergence of a «one-dimensional» man of H. Marcuse, testifying about the disaster of human nature. Nomination of the pragmatic side of ordinary consciousness today leads to the degeneration of ordinary consciousness, which for centuries exercised integrative function of development of the world, although on the basis of practical interest. Now remained only practical interest. But the system, which aim is only material wealth, power and success is immoral, anti-personal and therefore anti-cultural. The more a person binds himself with wealth and the world of things, the less time, effort and opportunities for self-development remain for a person – the main task of culture. You can not serve God and mammon. That's why, in the XX century the eternal question «to have or to be»

reviewed in detailed in E. Fromm book of the same name rises before man with a new force. But at the end of XX century crisis of ordinary consciousness only strengthened. This is due to the emergence of two trends in the development of world civilization, destroying the traditional attitudes of ordinary consciousness.

The first trend is directly related to the process of globalization, which has both positive and negative sides. On the one hand, globalization brings a number of advantages, linking the world together. It facilitates economic and political cooperation, facilitate trade, capital flow, improves mutual understanding of peoples. But it also imposes a single standard of living (today mainly American), which simplifies their cultural and national identity a variety of states and peoples.

And suffers not only national, but also a common human life, which is the dialectical unity of the manifold. The world should be united, but at the same time and multipolar. Imbalance between the whole and the parts, lack of freedom leads to the development of spiritual crisis. No wonder the Bible connects the end of the world with the unification of the world, the lack of economic, political, social and cultural development of freedom. General regulation of life inevitably leads to the Apocalypse. «Eastern miracle», of the second half of the XX century (South Korea, China, Japan) in the field of economics is based on a flexible synthesis of traditional and modern national laws of human existence.

The second trend of development in some ways the opposite of the first one. It emerged in the 1970-s of the twentieth century in connection with the revision of the current bases of Western civilization, actively implemented in their «flesh» and «blood» the ideas of globalism. This trend has been called postmodernism. It struggles with the unification of general culture and with the principle of the hierarchical structure of the world. It tries to move away from pure economic feasibility and mass social action. However, postmodernism has increased erosion of traditional social reality and a sense of unity of life. This is indicated by the authors of the ideology of postmodernism. The place of traditional substantial subject of life and activity was taken impersonal «flows of desire», «eroticism», «ripple of libido» (Deleuze, Foucault, Lyotard J. etc.). These two extreme opposing trends in the development of modern civilization lead to the main result – the loss of the man himself, losing cultural identity. The intensive search of the exit from cultural impasses begin. This attempt at the level of everyday mass consciousness, unfortunately, often turn into just another illusion of «salvation» in the form of «shopping therapy» traditional alcohol and drugs to escape from reality.

Recently, there have been more radical ways of dealing with the unification of life – religious fanaticism and radical nationalism, turning into fascism. «The Islamic State of Iraq and the Levant» can serve as an example of the first movement, the ultimate goal of which is creating the world wide Islamic state. It is important that the its activities are supported by the representatives from dozens of countries, including the US, France and Russia. The second movement is clearly represented in the Ukraine, where the ideas of cultural identity turn into ideology of national exclusiveness, superiority over other nations, which are regarded as «subhuman». But is there any real alternative to ordinary consciousness? Yes and no. On the one hand, everyday consciousness is the eternal foundation of life, which can not be destroyed. It is the first natural form of conscious man's attitude to the world and himself, a form of consciousness that many thousands of years successfully coped with the challenges of everyday life. On the other hand, everyday consciousness is in itself a force that is constantly undermining it from within, creating specialized forms of social consciousness. In other words, everyday consciousness is the root and trunk of life, on which can grow such flowers of culture as morality, art, science, philosophy, religion. They constantly arise in our daily lives, changing it radically, so as how yeast transforms the dough. After all, the world can be viewed from different points of view, not just pragmatic. You can see everything in the light of morality, that is, in the light of the struggle between good and evil, or to view the world through the prism of aesthetic categories of beauty and ugliness, or to interpret it from a scientific point of view. Or, on the contrary, to believe in the supernatural beginning of life within religion and consider that the world is governed by God.

All these forms of consciousness and spiritual activity have emancipated from the practice and have become relatively «independent» and «autonomous» formations in which people selflessly pursue higher spiritual ideals, without taking into account its usual selfish prudence, their utilitarian considerations concerning benefit or harm. Therefore, it seems that in ordinary consciousness the tendency to self-destruct is laid. After all, if from ordinary consciousness grows something new and also more and more sophisticated, it automatically tries to substitute less perfect source material. It is obvious that the ordinary consciousness cannot compete with specialized forms of social consciousness in search for Truth, Goodness and Beauty. All these forms of consciousness are designed to directly search for, interpret and express in concepts, categories, artistic images and religious dogmas man and his life. However for ordinary consciousness, these forms of activity and consciousness seem to be useless, unnecessary, redundant. It looked skeptically at all these feats of scientists, philosophers, artists, politicians, religious zealots who spend their strength, health, life in search of something not quite clear to it. And then those specialist, in turn, outraged by ignorance, stagnation of ordinary consciousness, begin to humiliate everyday consciousness, giving rise to the era of the Great Cultural Revolutions. The essence of these revolutions is attempts to moral, aesthetic improvement of ordinary consciousness, its spiritual and religious transformation, or even its complete elimination. However, it is important to understand that a complete transformation of ordinary people, their full and harmonious development cannot be achieved.

Only in the religious life man can come to some extent to the internal unity of all spheres of life and activities. Harmonious development of personality can take place only in absolute dependence on divine substance. It is clear that «no one can teach religion; religion can only be born from within, not from without» (S. Frank). Everyone by their nature is to some extent religious. And this religion from time to time is in enhanced by our daily life. Birth and Death opens horizons of existential infinity. Thus, there is a natural bridge from the world of everyday practicality to the perceived religiosity. We must always keep in mind to maintain and develop the opportunity for spiritual growth of ordinary consciousness, realizing that today it is special time in the history of the human race. For the first time it's physical survival becomes possible only on the condition of the change of the ontological nature of everyday consciousness and religious transformation of the human heart, provided that there is growth of self-awareness and personal responsibility of each person for his social life. It is important not to confuse the true spirituality that leads man to God with the pseudo-religious or nationalist enthusiasm of contemporary globalization, which leads to the impersonal oneness of humanity at the cost of the individual.

References

1. Chelyshev P.V. Ordinary consciousness or it is not just bread that keeps people alive. – M.: MGGU. – 359 p.

2. Husserl E. The Crisis of European humanity and philosophy // Philosophy as rigorous science. – Novocherkassk: Saguna,1994. – P. 101–127.

3. Holy Bible. New King James Version. – Tomas Nelson Publishers Nashville, 1990. – 1204 p.

4. Marx K., Engels F. The German ideology // Works. – Vol. 3. – P. 7–544.

5. Tolstoy L.N. Diaries 1895–1910. Works in the 20 v. – M.: Art literature, 1965. – Vol. 20. – 670 p.

SACRAL AND AND SYSTEM OF SACRALIZATION

Zhukovsky V.I., Pivovarov D.V.

