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## TEMP OF AGEING OF WORKER OF RISK GROUP IN CHROME INDUSTRY AND MEASURES OF ITS PROPHYLAXIS

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Here are presented the results of research of biological age of workers (male) in poor conditions of labor in chrome industry. Professional groups are defined, which are characterized with early ageing and increased risk of health violation. The measures are proposed for decreasing of temp of ageing among professional groups.

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**Keywords:** worker of risk group, chrome industry, prophylaxis

Biological age (BA) is an integrated expression of age pathology, hidden or manifestative as adiaagnostic diseases. Chronological age (CA) is a convenient measure for evaluation of possibility of functional abilities of human and his ill health; however, it is not an ideal measure in connection with significant individual variability of human ageing. Existing data show, that there are definite static connections between the temp of ageing and number of social and hygienic factors, which can be defined subject to exact situation of human being.

Depending to the methods of definition, BA can reflect the decreasing of functional abilities of organism and its working ability (functional age) or decreasing of working ability of organism (gerontological age) [1].

Data in existing literature show, that biological age is an adequate indicator of functional condition of human, effectiveness of his professional activity, health condition, and the fact that there is close correlation of BA with conditions of labor activity, labor environment (chemical, thermal microclimate, noise, vibration, electromagnetic emanation and etc.).

Level of influence is mainly defined with professional sphere, type of works, chronological age, work experience, etc, which significantly influence the decreasing of adaptation reserves.

Problem of evaluation of BA is closely connected with the concept of physiological (normal) and pathological (early) ageing. This defines its significance subject to the solving of a great number of problems, including preventive, with taking into consideration of the fact that the conditions of labor activity influence greatly the BA.

Prediction of BA of workers of risk group upon the base of definition of its interrelation with such indications as CA, work experience, professional belonging, is very important from the position of development of adequate preventive measures.

The aim of the work is the evaluation of temp of ageing among the workers of risk group in chrome industry.

### Materials and methods of research

For calculation of biological age (BA) the registration of arterial pressure, static balancing (SB), frequency of breathing (FB), questionnaire survey with subjective evaluation of health (SEH) [3].

Indicator of BA is defined according to the formula:

$$BA = 26,985 + 0,215 - A\text{ДC} - 0,149 - 3\text{ДB} - 0,151 - SB + 0,723 - SEH. (1)$$

Then, individual amount BA was compared with proper biological age (PBA), which characterized the population standard of ageing temp. It was calculated according to the formula:

$$PBA = 0,629 - CA + 18,56. (2)$$

Total amount of examined workers – 106,75 of them were from risk group and 31 persons from control group. Risk group was presented by the following professions: furnaceman, crusher operator, crane operator, fireman, crusher, doser, burner. Control group was composed of engineering and technical staff.

Examination of normalcy of distribution of measured variates was executed with the help of Shapiro-Wilk test [4].

### Results of research and their discussion

Analysis of individual values showed, that average value of BA subject to professions amounts  $56,5 \pm 1,2$  years, at that proper biological age (PBA) amounts  $45,5 \pm 1,6$  years with the difference in  $5,36 \pm 1,4$  years.

Among all the professions, maximal values of BA were registered among dosers, crushers and firemen. In average, difference with proper level amounts 2,6 to 7,9 years between professions. At that, among the professions «crane operator» and «doser» difference in ranges was 7,9 and 6,1 years, which showed the expressiveness of heightened rate of ageing among these professions. Small difference was found between the values BA and PBA among the profession «crusher». In whole, the information shows that additional biological age among all professional groups was higher than values  $44,2 \pm 1,9$  years, in control group it was some lower and corresponded the value  $42,9 \pm 1,2$ .

In whole, comparative analysis of values of BA with indications of temp of ageing showed, that among such professions as furnaceman,

doser and fireman there is found «slightly early aged» temp, i.e. values BA-PBA are in the ranges +5 to +10 years, and the temp will increase with the growth of chronological age and work experience under harmful conditions. Values of examined master sample (72 people), show, that average value of BA of workers, equal to  $56,5 \pm 1,2$  years at proper biological age (PBA) amounts among the examined group  $45,5 \pm 1,6$  years with excess of PBA on  $5,36 \pm 1,4$  years (at average work experience higher than 16 years). It means, that ageing of workers of risk group in chrome industry is higher in comparison with population standard of ageing.

Diagnosed early temp of ageing in three professional groups, which work under the harmful conditions in majority of cases, will be expressed with violations in the health state, indicator of which is the growth of number of chronic diseases and general diseases with temporary disablement.

For prevention and decreasing of temp of ageing in this sphere the following measures are recommended:

- In execution of professional casting and professional examination in profession of risk group, it is recommended to consider the found tendency of ageing temp, and, in particular, follow the age limits;
- Medical preventive measures in found professional groups claim for additional programs for increasing of their labor ability and correction of status with usage of antioxidants (vitamins C, E, rutin) and application of different geroprotectors;

- Prophylaxis of postprimary chronic diseases, especially those of lungs as the consequences of smoking and harmful factors of industrial environment;

- Active usage of recreational trainings in the period of health resort treatment;

- For early revelation of pre-nosological changes it is recommended for medical service to adopt the additional methods of express-diagnostics in execution of periodical medical examinations;

- Control of correctness and complexness of nutrition of workers under harmful conditions (elimination of zinc defecit, vitamin D deficit, i.e. provision of caloric nutrition of high quality);

- Prophylaxis work of shop doctors in area of alcohol abuse, diet breach, smoking, i.e. healthy lifestyle promotion;

- Work in improvement of labor conditions.

#### References

1. Afanasyeva R.F., Prokopenko L.V. Biological age as a criterion of evaluation of labor conditions (in terms of titanium alloys) // *Labor medicine and industrial ecology*. – 2009. – №2. – P. 1–5.
2. Prokopenko L.V., Sokolova L.A. Scientific base-ment for system of evaluation and management of professional risk of development of diseases under the conditions of modern industry and environment // *Labor medicine and industrial ecology*. – 2009. – №12. – P. 5–10.
3. Manual for practical lessons in normal physiology / N.N. Alipov, D.A. Akhtyamova, V.G. Afanasyev and others. – M.: Akademiya, 2005. – 336 p.
4. Vukolov E.A. Bases of statistical analysis. Practicum in statistic methods and research of operations with usage of kits STATISTICA and EXCEL. – M., 2008. – 454 p.

*Materials of Conferences*

**ESTIMATION OF OOCYTES QUALITY WHILE COMPARING TWO PROTOCOLS OF STIMULATION OF SUPEROVULATIONS AMONG WOMEN WITH OVARY CYSTIC DISEASE**

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In genesis of endocrine sterility a syndrome of cystic disease ovary (SPKO) equals from 35 to 85% of cases, and its part in the structure of infertile marriages is 20%. It has been established that the most significant characteristics of SPKO (increase in luteinizing hormone and testosterone in blood plasma, cystic alterations of ovary and metabolic disturbances) interfere with natural undergo of superovulation stimulation and affects the quality of received oocytes and development of embryos.

The objective of the research is to estimate the quality of received oocytes in in comparison of two short protocols of superovulation stimulation among women with diagnosis of SPKO.

All patients involved into analysis received daily recombinant FSH (honal-F, 75 ME) at the background of discharging of introduction of agonist HtRH of difereline 0,1 mg (31 people, group 1) of with the implementation of antagonist HrTH of cetrotyde 0,25 mg (29 people, group 2). Average age of patients equaled 30,8 and 30,2 years correspondingly. Therapy principle was in an individual selection of preparation and its dose. Control of folliculogenesis, intake of oocytes and transportation of embryos as well as embryological stage of the program was carried out according to standard methods. The support of lutein phase was established individually. As a criterion of treatment effectiveness we used the frequency of development of hyperstimulation of ovary syndrome of average and severe degree.