Siberian Federal University, Krasnoyarsk, e-mail: jln@kraslib.ru;
Ural Federal University, Ekaterinburg

"Sacral" is defined in the article as participation to Absolute, and this notion is opposed to "profanum". According to the authors, the system of sacralization in any society consists of the following components: 1) the sum of sacred ideals and ideas of the given society (ideology); 2) psychological ways and means which help to force people to believe in the unconditional validity of these ideals; 3) specific semiotic forms of an embodiment of relics, sacramental and hostile symbols; 4) the special organization (for example, church); 5) special practical actions and ceremonies (cult). The authors define "religion" as search and an establishment of the sacral communications, providing the necessary integrity to individuals and (or) to social groups.

Sacral (from Latin *sacrum* – sacred) – all those things which are most concerned with human beings; refers to the cultivation of the Absolute; associated with the worship of especially valuable ideals. In theology "sacral" means:

1) subordinated to the God;

2) the basic symbols of all-penetrating holiness of the God – greatness, glory and unconditional love;

3) the essence of temple liturgies – the laudatory speech in honor of the God. Some authors believe, that the feeling of sacral is unconditional: or it is, or it is not present, it cannot be reduced or increased (J. Huxley); nevertheless, in religious practice there is an idea of different degrees of sacred (The Holy Of Holies, a sanctuary, the high priest, the usual priest, etc.).

On the one hand, sacral is opposed to demonically-impure reality. On the other hand, it is contrasted with something profane, secular, and worldly. Their spatial ratio is expressed in Latin by a couple of the following terms: "fanum" and "profanum". Fanum is a court yard of a temple; profanum is something that is outside of a temple (outside of a sacral space). "Profanum" literally means "before the doors", "the removal of holy things out from a temple". Sacral things are expressed by means of special symbols (a cross, a sign of the cross, the myth about the tree of knowledge of good and evil, and so forth) which senses cannot be interpreted in terms of the natural properties inherent in these things.

Usually the idea of sacral is completely correlated with ideas of absolute and great: sacral is absolute and absolute is sacral ("the God is sacral"). Greatness is coherent with the limited, and the awareness of the great leads to the sacred. The absolute reality (the God, gods, spirits, etc.) is indirectly revealed in a great variety of objects – the conductors of the Absolute, which, like a mirror, reflect the absolute source of Holiness and point to the first beginning. Levy-Bruhl spoke about sacral as the mediator, which connects the opposites of heaven and earth, people and gods, visible and invisible, natural and supernatural.

So, sacral is that which takes part in the Absolute. Nevertheless sacred objects in themselves are not "semi-precious stones". In this sense they are not sacred, but secular. Sacral does not exist without secular and it is expressed only through secular (water, fire, holy oil, bread, wine, meal, and so forth). Any proposition about sacred has a secular linguistic form. If to believe that the God enters into human being by means of any conductor, then in principle, every thing can play the role of a sacramental symbol. When a believer confuses the original with a copy of the original, i.e. when someone worships not the Absolute, but his servants – "sacred objects" (a holy man, holy people, holy character, etc.), – he often demonizes them, replaces sacred objects with idols; then "sacral provokes idolatry" (P. Tillich).

There are two types of sacral:

1) the positive-opened sacral, tied with presence at ritual of the unconditional beginning;

2) the negative-hidden sacral, which imposes a veto on the entry into contact with the Absolute. G. Bataille has named the positive-pure and majestic sacral "the right pole sacral", and the frightening and disgusting sacral – "the left pole sacral". Bataille considered the left type of sacral as historically primary (because the institute of taboo is the most ancient), and the right type – as secondary.

In our opinion, one should not completely exclude elements of demonic and evil nature from the general concept of sacral, because evil has the character of an unconditional beginning in a number of religions (polytheism, Zoroastrianism, Manichaeism, Satanism), and in monotheism confrontation between light and darkness is unthinkable without "unclean" (for example, in Christianity – the Holy war of Jesus Christ with Satan). Sometimes sacral

is identified with something positive only, and then it is conceived as extremely clean and perfectly moral (for example, in the late Calvinism, puritanism). In this case the concept of sacral becomes shallow, and it is reduced to a flat moral preaching about ideal sinlessness.

The notion of sacral is linked not only with the concept of the God, but with the phenomenon of natural environment also. V.N. Toropov in his work "Sacral and saints in Russian culture" notes that the proto-Slavonic "svet" (light) etymologically closely associated with the Holy; in addition it has the following values: increase, swell, thrive, grow, bear fruit, rising (for example, the holy mountain). Nature (a space, the Earth) becomes of great value for us, if we believe that sacral is concluded in it. "The religious feeling of sublime, – W. James writes, – is that special shudder that what we test during a night-time in a forest or in a mountain gorge; only in this case it is generated by an idea of presence of supernatural [3, p. 32].

D. Hume drew attention to the fact, that the process of sacralization of the supreme reality and intermediaries between the God and people has a reciprocating, the cyclical character:

– sometimes national consciousness starts to allocate images of demigods and other intermediate essences (for example, Maidens Maria or Saint Nicholas) not with smaller sanctity, than the God; and in this connection the monotheism, as a matter of fact, turns to polytheism;

– in process of vulgarization of idolatry the polytheism destroys itself, coming back to monotheism.

D. Hume writes, that "one can observe a natural tendency of people to rise at first from idolatry to theism and then from theism again to fall before idolatry. <…> They vary between these opposite views. All the same weakness brings them down from the omnipotence and spiritual deity to the limited and corporal and from limited and corporal deity to the statue or visible image of the latter. All the same aspiration to tower brings them up: from the statue or material image to the invisible force and from the invisible force to the infinitely perfect Deity, the Creator and ruler of the universe" [2].

What is recognized as sacral is a subject to unconditional and quivering reverence and it is protected with special carefulness by all possible means. There is a strict punishment for sacrilege (for example, in Pakistan even today the criminal code provides the death penalty as a punishment for blasphemy). Sacral is the identity of belief, hope and love, and human heart is the "body" of sacral. Preservation of the sacred attitude to an object of a cult first of all is provided with conscience of a believer who appreciates holy relics more than his own life. Therefore, under the threat of the desecration of a holy thing, true believer stands up to protect it, without much hesitation and external coercion; sometimes for the sake of this he can sacrifice his live.

Sacral in its socio-organized forms is inevitably associated with the phenomenon of extreme fanaticism – with aggressive and passionate conviction of a fanatic, that only his personal faith is certainly true and exclusively correct. Confessional sacredness in conditions of its state-legal support is enhanced by the principle "the faith of all those dominates, who are in power". On the one hand, such sacrality ensures the survival of a state religion, but on the other hand, it generates different kinds of counter reactions of dissidents: heresies, schisms, wars of religion, freedom of thought, secularization, ecumenism, and the requirements of tolerance and dialogue of religions.

Sacral is revealed through pious behavior of people. Piety is the determination of mood and acts of a person by his thought about the presence or action of almighty force. The symbol of sacralization is sanctification, i.e. such a ceremony, as a result of which an ordinary wordly procedure gets a transcendental meaning. Bestowal is erection of a person in this or that degree of spiritual service by means of the established sacrament or a church ceremony. The priest is a person who is employed in the temple and commits all the sacraments, except the sacrament of ordination in the status of the priesthood. Saint Augustine explained that the effectiveness of the Christian sacraments is caused not by the quality of the priest himself, but it is determined by the transparency of his ministration and executed function. Sacrilege – property infringement, aimed at sacred and holy items and accessories of the temple, as well as insulting the religious feelings of believers. In a broader sense, it means an attempt at a relic. The phenomenon of sacral has properties identified in the external experience of believers. Among those who had made in the XIX–XX centuries a significant contribution to the development of the idea and concept of sacral, it should be noted such thinkers as F. Schleiermacher, R. Otto, M. Scheler, E. Durkheim, G. Simmel, R. Guenon, M. Eliade, P. Berger, T. Luckmann, A. Schütz, J. Baudrillard, M. Blanchot, R. Girard, etc.

Two opposite answers are more often given to the question, whether "religious" and "sacred" are identical. So, E. Durkheim believed, that the essence of religion consists in sacralization of base social communications. (Durkheim, 1960) On the contrary, S.M. Shalutin and A.V. Medvedev are assured, that sacral is an attribute of any culture and that the notion of sacral is much wider, than the notion of religious [11, 8].

Today there are five equally strong alternative hypotheses in treatment of the general problem of a parity of such notions, as concepts of absolute, sacral, divine and religious:

1) absolute values are sacral due to their divine nature (monotheism, polytheism);

2) absolute values are sacral, but not necessarily divine; there are also absolute not divine-religious values (the original Buddhism, Taoism, etc.);

3) not every absolute sacral object is divine or religious (materialism, dualism, atheism);

4) not all sacral religious values are unconditional, some religious relics have historically passing and relative character; at the same time there are absolute not religious and pure secular values (historicism, comparativism);

5) all values are relative, but people, for especially subjective reasons, sacralize some of them; sometimes the noncritical-absolutized values can be sacralized – for example, illusory idolized objects (relativism, gnosiological anarchism).

The specified alternatives are embodied in those or other philosophical systems. They are based on strong proofs, and the choice between them, first of all, is predetermined by world outlook preferences.

The church and the state develop complex and skillful system of protection and translation of the sacred attitude of people to basic ideals of the developed culture.

This translation is carried out by the methods coordinated among themselves and by means of all forms of a public life. Among them – rigid rules of law and soft receptions of art [4]. The individual is immersed – from the cradle, to the grave – into the system of sacralization generated by his family, tribe, nation and state. He is involved in the ceremonies and ritual actions; performs prayers and rites; keeps fasting and many other religious orders. First of all, it is necessary to sacralize norms and rules of the relationship to the near and far human beings, to the family, the people, the state and the Absolute. The system of sacralization consists of the following components:

1) the amount of the ideals and ideas that are sacred for the society's (ideology);

2) psychological techniques and means of persuading people in the unconditional truth of these ideals and ideas;

3) specific semiotic forms of embodiment of relics, sacramental and hostile symbols;

4) a special organization (for example, church);

5) special practical actions, ceremonies and rites (cult).

It requires a lot of time to create this kind of system. Such system absorbs in itself new and old norms, customs, traditions and rituals.

Sacralization of the basic ideals, first of all, is based on subjective acts of faith, the object of faith and religious authorities [10]. The society achieves the reproduction of a particular religion in its entire horizontal (social groups, classes) and vertical (generation) dimensions thanks to its sacral traditions and relevant existing system of sacralization of ideals.

If the selected object is already sacralized, then the adherents, worshipping to this object-idol, trust in its reality more strongly, rather than in empirically given things. People carry an ideal of the sacral hero in the heart. Sacral feeling has the quality of integrity, and poison of doubt is fatally dangerous for it. Nonetheless, it is difficult to draw clear boundaries between faith, half-faith and unbelief. The adherent of other faith brings the believer less worry than his coreligionist-dissident, the revisionist, the apostate, the heretic. Probably, it is tied with the fear of the believer begin to doubt in his faith, like a brother-heretic. Moreover, the texts of the sacred books sometimes give rise to serious doubts and confusion.

The maximum degree of the sacral attitude – sanctity, i.e. righteousness, piety, obedience to the God, the ability to active love the Absolute and release yourself from the impulses of self-love. Any religiousness is interfaced with sacralization, but not each believer in practice is capable to become a saint. There is a little bit of the saints, and their sample of holiness serves as a reference point for usual people. Degrees of the sacral attitude: fanaticism, moderation, indifference.

The stability of the sacralized system of values is not absolute. For some time, relativity and secularization of the sacral ideals can be amplified. When the percentage of dissidents and oath breakers inside of the certain faith is insignificant (for example, no more than five percent), in struggle against them religion is growing stronger and finds new sophisticated ways of self-defense. In this sense, the dissident movement and the inquisition directed against it is a kind of benefit to religion and the churches. When the quantity of dissidents sharply increases inside of any denomination or the state religion, then the system of sacralization begins to fail: religion can break up into sects, to become something profane (ordinary, earthly, low), to lose contact with the souls of the mass of believers or disappear altogether in its previous form.

In conditions when the volume of the profane in the religion is increasing and profane becomes the highest value, there is a sharp longing for the sacral in the society. There is some kind of the tendency to preserve the sacredness by its transformation into other forms: sacral turns into profane and profane – into sacral. So, under the slogan of religious renewal

of the society in the era of the Reformation old Church sacraments became profane, and independence of the world from the Church was proclaimed. At the same time, everyday people's labor, which served as a proof of their loyalty to the God, was sacralized. Another example: the progress of democratization and modernization, taking place in today's Russia, has caused the parallel activation of the carriers of archaic pagan consciousness and marginal culture of occultism. The sacral archetype of Lenin-the leader is replaced implicitly by the prayerful veneration of the Tsar-Martyr Nicholas II. And icons of Joseph Stalin, with a sword in his right hand and the Bible in the left, appear in Internet. The love of man to man is sacralized through the sacred sense of attraction to the Absolute.

If you do not ascribe necessarily social content to the concept of sacral, then, in its widest sense, this concept is quite suitable for disclosing the essence of any religion – egocentric, sociocentric (civil), cosmocentric. Our empirical "I" is looking for and finds the transcendental holy connection with the absolute and true "I"; ideologists sacralize people's ties with their leader, state and people; individual and mass communication with the God is sacral. And all these relations are the different types of religious attitude to the world.

Starting from the idea of sacral as the attribute of every religion, it is comparatively easy and reliably to distinguish the phenomenon of religion from all other forms of public spirit, which in their own way consolidate the people and give the individual a feeling of inner integrity. Apparently, this procedure of sacralization of the basic values essentially distinguishes religion from the morality, mythology, philosophy, arts, and sciences. In our opinion, religion can be defined as the search for and the establishment of the sacred ties, providing individual and (or) social groups the required integrity [9].