From the inspected 60 patients clinical pregnancy was achieved among 26 women (43,3%), while the protocol with cetrotyde was more effective, frequency of pregnancy was higher in the second group of 5,7% ( $p < 0,05$ ). The frequency of pregnancy over superovulation stimulation correlates with higher greater number of received oocytes and was unreliably higher among women who received diferelin, possibly because of increase in unripe forms; in the group with cetrotyde a trend of oocytes overgrowth was registered. AN average number of oocytes with normal fecundation in groups didn't differ dramatically. However, the frequency of presence of ovary hyperstimulation syndrome that represents a serious problem under a superovulation induction among patients with SPKO in program of auxiliary reproductive technologies

was lower by 37,2% in the group with cytrocyte ( $p < 0,01$ ).

Thus, an overcoming of sterility among women with SPKO requires individual approach to usage of different protocols of superovulation stimulation that is adequate for an endocrine status and condition of ovary that directly affects the quality of received oocytes.

The work was submitted to International Scientific Conference «New technologies, innovation, invention», Turkey (Antalya), August, 16-23, 2011, came to the editorial office on 27.07.2011.

**THE SPREAD OF ASCARIDOSIS AMONG THE ADULTS POPULATION IN CENTRAL KAZAKHSTAN FROM 2000 TILL 2008**

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Ascaridosis – the most spreaded common class of antroponoz geogelmintoz nematosis with fecal-oral mechanism of transmission, characterized by a chronic course with allergy of the body in the early stage of disease and dysfunction of the intestine – in later.

Ascaridosis takes a significant amount of food the host, irritate the intestinal mucosa., cough, arthralgia, myalgia and allergic symptoms: itching and sometimes skin rashes, asthmatic bronchitis, eosinophilic infiltrates in the lungs, pneumonia, blood eosinophilia. Migrated ascaridosis is undiagnosed.

In this regard, it is necessary to study the morbidity by ascaridosis of the population to identify the causes of the spread and to further carry out the necessary anti-epidemic actions.

The aims of this study was to examine manifestations of the epidemic process of ascaridosis diseases in central Kazakhstan. Studies conducted by the standard technique of retrospective epidemiological and statistical analysis of incidence.

The retrospective epidemiological analysis of the morbidity by ascaridosis 2000–2008 years to assess the epidemiological situation: – Study dynamics of the diseases by ascaridosis (defined trend, periodicity).

Was conducted retrospective epidemiological analysis among adults from the beginning of 2003 year we may note the growing of the disease. The most high indexes were registered in 2003, 2004, 2005, 2006 and made up 50,2; 97,4; 108,2; 161,7 for 100 thousand population. The average rate of the reduction and increasing of the year during the epidemiological process from 2000 till 2008 makes up 11,6% and is characterized as the tendency is high (reduction and increasing).

Thus, the results our research showed that the incidence by ascariidosis among the adult population from 2000 till 2008 tends to increase, and revealed cyclical with period of 4 years.

All this testifies to the unfavorable epidemiological situation in central Kazakhstan on ascariidosis, as well as the poor quality of insufficient medical care, and highlights the need for further study of this topic.

The work was submitted to the International Scientific Conference «Fundamental research», Croatia, 25 July – 1 August, 2011, came to the editorial office 01.04.2011.

### TOPOGRAPHY OF MESENTERIC LYMPH NODES IN RAT

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Mesenteric lymph nodes (MLN) of white rat may be divided on central (or own) MLN, which are lied near trunk of cranial mesenteric artery, and peripheral MLN, which are lied near terminal branches of cranial mesenteric artery, the central MLN – on the proximal (parapancreatic) and the distal (paracolic), and the proximal MLN – on two groups:

1) paraaortic MLN (retropancreatic – 2, oval or bean's shape), lymph flows out from they into preaortic lymphatic plexus and/or into left lumbar trunk, which skirting aorta from ventral side, or cisterna chyli;

2) interintestinal MLN (pancreaticoduodenal – 3–4, oval, round or bean's shape), lie on the ventrocaudal side from pancreas, between duodenojejunal flexure (dorsal and left side) and crossing of middle, saggital segment of ascend colon in distal, frontal loop of colon (ventral and right side).

Distal central MLN (4–5 shape likely beans or coffee beans) as chain of different solidity extend in common root of mesentery and mesocolon, under vascular bundle, into thickness of fat tissue of root body in mesentery. The root body consists of solid interweaving of different vessels and nerve fibres dipping into fat tissue. The body has shape of direct or curved cylinder, which extend along middle segment of ascend colon on the right side or on both sides from it. The last two of distal central MLN (terminal central MLN) lie on left side from crossing of ventral, transverse loop of ascend colon in its middle segment, on both sides from branching of ilioocolic artery from cranial mesenteric artery. The peripheral MLN are:

1) ilioocolic (oval 3–4 nodes of different sizes lie as compact group along ilioocolic artery);

2) ilioocaecal (large node with bean's shape lies over ending of ilium).

The work was submitted to International Scientific Conference «Fundamental and applied research in medicine», Sochi, 22–25 September 2011, came to the editorial office on 29.07.2011.

### LYMPHOMA AND HERMAPHRODITISM, AS THE VARIANT OF CLINICAL DISPLAYS IN STRUCTURAL REORGANIZATION OF THE X-CHROMOSOME

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The follicular lymphoma is a monoclonal tumor from the mature B-cells occurring from the follicular center of lymph nodes. A follicular lymphoma – a most often meeting variant among lymphoma.

According to the literature, loss of a part of a X-chromosome, and also the genes located on it which are responsible for formation of immunity and a hormonal background, can lead to occurrence of hemoblastoses.

The true hermaphroditism (syndrome of bisexual gonads) among other forms of anomalies of sexual development meets seldom enough. Characteristic basic line of this pathology is presence at an individual simultaneously both man's, and female elements of a gonad. The pathology can be suspected at the child already at a birth owing to an uncertain structure of external genitals.

However the histological conclusion is the basic criterion for the definitive diagnosis.

For an illustration of the told it is resulted following observation.

**Patient K., 21 year** (a genetic card № 28 569).

Was born from II births in time at the young parents consisting in not related marriage. Mass at a birth 3000,0 g, the length of a body – 52 centimeters. According to mum, the proband floor at a birth raised the doubts, but has been defined as female, and the child was brought up as the girl. Proband development didn't differ from age criteria. Sexual development proceeded on female type. A menarche since 15 years, regular, very plentiful.

From 20 years the proband is observed by a hematologist with the diagnosis the Follicular lymphoma. Notes insignificant augmentation of peripheric inguinal lymphonoduses which tend to decrease and again to arise. The patient of specific treatment didn't receive, the doctor had been chose tactics of active observation.

At the age of 21 years of the patient concerning a purulent peritonitis the laparotomy has been spent. The purulent tumor of an ovary on the right is found out. The Suppurative focus has been removed. Histological research of a sexual gland is conducted.

**Result of histological research № 40849-53 from 19.10.2000.** The fine fragment of cortical substance of an ovary with an individual cavity is defined. The cavity has one layer of flat follicular cells. And also there is a clump luteocytic – a fragment of a menstrual yellow body. Cellular elements of atypical character in a remote material it is not taped.

On consultation at the doctor of the geneticist. At survey at the age of 21 years: growth of 153 centimeters, mass of 54 kg. A proband phenotype, psychological orientation, a voice timbre female. Embryogenesis deviations: low growth of hair on a forehead, a thin curly hair on a head, a small mouth, a micrognathia, dissymmetric muscles sternokleido-mastoideus.