References

1. Durkheim E. Les formes e elementaries de la vie religieuse. – Paris, 1960. – 418 p.

2. Hume D. Natural history of religion. – M., 1966. – 406 p.

3. James W. Variety of religious experience. – M., 1993.

4. Zhukovsky V.I., Koptzeva, N.P., Pivovarov, D.V. Visual essence of religion. – Krasnoyarsk, 2006. – 460 p.

5. Zhukovsky V.I., Pivovarov, D.V. Concept of Sacral and System of Sacralization // Journal of Siberian Federal University: Humanities & Social Sciences. Krasnoyarsk – 2014. – № 7 (7). – P. 1216–1221.

6. Zhukovskiy V.I. Istina-Truth and Pravda-Truth: Alienating and Assimilating Knowledge / V.I. Zhukovskiy, D.W. Pivovarov // Journal of Siberian Federal University: Humanities & Social Sciences. Krasnoyarsk – 2013. – № 3 (6). – P. 334–345.

7. Medvedev A.V. Sacral as participation to Absolute. – Ekaterinburg, 1999. – 145 p.

8. Pivovarov D.V. Culture and religion: sacralization of basic. – Ekaterinburg, 2013. – 244 p.

9. Pivovarov D.V. Problem of synthesis of the main definitions of culture // Journal of Siberian Federal University: Humanities & Social Sciences. Krasnoyarsk – 2009. – № 1. – P. 17–22.

10. Shalutin S.M. The Problem of sacralization of valuable-normative systems // Religion, person, society, part 1, Kurgan, 1998. – P. 127.

ISLAMIC FACTOR IN THE CONTEXT OF NATIONAL AND REGIONAL SECURITY IN CENTRAL ASIA

Syzdykbekov Y.S., Abeuova S.T., Baigozhina G.M.

Karaganda economic university of Kazpotrebsoyuz, Karaganda, e-mail: syzdykbekov.yer@mail.ru

The question of interrelations between state and religion in Central Asia is complex. Its study reveals problem areas, which require comprehensive analysis. In the context of the dialogue between state and religion can highlight important problems of national security in the Central Asian republics such as Kazakhstan, Uzbekistan, Kyrgyzstan, Turkmenistan and Tajikistan. Islam in these countries will confess mainly by representatives of the indigenous population. However, the degree of religiosity of the society and the politicization of Islam in them are different.

Since 1991 the Central Asian republics are in independent and sovereign development, which faced with not only political and social-economic problems but also with ideological nature [1]. Of course, the policy of the state in its relation to religion is in the context of internal policy. Meanwhile, there are many external actors and their agents.

In Kazakhstan, the adherents of Islam in the majority are not Orthodox Muslims, although over time the position of Islam in society is increasing. Government policy becomes more coordinated in such situation. There are many reasons for a coordinated policy of state in relation to Islam. One of the reasons is the manifestation of national security threats. Kazakhstan is a multiconfessional state and religious contradictions may adversely affect on international relations and foreign policy of the state.

The government of Kazakhstan has taken a number of measures on the prevention of religious extremism within the country and at the level of multilateral diplomacy [2]. N. Nazarbayev initiated creation of a platform for dialogue between representatives of different religions. The Congress of spiritual leaders of world and traditional religions are held since 2003 in Astana regularly at least 1 time in 3 years.

State agencies establish control over religious organizations, which operate on the territory of Kazakhstan. The government also pays attention on official religious associations which have pro-government orientation, for example on the Spiritual administration of Muslims of Kazakhstan (SAMK). Patronage the SAMK from the state determines the activities of Muslim organizations under the auspices of the SAMK. This explains joint measures to prevent activities of extremist organizations.

There is another situation in Uzbekistan. Since the middle ages Uzbekistan was a center of Islamic culture in Central Asia, where Bukhara, Samarkand and Khiva were centers of the Islamic faith. Islam in Uzbekistan more politicized, because in addition to external factors of Islamization of society, there are also internal factors.

Social causes of politicization of Islam and the radical Islamization of the population are hiding in a systemic crisis, the challenges of economic transformation of society, which leads in frustration of the population in their government. The Islamic factor has become one of the defining moments not only in the life of society, but an instrument in the struggle for power [3].

The government of Uzbekistan held events that changed the position of state power in relations with religion: the spiritual institutions of the republic are taken under the control; clergy joined the ranks of state authorities for religious affairs on the rights of civil servants; it was limited influence and the role of religious organizations legal framework. The President of Uzbekistan I. Karimov took an uncompromising stance in relation to "political Islam".

In Kyrgyzstan tribalism and clan structure bloomed in government during A. Akayev's reign. The population of outlying areas remained without attention of center. A. Akayev's regime brought the country to the acute socio-economic crisis, where the idea of creating Islamic Caliphate became the alternative to survival. This led to the fight of Islamic radicals, among which, by the way, the majority of Uzbeks, with the official authorities in Batkent in 1999–2000. The idea of creating Turphan (or Turkestan) Caliphate on the territories of Kyrgyzstan, Uzbekistan and southern Kazakhstan has endangered national and regional security. Despite the fact that managed to avoid such scenario, the security threat from Islamists is still saved. Social-economic tensions, political instability, frequent changes of leadership in Kyrgyzstan contribute these threats.

In Tajikistan, the evolution of relations between state and Islamic radical movements took place in several stages. The first stage was characterized by the confrontation between

supporters of "pure" Islam and traditional Islam. The representatives of "pure" Islam position themselves as fighters for the purification of Islam from different innovations. The front of moderate Muslims was formed, whose political ambitions were linked with the reorganization of the state and the legalization of the activities of some religious organizations. The leading force of moderate Muslims became "Islamic Renaissance party of Tajikistan (IRPT)". This party tried to participate in the political process legally as a parliamentary party [4].

The second stage of relations between the government and Islamic organizations related to Civil war 1992–1997. Islam has become a mobilizing force against the official authorities. It was a struggle between less developed Islamic South against the modernized Uzbek and Russian North. It showed how the social-economic conflicts easily find a religious overtone.

The third stage is characterized by the emergence of oppositional Islamist movements not only in relation to the E. Rakhmonov's regime, but also in relation to IRPT. In connection with this leaders were carried out some changes in internal policy: the transition from a balance of interests of various political forces to the rigid authoritarian system; modification of the General concept of governance, improved efficiency of the management of public institutions by the state.

Finally, in Turkmenistan, religious situation is quite different. Despite the vicinity of the Islamic Republic of Iran, where religious institutions are orthodox in nature, Turkmenistan is not positioning itself as an Islamic state [6]. This is due to the difference in the religion of the population in the countries: Iran – Shiite, Turkmens are Sunni.

The basis of the political regime in Turkmenistan is strong authoritarian government of President since the days of S. Niyazov, and close internal policy too. This regime does not allow the activities of radical Islamic movements, undermining the authority of the President or opposing him.

There are no any activities of extremist Islamic organizations in such conditions. Firstly, the Muslims of Turkmenistan sensitive to the manifestations of any missionary work in their surroundings. This makes the interaction of state authorities and traditional structures of Islam successful in combating religious extremism. Secondly, the Muslim clergy is subject of security agencies' attention.

Despite the change of leadership after the death of S. Niyazov, significant changes in the internal policy of Turkmenistan are not expected. Isolationist neutrality is saved which provides support for traditional moral values.

So, the reasons for the revival of interest to Islam and its politicization in Central Asia was the collapse of the bipolar system, the discrediting of communist ideology and social tensions in the region, as well as the processes of globalization and modernization that define the politicization of Islam in the world. The politicization of Islam finds a way in the activities of extremist religious organizations which threaten to the stability and security of the region.

Adopted in recent years, strict anti-Islamic campaign became a characteristic phenomenon in Uzbekistan and Tajikistan. In Turkmenistan there is a strict state control over religious activities. The same policy recently practiced in most of the Central Asian states. For example, in Kazakhstan in 2011 the law on religion was revised, which caused the disapproval of the "democratic" West and followers of non-traditional religions. The weakest link in the face of religious extremism currently remains Kyrgyzstan. Largely this is due to the unstable political situation and socio-economic instability in the country.

Thus, the dialogue between state authorities and religious organizations in the Central Asian republics annually is becoming popular, both in the context of the political and socio-cultural development, and in the context of foreign policy. It is also due to the increasing incidence of recruitment of young Muslims to participate in wars in Afghanistan, Iraq and Syria [7]. It should be noted, that only a strong authoritarian regime and building a police state now allows us to constrain the activities of extremist organizations on the Central Asian territories.

References

1. Oleg Sidorov. The policy of Islam in Central Asia // http://www.religare.ru/print9037.htm.

2. Policy and the interests of the world powers in Kazakhstan / under B. Sultanov's editorship. – Almaty: Dike-press, 2002. – 238 p. – P. 28.

3. Alexander Halmuhamedov "Islamic factor": the Uzbek version // http://www.tatworld.ru/article.shtml?article=149&section=0&heading=0.

4. Olimova S. Political Islam and conflict in Tajikistan // Central Asia and the Caucasus. – 1999. – № 4(5) – P. 138–145.

5. Tukumov E. V. Evolution of extremism in Tajikistan // Analytical review. – 2004. – № 5 – P. 16–22.

6. Kamilzhan Kalandarov. Islam in Turkmenistan: assumptions and reality // http://www.easttime.ru/analitic/1/2/136.html.

7. Kazakhstanis are recruited in hot spots // http://24.kz/ru/news/social/item/32636-kazakhstantsev-verbuyut-v-goryachie-tochki.

Materials of Conferences

DYNAMICS OF SPECIES COMPOSITION OF WINTER WHEAT ROOT ROT PATHOGENS IN UNSTABLE MOISTENING CONDITIONS

Shutko A.P., Perederieva V.M.,
Tuturzhans L.V.

*Stavropol State Agrarian University, Stavropol,
e-mail: schutko.an@yandex.ru*

Strategy phytosanitary improvement agrocenoses proposed at the II Congress of Plant Protection (St. Petersburg, 2005) includes a number of harmonious use of phytosanitary elements: phytosanitary monitoring, resistant varieties, ecologically low hazard plant protection products, biologics, disease resistance inducers, natural populations of natural enemies and mechanization. In environmentally friendly plant protection decisive role belongs to the monitoring of harmful and beneficial organisms.

According to V.S. Sadykova, A.N. Likhachev, P.N. Bondar (2010) in literature described about 50 species of fungi capable of destroying the root system of cereals. Pathogens of root rot are belonging to different taxonomic groups differ in their pathogenicity, area of distribution, level of study. They are divided into highly pathogenic (*Bipolaris sorokiniana* (Sacc.) Shoem. (synonym – *Helminthosporium sativum* P., K., et B.), *Gaeumannomyces graminis* (Sacc.) Arx. & Oliver (synonym – *Ophiobolus graminis* Sacc.), *Pseudocercosporella herpotrichoides* Fron., certain species of genus *Fusarium*) and other fungi that relate to the associated group of pathogens.

In the works of many researchers shows that the species composition of pathogens varies depending on the culture, soil and climatic conditions, variety, stages of plant growth and other factors.

Comparative analysis of the results of research, we conducted of 2005–2008 and available data in the literature (Gavrilov, 1970; Hajsam Isber, 1992) shows that during 20 years (1988–2008) composition of root rot pathogens in the area of an unstable moistening of Stavropol Territory underwent significant changes due to changes in farming systems and increasing aridity. If in 1967–1970 in pathogenic complex structure prevailed *Gaeumannomyces graminis* and fungi of genus *Fusarium,* в 1988–1990 – *Gaeumannomyces graminis* and *Pseudocercosporella herpotrichoides*, then in 2005–2008 leading position occupied fungi of genus *Fusarium* (more than 45 %) и *Bipolaris*.

For today fungi of genus *Fusarium* (*F. sporotrichioides, F. oxysporum, F. solani, F. verticillioides*) and *Bipolaris sorokiniana* are dominant in structure of pathological complex. According to Hajsam Isber (1992), of 1987–1990 *Fusarium graminearum, F. sporotrichioides, F. oxysporum, F. culmorum, F. verticillioides, F. avenaceum, F. gibbosum* isolated from diseased plants of winter wheat mainly (Table) *F. solani* characterized by author as concomitant microflora.

S. Retman, T. Kislykh (http://www.zerno-ua.com) note that in recent decades there was a significant transformation agrobiocenoses due to climate change, the forms of farming and cropping technology. This resulted to significant changes in a complex of pathogens in a forest-steppe of Ukraine. The tendency to reduce the number of species of fungi pathogens of *Fusarium* head blight of winter wheat. The frequency of isolation of the usual pathogens *F. graminearum* and *F. culmorum* gradually decreases, but a dominant position on the go representatives section *Sporotrichiella* – fungi that can grow in dry conditions and synthesize dangerous trichothecene mycotoxins (http://www.zerno-ua.com).

Species of the genus *Fusarium* (the main pathogens), isolated from plants
of winter wheat in the area of an unstable moistening

1987–1990	2005–2008
F. graminearum Schwabe	non isolated
F. sporotrichioides Sherb.	*F. sporotrichioides* Sherb.
F. oxysporum Schlecht.:Fr.	*F. oxysporum* Schlecht.:Fr.
F. culmorum Sacc.	non isolated
F. verticillioides (Sacc.) Nirenberg	*F. verticillioides* (Sacc.) Nirenberg
F. avenaceum Sacc.	non isolated
F. gibbosum App.et wr.emend Bilai	non isolated
non isolated	*F. solani* (Mart.)

According to G.S. Muromtsev and I.I. Chernyaeva (1988), prevalence of *Fusarium* infection can be attributed regular use of mineral, first, nitrogen fertilizers, without organic fertilizers, resulting tapered diversity microflora. Biocoenosis phytopathogenic fungi (especially fungi of genus *Fusarium*) begin to dominate, increased soil phytotoxicity while reducing its suppressive. Of 2000–2009 in conditions of the Stavropol Territory mineral fertilizers has increased steadily and reached 118 thousand tonnes of active ingredient which is 2,6 times higher than to 1996–2000, when this indicator was minimal over the past 50–60 years ago. In this case, organic fertilizers also increased by 4,9 times and amounted to 4,9 million tons, but it was realized through the use of straw.