Condition satisfactory, position active. Signs of an intoxication, loss of mass of a body, a fervescence it is not traced. Integuments pure, moderately wet. The thyroid gland is moderately diffusively enlarged, painless. At a palpation a stomach soft, painless on all extent. The liver, a lien aren't enlarged. At the left the painless individual inguinal lymphonodus, the size 10×10 mm, an elastic consistence is palpated.

Secondary sexual signs are developed on female type. Mammary glands are developed enough, the secretory tissue is palpated. At pressing from papillas separated isn't present. The sexual formula of proband Ax3 Pb3 Ma3 Me+15. Hirsutism number– 8 points.

In the gynecologic review wrong development of external genitals on uncertain types is taped. A line of horizontal hair, on female type. Pilosis on a pubis the sufficient. The big and small sexual labiums aren't differentiated and represent dermal cords in some kind of not completely made scrotum. The clitoris looks like not enough developed bent penis, to 6 sm in length, with the truncated chorda. At head opening in «the penis» center the punctual aperture of the urethral channel is defined. From the channel the urine drop is allocated. Back from «scrotum» the median perineal seam is located. It comes to an end with an external vaginal opening. At vagina sounding the bellied probe passes to 1 centimeter. External aperture of a female urethra see isn't visualized. At effort from a vagina urine is allocated. The proband says that the menstrual blood also is allocated from the given aperture. Between an external vaginal opening and a fundament there is a thin plaited septum. At the penis basis dense elastic formation of the roundish form in the sizes 15×15 mm, it not soldered to surrounding tissues is palpated. At rectal research are palpated 2 dense painless uteri of the usual sizes ~ 45–50 mm.

Ultrasonic research of a uterus and its appendages. (Idea AU4). 8.02.2001.

2 bodies of the womb are accurately located: the right uterus in the size of 54-37-32 mm, endo-

metrius linear 8 mm; the left uterus 58×39×30, endometrius linear 8 mm. 2 necks of a uterus, 2 cervical channels are accurately located. At the left the ovary in the size of 53×33×30 mm with set of liquid inclusions in the size to 10–15 mm is located. The conclusion: Full doubling of a uterus.

**Ultrasonic research of adrenals.** Adrenals of the usual sizes and structure.

**Ultrasonic research of external genitals.** In the basis of a root of a penis roundish formation with accurate contours with homogeneous internal structure in the size of 15×15 mm is located. The blood flow in formation isn't defined. The conclusion: the rudimentary testicle isn't excluded.

**Research of hormones of a blood from 3/12/2001:** TTT – 1,36 mme/ml; Testosteron-Depotum – 0,93 nmol/l; Oestradiolum – 48,0 nmol/l; Prolactinum – 231 mme/l.

**The developed analysis of a blood (12.03.2001)** within normal indicators. Pathological deviations it is not revealed.

**Karyotype of a proband №54 from 2/9/2001** – mos 46, XX [34]; 46, X, del Xq21 [4].

**The diagnosis has been made:** «The Syndrome of bisexual gonads, a variant of presence of gonads of a different floor (a true hermaphroditism). True doubling of a uterus and vagina. Suspicion on an urogenital sine. An anomaly syndrome in half-defining chromosomes with structural reorganization. A chronic follicular lymphoma, an initial stage».

The patient has been referred to a urology department for specification of the diagnosis and operative excision of formation with the subsequent histological research of a material. Presence of tumoral formation of lymphomatous character isn't excluded.

Thus, in the given observable case though androgenic activity of a testicular component of gonads is less expressed, than activity of estrogens, nevertheless, masculinization elements at a true hermaphroditism can be traced also. It is necessary to remember that at any forms of an embryonal pathology of development of gonads, tumoral changes in them are frequent enough. The situation can be aggravated with a progressing lymphoma.

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## FRAME-BASED TECHNOLOGY AS THE WAY OF DEVELOPING STUDENTS' SELF-THINKING SKILLS IN INSTITUTES OF HIGHER EDUCATION

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The essence of frame-based technology is revealed in this article. Moreover, the efficiency and productivity of it, is considered there which contains main feature, is an increase of volumes of study materials without a rise of class hours. Therefore, this method can be successfully used in comprehensive school as well as in high educational institutions. In Uzbekistan, teachers use frame-based technology in universities and institutes while teaching pedagogical discipline. The frame-based model is an abstract image of standard stereotypic situations in symbols – a strict design containing element as empty window – slots, which are repeatedly recharged by information. Each of slots has its purpose and must be filled by concrete content and painted in certain color. By means of light attention is attracted to particular slot via visual perception. This enables students orientate much more quickly in offered scheme. The efficiency to frame-based model is consisted of its features to compact, structure and systematize information in the manner of tables and matrixes. Moreover, this method allows students to develop independent thinking, cognitive and creative abilities. It also helps students to develop capability to select from mass flow of information the main one; to compare, evaluate; to find the relationship between searched information and combine it; actuate students' reasoning while studying new theme and finally, this technology stimulates to acquire knowledge independently, changes the nature of educational pedagogical ambience itself by filling it with spirit of cooperation, development of person.

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**Keywords:** frame-based technology, self-thinking skills, student

The humanistic nature of education in High Education System suggests putting personality of student into the center of education process. Teacher's cognitive activity and mutuality to student are the essential things in tandem «*teacher-student*». Particularly such education system reflects the humanistic direction in innovational pedagogy (Lozinskaya, 2009).

At present, all developed countries have realized the urgency of reforming their own education system in order to make student as central figure of the scholastic process. In Uzbekistan the reformation of educational system is accomplished along with introduction and using hi-tech as well as in Russia. Teaching technologies such as contextual, vitagenal, differential, integrative and moul are defined in modern pedagogical literature. Also, in this article one of the effective teaching methods will be discussed which is well known as frame. This method successfully applicable by our teachers during classes of pedagogical disciplines in Tashkent Pedagogical Institute named after Nizomi (Burtovaya, 2010).

The word «frame» has several meanings from English translation in electronic dictionary ABBYY Lingvo:

1. As noun, it is a structural unit of intellectual and other objects.
2. As verb, it means to crate statements, plans and imagine.
3. As adjective, it is a framework which has its own scope.

For the first time, the technology of frame education was introduced by Russian scientist Minskiy M. as an attempt to create frame-based network or paradigm in order to reach better performance of understanding (Minskiy, 1999). On the one hand, Minskiy made an ef-

fort to construct database which would contain encyclopedic knowledge. On the other hand, he wanted to create the most describing base that contains information in outlined and ranked form (Minskiy, 1972).

The frame is a model of knowledge which activates in certain situation. Moreover, it uses for its explanations and predictions the way of organizing studying materials and studying time while studying the theme of research (Minskiy, 1972).











The image is presented in sign-symbolic and has hypothetical and predictable nature «semantic field» (Gurina, 2004). As a result, such frame or system activates in most cases thereby provides the greater velocity of its recognitions and comprehensions (Kolodochka, 2003). In case if it is not possible to find necessary frame, it occurs the adaption of the discovered frame to real picture and it captures in mind for subsequent uses (Minsky & Papert, 1969). Based on mentioned above information, frame technology means studying scholastic material structured by certain manner in special organized order.

The main feature of this technology is an increase of volume of study skills without a rise of scholastic time. As usual frame consists of several cells or slots and each of them has its own purpose (Gofman, 2003). Thus, the frame presents as a model abstract image of standard stereotypic situations in symbols; hard con- striction that contains elements of empty slots which are repeatedly restarted by information. In addition, with the help of frame-based model it is possible to compress, structure and system- ize information in terms of tables and matrixes (Kolechenko, 2005). We shall consider an ex- ample of use frame-based technologies which



are successfully used by our Uzbek teachers on lessons according to «Teaching methods in pedagogy» on theme «Method of decision-

based education» with third year students of Tashkent Pedagogical University named after Nizomiy (Figure).