A.Y. Egoshin, O.G. Marina-Chermnykh, G.S. Marin (2008) note that the use of straw cutting in the rotation (vegetable organic substance – detritus) scatter at harvest grain combines with grinders, especially in combination with biologics, in conditions of Mari El Republic provides soil saprophytic recycling, improves the phytosanitary condition of topsoil and increases productivity of crops.

In arid agro-ecological conditions of the Stavropol Territory there is a problem of straw early decomposition, the straw becomes an additional source of infection common root rot, mainly *Fusarium* etiology, which was confirmed by the branch of the State Organization «Russian Agricultural Center» for the Stavropol Territory (Stamo, Kuznetsova, 2012).

Furthermore, A.N. Zemlyanov, N.G. Gursky, V.A. Zemlyanov (2011) note that the lack of nitrogen and moisture decomposition of straw residues occurs to form the phenolic compounds, which are inhibitors of root growth of winter wheat.

Annual incorporation of large amounts of wheat straw into the soil, in our opinion, can be considered as one of the factors, which explains the significant reduction in the frequency of occurrence *Gaeumannomyces graminis* root rot (4 times in comparison with the second half of the XX century). N.I. Bogachuk, G.S. Marin, N.N. Apaev, A.M. Yamalieva (2008) indicate that *Gaeumanno-myces graminis* can suppress the introduction of straw with a high ratio C:N (barley, wheat, corn), while *Bipolaris sorokiniana* dies more easily when making straw with a low ratio C:N (straw soybean, alfalfa and other legumes).

So, the formation of a consortium of various kinds of pathogenic microorganisms and their time dynamics assume constant monitoring species composition of pathogens, necessary for the development of effective measures to limit their damage.

References

1. Bogachuk N.I. Influence of organic matter and soil treatment to infection by root rot barley / N.I. Bogachuk, G.S. Marin, N.N. Apaev, A.M. Yamalieva // Bulletin of Kazan State Agrarian University. – 2008. – Vol. 9, № 3. – P. 88–90.

2. Gavrilov A.A. Root rot of winter wheat in the Stavropol region and justification of agrotechnical measures in struggle against it: Author. diss. ... cand. agricultural science. – Stavropol, 1970. – 23 p.

3. Egoshin A.J. Environmental protection system of plants and productivity of arable land / A.J. Egoshin, O.G. Marina-Chermnykh, G.S. Marin // Plant Protection and Quarantine. – 2008. – № 3. – P. 25–26.

4. Zemlyanov A.N. To the seed needs to be changed / A.N. Zemlyanov, N.G. Gursky, V.A. Zemlyanov // Plant Protection and Quarantine. – 2011. – № 8. – P. 11–13.

5. Muromtsev G.S. The use of microbiological agents to protect plants from root infections / G..S Muromtsev, I.I. Chernyaeva // Bulletin of Agricultural Science. – 1988. – № 7. – P. 29–35.

6. Retman S. Fusarium head blight. Changes in the pathogen complex of Fusarium pathogens / S. Retman, T. Kislykh. – URL: http://www.zerno-ua.com

7. Sadykova V.S. Restriction of complex root rot pathogens of barley antagonists of genus Trichoderma / V.S. Sadykova, A.N. Likhachev, P.N. Cooper // Mycology and Phytopathology. – 2010. – V. 44, no. 6. – P. 556–562.

8. Stamo P.D. The use of fungicides should be rational / P.D. Stamo, O.V. Kuznetsova // Plant Protection and Quarantine. – 2012. – № 2. – P. 5–8.

9. Haytham, Isber Improving protection from winter wheat root rot on leached chernozem: diss. ... cand. agricultural science / Isber Haytham. – Stavropol, 1992. – 121 p.

Materials of Conferences

ESTIMATION OF THE ECONOMIC EFFICIENCY FOR THE CHEMICAL INDUSTRY

Tulyakov D.S., Frolova T.A., Frolov S.V.

Tambov State Technical University, Tambov,
e-mail: frolova@mail.gaps.tstu.ru

Project selection and estimation of investment attractiveness is one of the main problems in chemical industries.

Therefore, the decision maker person must make a choice between the current orders, based on criteria of economic efficiency [1].

Such problem selection is formulated as follows.

It is necessary to find a method of organization the chemical industry for the specified order $S_p = (Q^p, T^p)$ under the conditions:

$$CF \rightarrow \max; \qquad (1)$$

$$NPV > 0 \wedge NPV \rightarrow \max; \qquad (2)$$

$$PI > 1 \wedge PI \rightarrow \max; \qquad (3)$$

$$PBP \rightarrow \min; \qquad (4)$$

$$BEP \rightarrow \min; \qquad (5)$$

$$VS_j^p \subset VS^Z; \quad X_j^p \subset X^Z; \quad T_f^p \leq T^p; \quad Q_f^p = Q^p, \quad (6)$$

where CF – Cash Flow; NPV – Net Present Value; PI – Profitability Index; PBP – Pay-Back Period; BEP – break-even point [1]; $VS_j^p = \left\{ VS_1^p, ..., VS_j^p, ..., VS_J^p \right\}$ – aggregate of standard sizes of devices on j stage for p product; VS^Z – aggregate of standard sizes of devices available in the company; $X_j^p = \left\{ X_1^p, ..., X_j^p, ..., X_J^p \right\}$ – type of main device on j stage for p product; X^Z – basic types of devices available in the company; T_f^p – planned duration of release of p product; T^p – release date of p product under the contract; Q_f^p – production volume of p product under the planned duration of release T_f^p; Q^p – production volume of p product under the contract.

Thus, solving the given task, the company's management will be able to evaluate the currently available offers for the production of products and select the most cost-effective.

References

1. Daskovskiy V. Assessment of investment projects on the basis of production efficiency / V. Daskovskiy, V. Kiselyov. – National Institute of Economics (NIEc), 2010. – 28 p.

Materials of Conferences

STUDY HORMONALSTATUS YOUNG HANDBALL PLAYERS IN THE STATE OF MUSCULAR REST

Didenko S.N.

FSBEI HPE «Kuban State University of Physical Education, Sport and Tourism», Krasnodar, e-mail: sndidenko@mail.ru

Nowadays studying hormone levels is an important elements of maintaining permanent and strict control over organisms of young sportsmen. Thus, defining hormones of suprarenal cortex makes it possible to judge on condition of adaptive metabolic processes. At the same time, it is known that saliva contains a number of biological markers that reflect impact of physical strain and stress upon vital regulative systems of an organism (Khaustova S.A., 2010). The objective of this research is to study hormonal composition of saliva at the example of hormones: testosterone, cortisol, 17αOH – progesterone among young handball players in condition of relative muscle idleness.

Observation was he;d over young male sportsmen in age of 12–13 years. The first group of the observed was formed of young sportsmen at the stage of sporting specialization ($n = 23$). The second group consisted of 21 young sportsmen of initial training stage. The control group of 30 people included practically healthy (taken medical observation) peers who don't participate in sports. The research was undertaken during preparation period of a year's training macrocycle. The research took place at the foundation of medical budget institution of additional children education city children-youth sporting school of Krasnodar

Saliva was collected with usage of SaliCap Set (system of collecting saliva samples). Definition was carried out on immune-ferment sets for quantifiable determination by Diagnostics Biochem Canada Inc, with facilitation of analyzer SANRAIS (TECAN, Switzerland). All calculations were carried out with application set STATISTICA® 6.0. As the received data shown, reliably-significant differences in testosterone contents have been revealed among sportsmen of the first group in comparison to their peers who don't go in for sports ($p < 0,05$), and it can be defined as adaptive reaction to systematic physical strain. Regarding comparative analysis of cortisol and 17αOH – progesterone hormone contents in idle condition, no reliable differences have been established.

ADVANTAGES AND PROSPECTS OF THE TRANSPLANTATION OF HEMATOPOIETIC STEM CELLS FROM THE UMBILICAL BLOOD. THE MODERN CRYOGENIC TECHNOLOGY TO CREATE PRODUCTS BY CRYOPRESERVED UMBILICAL CORD BLOOD IN UKRAINE

Karnaukh E.V., Nekrasova Y.V.

Kharkiv national medical university, Kharkov, e-mail: ella69k@mail.ru

Stem cells have long attracted attention in experimental researchers and practitioners. This is due to their unique ability to breed, self-reproduction and differentiation. Irreversible damage of the nerve, muscle and other tissues it is possible to "restore", replacing them with tissues "patches", which consist of appropriately trained stem cells. Every year millions of people are suffer fnd die from the degenerative diseases of the brain, heart, liver, kidney, pancreas, retina, muscle dystrophy et al., in the treatment of which can help to stem cells.

Currently, there are several sources of stem cells: bone marrow, umbilical cord blood, skin, gonads. Preparation of stem cells from sources such as umbilical cord blood, bone marrow or skin, does not require any special ethical constraints. The umbilical cord blood – the best source of hematopoietic stem cells c very high ability to reproduce and multidirectional differentiation, when introduced into the body does not cause rejection, so transplantation of umbilical cord blood can be carried out and part of tissue incompatibility. The use of cord blood stem cells does not cause any ethical objections. The umbilical cord and placenta, with previously considered as biowaste, are a source of valuable biological material today. The procedure for obtaining of the cord blood stem cells is simple and safe for mother and child. During labor, the umbilical cord is clamped with special clamps, and the remaining blood inside (its volume is approximately 60–80 ml) flows into the syringe. The blood in sterile containers are delivered to a specialized laboratory, where the sample is prepared (remove ballast elements) to freeze. There are more than three thousand cases of transplant umbilical stem cells instead of embryonic and bone marrow cells in the world clinical practice today. The modern technologies allow to maintain cryogenic cells at low temperature almost indefinitely. The Institute of Cryobiology and Cryomedicine, Academy of Medical Sciences of Ukraine, Ministry of Health of Ukraine (Kharkiv) developed a unique product based by the cryopreserved cord blood – drug "Gemokord, which assigned to the group of biogenic stimulators. This is a suspension of hematopoietic, immune, and other dendritic cells, frozen in autologous plasma at a temperature of –196°C and stored in sterile plastic containers at 0,5; 1,0; 1,5; 1,8; 4,5 or 10,0 ml. Shelf life in the annealed form – up to 2 hours at +4°C.

In addition, the Ukrainian company "Hemafund" one of the first established family cord blood bank, whose ultimate goal is the preservation of cells and the ability to transplant. Thus, Ukraine can take its rightful place in the hierarchy of the modern world of medical science, and the inhabitants of the country – to get a new level of health care.

PHARMACOLOGICAL GEROPROTECTION – IS IT AN ILLUSION OR REALITY TODAY?

Karnaukh E.V., Bayrachnyy K.A., Tkachenko K.N.

Kharkiv national medical university, Kharkov, e-mail: ella69k@mail.ru

Since ancient times, old age is concerned about humanity. From an evolutionary point of view of modern humans entered the stage of elevated rates of aging. And modern science is obliged not only to increase the human lifespan, but also increase the population of active working age. This is very important in terms of social and economic development of modern civilized society. The aging process is studying gerontology science that examines the various methods and systems (physical, natural, chemical and other) life extension. Among the most innovative – indian technique of the autoplazmolifting "Dracula therapy", gene expression cell aging skin "Sciton BroadBand Light" (Stanford University), microsurgical implantation Aptos threads (Research Center of Surgery by B.V. Petrovsky, Russia), product line "Transfer Factor" based on concentrated extracts of bovine colostrum and chicken egg (professor A. Chizhov, Russia).

Pharmacological agents wiht prolonging life called geroprotectors. And now there are more than 20 substances with geroprotective properties: antioxidants (vitamins A, E, C, carnosine, carotenoids, SkQ and other mitochondria-addressed quinones, lipoic acid, coenzyme Q, a trace mineral selenium and other); succinic acid; Inhibitors of protein biosynthesis (olivomycins, actinomycin); growth hormones, thyroid hormones, adrenocortical hormones, sex hormones, melatonin, the hormone FGF21); peptide bioregulators (timalin, Epithalamin, DSIP); biguanides (phenformin, buformin, metformin); adaptogens (Ginseng, Siberian Ginseng and other); chelators (activated carbon, pectins).

In modern gerontological literature the geroprotectors beneficial effects attributed to their specific effect on certain mechanisms that slow down the rate of aging and increase the functionality of the body (for example, free-radical theory of aging, normalization of immunity, endocrine and nervous system). But most scientists still believe that today there is no one true geroprotector with scientifically proven undeniable positive effect without the dangerous side effects (without carcinogenesis). All known tsitogerontologicheskoy models (for example, Hayflick model) based only on certain assumptions and correlations do not directly relate to the essence of the aging process. So the secret to longevity and immortality for mankind yet remains closed.

THE NEW NOOTROPIC MECHANISM OF ACTION OF THE MODERN ANTIDEPRESSANT ROLIPRAM ON COGNITIVE FUNCTIONS

Karnaukh E.V., Kalyuzhka V.Y., Markevych M.A.

Kharkiv national medical university, Kharkov, e-mail: ella69k@mail.ru

Nootropic drugs – a substance that has a specific effect on the higher integrative functions of the brain, improve memory, facilitate learning, stimulate intellectual activity, increases the resistance of the brain to the damaging factors improving cortical-subcortical connections. Now the main mechanism of action of nootropic agents considered the impact on the metabolic and bioenergetic processes in the nerve cell and the interaction with the neurotransmitter systems of the brain.

The activation of neurons in specific metabolic pathways involving the nuclear-cytoplasmic CREB-protein is one of the most promising in terms effective influence on the central nervous system mechanisms of action of neuroprotective drugs. The CREB (cAMP responsive element binding protein) is a protein, which initiates the transcription of genes involving cAMP sensitive elements in their promoter. Increasing the concentration of calcium or cAMP can trigger the phosphorylation and activation of CREB. This transcription factor is a component of the signaling system and regulates a wide variety of processes, including circadian rhythms and memory formation.