	Input data	The name of frame	Color
Slot 1		Didactic aim	
Slot 2		Task	
Slot 3		Justification of hypothesis, conclusion of mechanism	
Slot 4		Problem solving	
Slot 5		Test assignment	

Frame technology «Methods of task solving education»  
(Source: Minskiy M. *Frames for skills representation* 1999)

This method is used by our teachers in the following way. Lecture materials are distributed for students. After acquainting with them students are offered frame-based scheme consisting of slots see Figure 1. These cells have to be full-filled by certain contents and painted by particular color. For instance, substantiation of hypothesis, conclusions, regularities are in yellow; task is in blue; didactic purposes are in red; solving the tasks is in cyan; tests are in green. By means of color, attention is attracted to certain slot throughout visual perception. This enables students to orientate much more quickly in given schemes (Klochko, 2005).

The layout of lessons is divided into 5 steps:

1. Suggest students exact scheme.
2. Independent work with text and search of necessary information.
3. Filling slots.
4. Analysis of done work, estimation an comparison of founded information.
5. Transferring the meaning of filled slot via symbol.

If traditional scheme of theoretical lessons are held in terms of inquiry and rehearsal of

last lecture or that of lectures and tutorials this scheme allows (Gurina, 2004):

- To transfer education into self-studying, develop students' abilities to choose from flow of mass information the main one, compare and evaluate.
- Find the relationship of information and combine it.
- Activate student's thinking while studying new theme.
- Motivate student to acquire knowledge independently (Choshanov, 1996).

Literature and pedagogical guides are the sources of knowledge for organizing students self work. This innovation differs from others due to the proper use of study material; it saves time during education process (Latishova & Turina, 1999).

Students are acquainted to use frame on lessons while study theoretical materials of first theme. They concern of reproductive activity whereas the productive activity is close to zero. However, it is urgent for teacher to show students the relation of theoretical materials within the theme (Turina, 2000). Meanwhile, studying the second theme, understanding

and thinking processes are much more faster than there is enough time for productive activity because students have already known how to use frame technology (Bleyk et al, 2004). Throughout the rest time students can do the following things:

- Analyze heart information (think, describe, compare).
- Synthesize information (combine, imagine and create).
- Make comparison (evaluate and discuss) (Gurova, 1986).

When students totally understand frame-based scenario of study material, they will be able to use it automatically without any effort, as a result productive activity will replace reproductive one completely. Furthermore, schematic purpose of basic information allows to save time for self work of students. The goal of this is:

1. Systematization fixing theoretical and practical skills of students; consolidation and extension of theoretical knowledge; development of skills to use reference documentation and special literature (Schank & Abelson, 1975).

2. Development of cognitive abilities and student's participation; creative initiative, independence, responsibility and self-discipline.

3. Shaping self-reasoning, abilities to self-development, self-perfection and self-actualization (Dyakov & Borisov, 2007).

Such form of flow of lessons increases considerably:

- Motivation towards learning, efficiency and effectiveness of studying activity.
- Provides work for whole group, lets students to develop cognitive activity, self-thinking and creative abilities.
- Changes the nature of educational pedagogical sphere by filling it with cooperative spirit and individual's development (Representation and use of skills, 1989).

## Reference

1. Bleyk S., Peyp S., Choshanov M. (2004) 'The use of neuropsychologic achievements in pedagogy'. – USA: Pedagogy 5. – P. 12–56.
2. Burtovaya N. (2010). 'The methods of development professional skills of managerial students'. – Tomsk: Vestnik 5. – P. 142–148.
3. Choshanov M. (1996) Flexible method of model-based education. – M.: Education.
4. Dyakov V. & Borisov A. (2007) Frame-based model of skills representation. – Smolensk.
5. Gofman E. Frames in education system. – M., 2003.
6. Gurina R. (2004) 'Frame-based schemes as a stimulator of educational process'. – M.: School Technology 1. – P. 184–95.
7. Gurova L. The understanding process of thinking development. – M., 1986.
8. Educational technology XXI: activity, value and success / V. Guzeev, A. Dahin, N. Kulbeda, N. Novojilova. – M.: Pedagogical search, 2004.
9. Klochko V. Self-organization in psychological situations. – Tomsk: Tomsk State University, 2005.
10. Kolechenko A. Encyclopaedia of pedagogical technologies // KARO. – 2005. – P. 368.
11. Kolodochka T. 'Didactical opportunities of frame-based technology' // School technology 3. – 2003. – P. 27–30.
12. Latishova A., Turina G. Frame-based dictionary in teaching Russian language // Materials IX of Congress MAPRJAL, Bratislava, 1999. – M., 1999.
13. Lozinskaya A. The methods of education, science and culture // Pedagogy and Education 3. – 2009. – P. 67–97.
14. Minskiy M. Frames for education representation. – M., 1999.
15. Minsky M., Papert S. Perceptions. MIT Press. 1969.
16. Minsky M., Papert S. Progress Report on Artificial Intelligence, AI Memo 252, MIT Artificial Intelligence Laboratory, Cambridge. Mass. – 1972.
17. Minsky M. Form and Content in Computer Science. – M., 1972.
18. Representation and use of skills Translated from Japanese by Weno X. & Isidzuka. – M.: Mir, 1989.
19. Schank R., Abelson R. Scripts Plans and Knowledge, Advance Papers of Fourth Intern. Joint Conf. on Artif. Intell. – M.: Idea 2, 1975. – P. 151–155.
20. Turina G. Frame-based method of lecture preparation in course of Russian Language as foreign language. – M.: Moscow State University, 2000.

*Materials of Conferences***GENDER APPROACH REALIZATION:  
PRINCIPAL ASPECTS**

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The appearance of gender research particularly in the field of pedagogics is one of the significant achievements of humanitarian thought of the last quarter of the XXth century that continued its active development at the beginning of the XXIst century. At present the application of gender knowledge to the educational process is an essential requirement.

In this respect the notion «gender approach» is of particular actuality. We consider that gender approach may be regarded as a component of learner-centered approach taking into account «the individual peculiarities of a child in accordance with his/her sex» and thus supposing «the choice of teaching content, forms and methods of teaching and education, creation of a friendly (gender-sensitive) environment aimed at personality development in accordance with his/her abilities» [4].

The most debatable question is connected with means of gender approach realization in the educational process.

The conducted research in the field in question pointed out the possibilities of gender approach realization by means of a number of directions including creation of a peculiar educational process organization supposing the choice of forms, methods, techniques, tasks based on students' gender-related differences, teaching content correction and new teaching materials development, establishing of various class and school types oriented towards practical approach realization and based on the model that is the combination of single-gender and usual education.

We believe that this model of education is the most preferable one for gender approach realization. It can be applied to the educational process of a modern comprehensive school without any negative changes. The educational model in question provides for single-gender education in gender-sensitive subjects such as languages and mathematics thus even intensifying the process of education [6].

The introduction of gender approach is reasonable but during its realization there is an opportunity to be faced with problems the most important of which is the lack of gender knowledge of teaching staff. Thus the first step of gender approach realization is the purposeful work with the teaching staff of a particular secondary school.

In the field of pedagogics gender approach is quite often associated with taking into consideration the peculiarities of functional asymmetry of the cerebral hemisphere. Basing on the principles

of the cerebral hemisphere functional asymmetry three gender types are distinguished: left-brain hemisphere, right-brain hemisphere and equal-hemisphere dominance gender types [1-3, 5, 8, 11-14].