Antidepressant Rolipram stimulates cAMP / PKA / CREB signaling pathway by a specific inhibition of phosphodiesterase type 4 (PDE4), the isoform of the enzyme that catalyzes the hydrolysis of cAMP. Rolipram can increase long-term potentiation and accelerate the consolidation of short-term memory to long-term.

Using Rolipram expedient to for improving cognitive abilities in healthy people, and for the treatment of neurological disorders of different etiologies.

Materials of Conferences

NOT SPECIAL SPACE-TIME

Dubas L.G.

RICHN RAAS, e-mail sudarih@gmail.com

In this article, the approach to the description of additional coordinate similar to time with potential field use in the generalized space-time is offer. From the point of view wave time for *H* boson, hypothetically [1], it means use of either prompt or slow fictitious coordinate similar to time.

In representation of an article [2], the multidimensional version of space-time intended for the project of field interactions within the limits of the multidimensional theory of space-time with use of compact additional coordinates of space-time is offer. The understanding of a space-time, such as a product topology of the seven-dimensional space over four-dimensional space-time is present.

In three-dimensional spatial section for space-time at some selection of a coordinate frame of reference, transformation of three-dimensional metrics can be clear. The understanding of a space-time dimensionality can be clear, how a product topology of additional seven-dimensional space over four-dimensional space-time with the general signature $(+ - - - - - \dots)$.

$$R = R^4 \& R^7, \qquad (1)$$

where R – dimensionality of space-time. Value for space-time dimensionality can be incremented to equal ten or eleven [2] under condition of the evaluation on field of strong interactions.

Hypothetically, the sizes of compactness for characteristic additional coordinates define itself by property of the particles, which spread fundamental interactions. Allow us to use space-time with some group of additional coordinates for the description of field interactions and inertial gravitation.

Let us guess in this article, for example, that the understanding of space-time, such as a superstructure of eight-dimensional space-time over four-dimensional space-time is spotted.

$$R = R^4 \Leftrightarrow R^8;$$

$$R^8 = R^4 \& R^4. \qquad (2)$$

Hypothetically in space-time with the signature $(+ - - - + - - \dots)$ the inertial metric is spotted. According to comparison of formulas (1) and (2), we can accept besides it time-like fifth or twelfth coordinate as hypothetically corresponding value to introduction of potential for interaction field. The potential tensor may be scalar, or vector, or matrix for the description of interactions.

Dimensionality of space-time is based on field classification for four-dimensional space-time.

Thus, in the approach with compact additional coordinates the space-time, such as **the superstructure**, of eight-dimensional **space-time** over not special four-dimensional space-time $(R^4 \Leftrightarrow R^8)$, probably [1], **leads to introduction of potential for a scalar field**.

References

1. Dubas L.G. Approach for the mass of H boson // European Journal of Natural History. – 2013. – № 2. – P. 26–26. – URL: www.world-science.ru/euro/pdf/2013/2/12.pdf (ref: 21.01.2015).

2. Witten E. Search for a realistic Kaluza-Klein theory, Nuclear Phys. – B 186. – 1981. – P. 412–428.

Materials of Conferences

AUTOMATIC STORAGE BIOLOGICAL SAMPLES

Frolova M.S., Frolova T.A., Frolov S.V.

Tambov State Technical University, Tambov, e-mail: frolova@mail.gaps.tstu.ru

Current research in the field of medicine, particularly in oncology, requires comprehensive analysis of clinical and molecular genetic data. This data characterizes the individual characteristics of the patient. Improved methods of analysis make the study of the etiology of diseases, clinical trials possible. Such studies help to assess the effectiveness of therapy, as well as identification of various mutations. It is proved that during the storage of biological samples is extremely important for scientists to have constant access to the samples. In this case, the standardization of storage, easy retrieval of samples and the creation of a database of donors, history storage become urgent. To study the genetic processes associated with the appearance of cancer and to determine the effectiveness of the therapy it is especially important to maintain a constant temperature during the storage of the sample, to have the history of each sample documented, to have an easy access to the samples.

Automated storage systems are becoming increasingly popular in the diagnosis of diseases, the study of drugs, as well as in the research.

Automated storage systems must provide reliable automatic storage and management of samples. These systems exclude risk of human errors, reduce the laboratory staff to create optimal conditions for storage of the collection of biological samples. The ability to store different types of biological samples is an important part of such a system. Storage system must be able to store an RNA samples, DNA sample, tissues, microorganisms, and other plasma samples.

Some of the advantages of the automated storage systems are:

● automatic loading / unloading of samples;

● fast automatic search and sample delivery to the user;

● precise identification of the tubes by the barcode;

● built-in PC for managing the storage, reporting, and facilitate workflow;

● automatic history storage temperature reports, statistical data on freeze-thaw cycles for each sample;

● removing the possibility of unauthorized access to the samples.

Automated storage of biological samples are successfully used around the world, including the European Union, the USA, China and others.

THE DESCRIPTION OF THE METHOD TO IDENTIFY A PLACE OF TIMBER ORIGIN ON THE BASIS OF THE DENDROCHRONOLOGICAL INFORMATION

Rumyantsev D.E., Lipatkin V.A., Epishkov A.A., Cherakshev A.V.

Moscow State University of Forestry, Moscow, e-mail: dendro14@list.ru

At present time, prevention of illegal timber trade is possible if there is any method of identification of place of wood origin. Currently, by order of the Federal Forestry Agency of Russian Federation the scientists from the MSFU dendrochronology laboratory have developed a technology to identify a place of origin of the cut timber which makes it possible to monitor international timber traffic. The technology involves creating dendrochronological data banks which help to identify a place of timber origin as well as woodland where the tree grew. The procedure of creating such data banks is as follows. A plot is assigned within each stratum (logging site). Then evaluation and geobotanical description of forest phytocenosis is done according to the standard form. Wood samples (cores) are taken from 20 sample trees of the Kraft's class I–III. It is worth noting that samples are taken at the height of 1,3 m with a Pressler increment borer. Then the cores are packed, labeled and transported to the dendrochronological laboratory. Width of annual rings is measured to the accuracy of 0,01 mm at the cores. The measurement results are saved in the corresponding format and downloaded to the software package developed by the MSFU dendrochronology laboratory. A descriptor is made for each individual chronology. It includes a description of the plot where the wood sample was taken and tree stratum characteristics. The information is stored in a hierarchical way. Each individual chronology is included into a cluster on the basis of such features as a species, a forest district, an administrative district and a region. Software units ensure that more than 1 million possible identification algorithms are applied. The frequency of correct identification exceeded 90 % in the tests carried out in the Babayevo district of the Vologda region. A variety of ways to perform analyses makes the technology flexible and appropriate for different types of woody plants as well as for diverse forest types and various geographical conditions of European countries. Search patterns (functions to realize several consecutive algorithms) can be configured to facilitate the process of algorithm testing involving several looks. More full information are at the Internet resource www.ledendro.ru.