The research results indicate students' gender-related differences in styles of information processing that directly influences the learning peculiarities of various gender type students. Inductive, analytical and successive information processing, abstract characteristics perception are peculiar to left-brain hemisphere gender type students while deductive, integrated and simultaneous information processing, concrete characteristics perception are characteristics of right-brain hemisphere gender type learners.

According to the data of the research the proportion of left-brain hemisphere gender type students to right-brain hemisphere gender type ones is correspondingly «70,5 to 14,5% (6–9 years); 53,0 to 29,5% (10–15 years); 47,0 to 34,0% (15–20 years); equal-hemisphere dominance gender type is constant in all age groups 16,0–18,5%» [7].

The identification of a student gender type being the second step in gender approach realization is possible on the grounds of the combination of motor tests, listening tests, Rosenbach test and the test by Melentieva T.I. [9, p. 43-44].

It is necessary to note that the main teaching techniques used during the education of the representatives of different functional asymmetry of the cerebral hemisphere organization (left-brain hemisphere and right-brain hemisphere gender type students) represent certain dichotomy. Thus, the mentation of left-brain hemisphere gender type students is notable for inductivity, abstract thought, objectivity, the ability to come to a conclusion basing upon determined rules; the thinking of the representatives of right-brain hemisphere gender type students is remarkable for deduction, imagery, concretization, subjectivity, specific perception of visual demonstration [10].

Verbal processes of left-brain hemisphere gender type students are based on the principle of word-generalization with the predominance of intentional speech while the representatives of right-brain hemisphere gender type are notable for unintentional speech, the verbal processes of this gender type are based on the principle of word-visualization.

Consequently the cognitive strategies of different gender types are distinct. Successive temporal stimuli, discrete presentation of information, rational approach to problems solving, detailed elaboration and partition of information are characteristics of left-brain hemisphere gender type students. Simultaneous spatial stimuli, uninterrupted presentation of information, intuitive, figurative, active approach to problems solving, synthesizing of information, perception of gen-

eral features are typical for right-brain hemisphere gender type learners.

Presentation of new material also has its peculiarities. Students with left-brain hemisphere cerebrum asymmetry need step-by-step presentation of teaching materials with verbal explanation of rules. The perception of right-brain hemisphere gender type learners is more holistic and is based on the use of visual demonstration.

The significant features of working on the material under study are the following: left-brain hemisphere gender type students prefer the series of successive drilling tasks basing on oral memory, arbitrary memorization, usage of teaching texts, translation of texts into native languages; right-brain hemisphere gender type learners show preference to the tasks including reproduction resting on the model, base on sense memory, involuntary memorization and repetitions, prefer the usage of authentic texts trying to understand the meaning by means of guessing [9, p. 46-47].

The examination of students belonging to different gender types includes out-of-context multiple choice questions and regulation of time for the fulfillment of a task for left-brain hemisphere gender type students and context tasks without time limits for right-brain hemisphere gender type learners.

As it was stated above the choice of appropriate methods, forms and teaching facilities is of great importance for gender approach realization in the process of education. We consider that the gender-sensitive use of teaching methods is optimal that is explained by the forms and teaching facilities stability and variability of the method category.

We suppose that the gender-sensitive choice of teaching methods may be represented in the following way: perceptive methods of teaching such as verbal (discussion, account of events), visual (illustration, demonstration) and practical (drilling) are preferable for left-brain hemisphere gender type students and equal-hemisphere dominance gender type; visual and practical methods (experiment) are indispensable for right-brain hemisphere gender type learners.

The division of methods stated above reflects the cognitive development specific features of left-brain hemisphere gender type students having more developed verbal abilities that presuppose high effectiveness of verbal teaching methods usage, repetitions during new material explanation, non-verbal problems solving using verbal methods. Equal-hemisphere dominance gender type students have almost similar specific features as left-brain hemisphere gender type representatives that explain the choice of perceptive methods of teaching. Though verbal stimuli are the most preferable for the cognitive development activation of right-brain hemisphere gender type learners the fact does not minimize the importance of verbal methods especially at primary school thus only reflecting the specificity of this gender type.

Logical methods of teaching such as inductive and analytical are suitable for left-brain hemisphere gender type students, inductive, analytical and synthetic are preferable for equal-hemisphere dominance gender type while deductive and synthetic teaching methods are for right-brain hemisphere gender type learners. The distribution of logical methods is based on the preference of stereotyped tasks by left-brain hemisphere gender type students and abstract thinking inclination of right-brain hemisphere gender type representatives.

Gnostic methods particularly reproductive and research method are correspondingly for left-brain hemisphere, equal-hemisphere dominance gender types and right-brain hemisphere gender type. The choice of gnostic methods for each gender type is explained by facts verbalization tendency, orientation to information memorization, verbal abilities development of left-brain hemisphere gender type students and spatial thinking, spatial-temporal orientation, ability to non-standard logical problems solving and research activity of right-hemisphere gender type students.

Examining the category of forms of education we note the following correspondence: left-brain hemisphere gender type students, mainly female [13], inclined to individual, pair and frontal forms of education. The students of right-brain hemisphere gender type, mainly male, prefer group work (3-4 students) with the existence of a leader and the elements of rivalry, individual form that provides for self-actualization opportunities and collective form of education. Equal-hemisphere dominance gender type students need pair, group and frontal form of education.

The use of particular teaching facilities also depends on gender-related differences of students. Thus it is preferable to use auditory stimuli for the cognitive development activation for left-brain hemisphere gender type students and visual stimuli for right-brain hemisphere gender type. Equal-hemisphere dominance gender type learners are in intermediate position.

Visual teaching facilities (pictures, illustrations, photos, slides, tables; nonverbal teaching aids: facial expression, gestures, etc.) should be structured, logical, positively emotionally coloured when working with left-brain hemisphere gender type students while teaching right-brain hemisphere ones the use of diagrams, maps, symbols, schemes becomes more effective as it corresponds to their creative thinking.

Students of left-brain hemisphere and equal-hemisphere dominance gender types need the use of auditory teaching facilities. These types of students are receptive to words, phrases, intonation, expression, loudness, tempo, pronunciation, style of material presentation and require repetitions of explanations and reproductions of the material under study.

Right-brain hemisphere gender type learners, as a rule, content themselves with one-time new

material presentation and increasing of the educational process effectiveness requires the use of audio-visual teaching aids: films, TV-programmes fragments, etc.

Kinaesthetic teaching facilities that form a separate group of teaching aids and include smart boards, devices, models, mockups are in need at primary school being required by motor-perceiving students.

We believe that the division of students into small groups in accordance with their gender type, educational process realization within the frames of the combination of the single-gender and usual educational models, taking into account thinking peculiarities, verbal abilities, cognitive strategies, peculiar features of presentation and working on the material, examination realization, choice of methods, forms and teaching facilities required by each gender type student are absolutely necessary being the third step of gender approach realization.

Thus we consider that gender approach realization has practical importance for individual educational forms and personal abilities development. Conduction of gender research in the frames of educational system promotes the cognitive processes analysis of different gender type students, the changers of teachers' type and integration of gender knowledge into pedagogical practice.

#### References

1. Artukhova T.U. Psychological prerequisites of educational sphere creation by means of gender approach // *Psychology of education*. – 2007. – № 12. – P. 7-19.
2. Balonov L.Ya., Deglin V.L., Chernigovskaya T.V. Functional brain asymmetry and speech activity organization // *Sensory systems: sensory processes and brain asymmetry*. – SPb.: Nauka, 1985. – P. 99-115.
3. Volf N.V. Sex differences of verbal information processing organization. – Rostov-na-Donu: CBBR, 2000. – 240 p.
4. Zinov'eva E.Kh. Gender approach in psycho-pedagogical dimension // *Gender approach in education: problems and perspectives*. – Volgograd: Peremena, 2009. – P. 43.
5. Kaufman D.A., Trachenko O.P. Functional brain asymmetry and perception of words belonging to different grammatical categories // *Sensory systems: sensory processes and brain asymmetry*. – SPb.: Nauka, 1985. – P. 115–126.
6. Kon I.S. Pluses and minuses of single-sex and co-education // *Pedagogics*. – 2006. – №9. – P. 21.
7. Kuindzhi N.N. About single-sex school education // *Administrator of education*. – 2010. – №6. – P. 95.
8. Leaver B.L. Whole class education. – M.: Novaya shkola, 1995. – 48 p.
9. Melent'eva T.I. Foreign languages teaching in the light of functional brain asymmetry. – M.: KRASAND, 2010. – 176 p.
10. Handbook of functional interhemispheric asymmetry. – M.: Scientific World, 2009. – P. 390–391.
11. Teltevskaia N.V. Gender approach to schoolchildren teaching / N.V. Teltevskaia, O.A. Konstantinova. – Saratov: Nauka, 2009. – 120 p.
12. Khrizman T.P. Child's brain functions development. Electroencephalographic research. – SPb.: Nauka, 1978. – 128 p.
13. Chikurova M.V. Educational process differentiation in the context of gender approach // *Director of studies: modern school administration*. – 2008. – № 8. – P. 49-57.
14. Urishcheva T.I., Chubarova S.A., Kozlovskaya G.V., Eremeeva V.D. New health keeping technologies in children education. Gender approach in education. – 2009. – № 1. – P. 22-32.

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#### PROFESSIONALINO – LABOR SOCIALIZATION TO PERSONALITIES IN EDUCATIONAL COMPLEX

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The most important problem of the development of modern professional school is increasing quality preparation future specialists to mastering by labor experience and to searching for new.

For achievement of this purposes are executed actions, provided programs and plans occupation, and the condition of the spontaneous origin events, in which beside students are developing necessary each person professional and labor quality. These qualities continuously become complicated. So one of the most important tasks of a professional school is professional-labor socialization of students. The particularity to modern situation to professional socialization to personalities consists in that professional-labor socialization to personalities does not occur instinct, value to orientation teenager form on background their emotional insecurity because of realization of a someone else adult significant professional prospects. Many graduates of professional educational institutions feel the dissatisfaction by its preparedness to labor on professions and do not find itself place in production. The present production quickly develops, this conditions change the look profession, but curriculums, program, technologies and scholastic literature do not have time to their reflect. In connection with acceptance Bolonsk agreement in contents of the vocational training on the first plan is stood shaping main professional competency to personalities in process her professional-labor socialization. Turns on itself attention need person to develop this quality to personalities on length of whole lives.

Our research was executed within the framework of college with provision for event, occurring in the other component of the complex. In educational process of the college is realized joining the education with production labor. The questions to labor professional activity are considered and in scholastic, and in clubs' activities and others functioning. Formed execution of professional information actions: study psychological particularities trained, development professional interest and inclinations in constructive-creative activity, shaping firm interest and attitudes. It was realized interac-

tion of the pedagogical group, families and production enterprise consumer cooperatives.

We researched: social ambience, professional selection applicant, professional orientation applicant, psychological nature training, extension their professional consciousness, deepening the professional self-determination, professional adaptation, professional-labor socialization. It was studied and corrected development to motivations trained. Background of experience created the premises for development of the models professional-labor socialization.

On base of the analysis of literature is installed that on professional-labor proficiency personalities affect micro and macro factors. This influence is realized straight and is mediated through profession, labor tasks and facility of labor.

The following four stages of the process professional-labor socialization are chosen during their education and after completion of the high school: accumulation of the beliefs about branches and professions; joining to branch labor and professions; the mastering by branch (the profession, labor pro-

cess and their relationship); the longing to top professional skill.

It is characterized theoretical and practical ensuring the development professional-labor socialization on each stage. The situation process professional-labor socialization to personalities (Fig. 1) consists of readiness trained to action professional-labor socialization, readiness of a teacher and readiness of the facilities of the shaping proficiency of personalities. Readiness trained is defined by conditions of a society, production and need for proficiency of a professional; the current condition professional-labor proficiency of personalities; agitated these circumstance need, desires, motive; the influence upon motive by brought forth teacher to purposes; acceptance to current purpose professional-labor socialization. Readiness of a teacher consists of his pedagogical education, information about the current professional-labor proficiency trained, on base which he plans program action on developing professional-labor socialization trained, consisting of indication current proficiency characteristics and social actions.

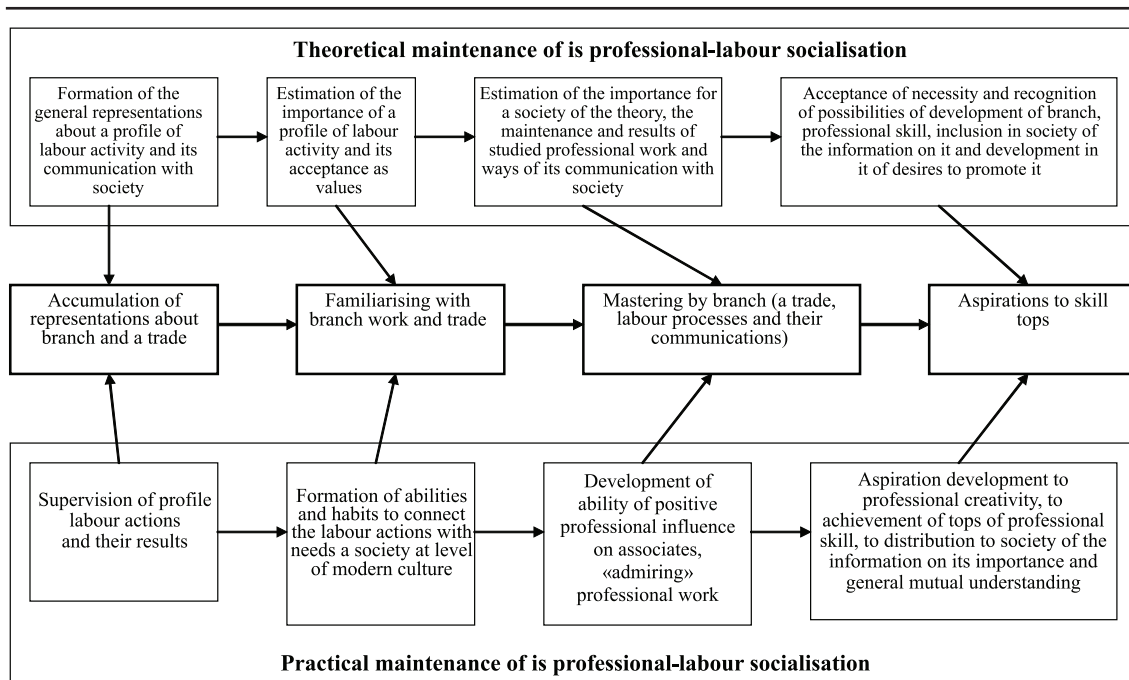


Fig. 1. Logic of development of professional-labor socialization in the course of a continuous professional training

Readiness of the facilities professional-labor socialization depends on skills trained to execute the planning ahead actions, instructions of the teacher on necessary actions and presence subject (the textbook, equipment and etc.), which must be used. In composition their must be provided: use theory, excitement identical emotion, and creation value orientation and determination communication between subject and object actions.

For forming or developments current professional-labor social quality, either as any other quality to personalities it is necessary to execute some necessary actions in the planned order. They can be presented in the form information handling in educational functional system.

The Educational functional system professional-labor socialization trained has following structure:

– a consciousness of a teacher works out spurring parcel, initiating preparing trained to execution proficiency actions;

– a consciousness trained, generating and performing actions, which form and develop the social characteristic to personalities. These actions have a many-sided nature, the sides are: comprehension of beliefs about manifestation of professions and labor in a society, transformation of the emotional sufferings component to professions and labor, comprehension value relations to component of professions and labor, comprehension (and execution or only comprehension) of the communication relations in professional and labor actions.

In executed transformation an object of the actions reveals itself his characteristic, which trained are adopted. In this is concluded appropriation of proficiency qualities.

But that educational situation possible was operative to create, necessary to execute the starting-up actions. These actions emerge in the following four groups.

1. Work with the base of future students of the educational complex: studying their motivation, professional orientation, works with parents and school teachers. Preparation concludes the publishing advertisements of the complex.

2. Methodical preparation training of a teacher of the educational complex to professional-labor socialization consists of professional preparation-labor including in theoretical material and in tasks for practical functioning; preparing the socialized tasks on forming an experienced person; designing the planned actions of indoors and outdoors studying of the functioning, in which are included components professional-labor socialization; planning the including trained in creative, scientific functioning, connected with professional-labor socialization.

3. Educational-material provision of professional-labor socialization concludes: preparing the scholastic literature, scholastic laboratories, production areas, technical facilities and carriers to information; the equipping of the premises for working and places of the rest. All this creates the preparedness to shaping the collections of experienced professional-labor sides educational components.

4. Using the current significant phenomena can be: determination of the relationships and preparing the meeting with veterans, masters on profile of the education; preparing the conditions for visit leading labor enterprises, action on honoring outstanding worker labor and others; the organization of the conditions for reception of significant information on profession in labor society.

In the process of the educational complex, including college, is realized teaching of scholastic discipline, coming from between different subjects' relationships, with provision for nature and difficulties of discipline, with use the new forms of undertaking occupation. Coming from system model of valuables, going one in another, and real practical

persons of the educational process of the college, we w expected that use super active forms of the education renders the essential influence upon system of valuables students of the college. For checking this was organized study. The Main methods of the study is choosing the method «Value orientation» by M. Rokich (M. Rokeach), which names the beliefs, diagnosed by means of method of the direct ranking, value [3].

On the first stage are formed experimental group (the sex, age, future profession book-keeping – 20 students) and checking group (the sex, age, future profession book-keeping and technologies – 54 students). Measured value respondents were analyzed by means of methods «System of valuables» M. Rokich.

On the second stage with respondents of the experimental group is organized experimental influence in the form active and super active forms of undertaking occupation: business plays, debates on production themes, discussion production situations, development internet projects on professional themes. But students of the checking group were trained on traditional forms. Value respondents are measured on the third stage by means of methods «System of valuables» by M. Rokich. From checking group is chosen subgroup respondents, equivalent experimental group on sex, age, professions by way of selection. The generalized results of the experiment are the following.

Such results of the comparison of the factors respondents' experimental and checking groups before and after the experimental influence are measured by means of the methods «System of valuables» M. Rokich. Value «cognition (the possibility of the extension of its formation, outlook, the general culture, knowledge-based development)» in experimental group statistical significant ( $p < 0,03$ ) increased (with 8 before 6 ranks), but in checking group statistical significant ( $p < 0,00$ ) increased (with 12 before 11 ranks) (Fig. 2). This has occurred, sooner whole, due to introduction to experimental group of such forms of the functioning as debates, brainstorming, business plays, discussion production situation.

Value «development (functioning on itself, constant physical and spiritual improvement)» in experimental group statistical significant ( $p < 0,01$ ) increased (with 9 before 6 ranks), but in checking group statistical significant ( $p < 0,01$ ) increased (with 12 before 11 ranks). Such result, sooner whole, became possible in experimental group due to education student with use Internet-resource, problem-solving education, and situational-functional approach. Value «responsibility (the feeling of the debt, skill to keep the word)» in experimental group statistical significant ( $p < 0,06$ ) increased (with 10 before 7 ranks), but in checking group statistical significant ( $p > 0,05$ ) were lowered (with 7 before 9 ranks). This has occurred, sooner whole whereas, meeting were organized in experimental group with outstanding workers, were discussed

production situations, students were attracted to production subjects on future profession, publishing methodical allowance for students, to participation in project on professional themes. The Ranks of valuables student «beauty of the nature and art (the sufferings beautiful in nature and in art)», «amusements (pleasing, light pastime, absence of

the duties)», «high requests (the high requirements to lives and high claims)» were lowered before low-level value, since for students more important become professional value, independent searching for answering in Internet, discussion production situations and activity in mastering to professional activity, way of the decision of the professional tasks.

D1 - terminal values

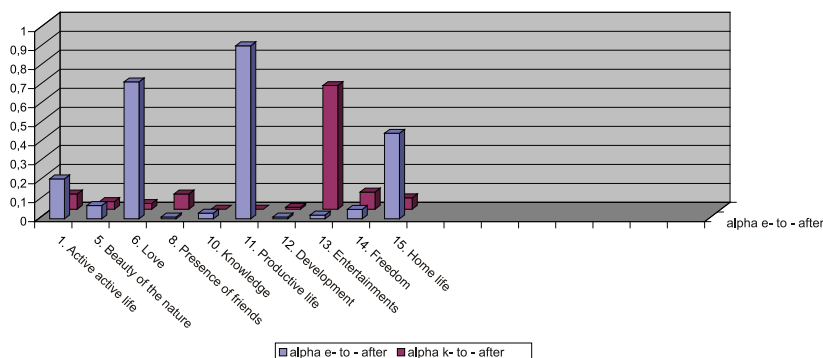


Fig. 2

In the scientific research is motivated making the system a lyceum – a college – a high school for service of educational need to economic branch of the region on example consumer cooperatives.

In the research is presented mechanism of formation of educational complex's students, including in educational process components, forming and developing labor and social qualities of a future professional. The Experiment has shown high efficiency of the designed process professional-labor socialization of students.

#### References

1. Rokich M. Methods «Value orientation» // Psychological tests / by A.A. Karelina. b.1. – M., 2000. – P. 25–29.

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#### THE PRESCHOOL CHILDREN INTEGRATED TEACHING SYSTEM BY THE ALGORITHMIC ACTIONS IN THE CHILDREN'S INTELLECTUAL ACTIVITY DEVELOPMENT

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The child is being cognized the whole world on the perceptual – emotionally, the orientation basis, in the first place, having mastered and learnt, that it is quite lying on the surface and it, moreover, is quite accessible his comprehension. However, it

is necessary to be considered for the adult, that the first knowledge have been become the basic one in the world around cognition, having preserved its significance for the subsequent reality mastering. Therefore, it should not be understood summarily the preschool child's cognitive development [e.g.1, p. 92].

So, the child's cognition process is being taken its place by the practical – emotionally way at his preschool age. That is why, every preschool child – is the small researcher, having constantly opened the world around for himself with his great joy and his endless surprise. The child is rushing to his active vigorous and the eager activity, and it is much significantly this intention not to be given to be died away, and, moreover, to be promoted his further development. The fuller and the various the children's activity, the more it is significant for the child, and it is corresponded to his nature, the more successful his further development is on. That is why, the nearest and the quite natural the activity's types for the preschool child – are the game, and the experimentation. So, the intensive intellectual, the personal – emotionally further development is being taken its place, the natural aging such perspective and the advanced new formations, as the behavior arbitrariness, the ability to the logical thinking, to the self – control are being performed, exactly in all these activity types, that it is being made up the significant basis for the systematic teaching commencement at the school.

So, the teaching, as the actions methods mastering basis, having developed by the society with the human activity subjects, the tasks and the motives, the human relations norms and the standards, the culture and the science all the achievements – that is the child's further development universal and the general form.



The child is being taught for everything, and, besides, from his early age, from the first days of his life. The child would not be mastered one of the most elementary action with the objects without the adult's any participation, and without any actions patterns. So, the child, having left alone with the surrounding him objects, without the adults' any participation and their help, would not able to be opened their public and the social purpose. So, the social and the public developed their application methods have not been indicated on the objects, but on the actions – that activity's significance and the tasks, the main content of which they are being made up.

In the beginning of his life, the urgent need for the self – expression is being revealed through the logic at the child, that is why, the child is being taught and learnt to be comprehended logically. So, the logical comprehension is one of the active world's cognition methods, and, exactly it is being made quite possible the further progress, as the separate individual, well as the whole mankind, on the whole [2, p. 168].

In the logical games, the thinking skills and the mental abilities are being formed in the most efficiently way. So, it is necessary to be developed the skill to be made the «not», «and», «or» logical operations, the skill by means of these operations to be built the correct expressions and the statements, to be coded and to be decoded the necessary information on the objects' properties, as, thanks to the logical games and the corresponding exercises, to be developed the skill to split the sets on the compatible properties at the children. So, the child would be able easily to be discussed and fluently to be reasoned, to be determined the actions' sequence, to be justified his actions, and to be reached the final result (e.g. E.A. Nosova), as a result of all these games and the exercises.

However, it is quite impossible to be considered this age the children's teaching universal method, having taken into consideration the game, as the preschool children's basic teaching method. Inevitably, the logical game will have to be combined with the other, the traditional teaching methods, having left, for all this, by the leading method. This, moreover, is not excluded and the traditional didactic games application for the already acquired knowledge consolidation.

So, Z.A. Mikhaylova notes, the algorithmic actions have been assumed in the logical – mathematical games basis. That is why, the children are being acquired the various intellectual skills and the mental abilities, which are the significant ones, as in the preliminary mathematical preparation and the training view, well as from a point of the general intellectual development view in the process of their mastering [4, p.128]. Thus, the analysis, the comparison, the generalization, the various classifications, the coding – decoding skills and the abilities are being related among them. Also the elementary

skills and the abilities of the thinking algorithmic culture, the skills and the abilities to be performed the necessary mathematical actions in the mind are being related to them. So, the children are being trained their attention, their memory, and their perception, thanks to the algorithmic actions.

**The Research Challenge Urgency** is being conditioned by the fact, that the algorithms preschool children's mastering is being promoted the children's thinking ordering, the defined and the specified sequence perception, that it is being expressed to be planned their actions skill and the ability. So, it is also promoted the children's mastering of the sign and the symbolic systems, the schemes and the diagrams, the models, «the decoding and the deciphering», and the logical connections cognition between the some action's successive stages. So, all these skills and the abilities are being formed in the logical game in the most successful way. In the logical games, the actions performing by the algorithm is being created the skills and the abilities perfection and the further improvement basis for the children to be controlled the game and the learning task solution run, the children's space orientation perfection and the further improvement, better the rules' mastering by them (e.g. the street traffic, the actions' sequence), the labor and the game actions successful realization, but for the teacher – the possibility to be determined some difficulties, having arisen at the children [3, p. 258].

However, the teachers insufficiently use the logical games with algorithmic actions (e.g. the developing games) in the preschool educational Institutions work's practice. So, at the given moment, the necessary studies and the researchers, having devoted to the algorithmic actions formation are also evidently insufficient at the older preschool children. Thus, the contradiction is quite obvious between the significance and the importance comprehension of the algorithmic actions formation at the children.

Therefore, my study and research urgency and also its challenge have been defined; it has been found the connected one with the child's teaching methods and the conditions search of the older preschool age by the algorithmic actions.

This has been induced me for the research topic choice: «The Preschool Children Integrated Teaching System by the Algorithmic Actions in the Children's Intellectual Activity Development».

The main paper's task: the preschool children teaching efficiency by the algorithmic actions in the children's intellectual activity development process to be confirmed.

#### References

1. Bondarenko A.K. The Didactic Games in the Nursery School. – M., 1991 – P. 92.
2. The Childhood: the Children's Development and Upbringing Program in the Nursery School // The Publication Collection: «The Childhood – Press», 1999 – P. 244.
3. Loginova V.I., The Preschool Pedagogics. – M.: The Academy's Publishing House, 2011. – P. 258.

4. The Methodological Advices to the «Childhood» Program / Under the Editorship of Babaev T.I., Mikhaylova Z.A. // Under the Editorship of: «The Childhood – Press». – 2001. – P. 304.

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### COGNITIVE-HUMANISTIC APPROACH IN PHILOSOPHY OF EDUCATION

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Cognitive-humanistic approach in philosophy of education allows us to allocate a point of unity between human and cognitive direction in education philosophy. The study of modern educational humanistic direction peculiarities shows us that a development of personal cognitive abilities of an individual in terms of modern society forms the foundation of a pupil's spiritual potential which serves as a basis of his personal self-development. An association of cognitive and humanistic approach to the problems of education is in the conclusion that an intellect and intellectual abilities represent humanistic values of education. An orientation of a person's intellectual abilities towards self-cognition leads to a humanization of education and is aimed for a realization of a man's spiritual nature.

A further development of education practice, based on cognitive-humanistic approach depends on a presence in the educational system of the corresponding terms for such subject mastering that includes both training to apprehend a nature of objects and training to apprehend thinking. Even so a humanization of education does not mean formal inclusion of social science or human knowledge into it, but also mastering a reflective thinking style.

The basis of self-cognition is in the reflective nature of thinking that requires training of mind clearness and individual thinking and is represented in scientific knowledge as methodological reflex. A thinking cognition implies inclusion of methodological knowledge that is necessary for realized concordance of a person, intellect and soul, balanced, stable human genesis into education content [G.V. Allport, 1998]. In terms of transforming society realization of cognitive-humanistic approach in education starts with an alteration in attitude towards a subject of educational-training activity and, as we have showed, with the development of his ability to sensibly use cognitive methods in order to achieve his own stable personal development.

#### References

1. Allport G.V. Personality in psychology. – M.: SPb, 1998. – 347 p.

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higher and vocational training», Spain (Costa del Azaar), 2-9 August 2011, came to the editorial office on 09.06.2011.

### BASIC ELEMENTS OF THE RETRAINING SYSTEMS FOR SUBJECT TEACHERS FOR THE INNOVATIONAL ACTIVITY OF THE REPUBLIC OF KAZAKHSTAN

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The system of retraining subject teachers for the innovational activity of the Republic of Kazakhstan developed in this scientific article is based on the principle of balance between the quality and level of professional knowledge and the level of qualifications of a subject teacher. The process of knowledge development which can be mastered by any subject teacher is considered according to an ascending diagram: *Signal → Data → Information → Know-how → Actions → Examination*. The increase of the competence of a subject teacher who acquires knowledge of the appropriate level changes from «a competent subject teacher» to «an expert teaching of a discipline»: *Student → Applicant → Professional Teacher → Functionally Professional Teacher → Competent Teacher → Teacher-Mentor → Teacher-Expert*.

In fact specialists of the last two levels in most cases possess implicit knowledge which are contained in people's minds and, as a rule, have not been fixed or translated into any form. Compared with explicit knowledge, such knowledge is very difficult to formulate both orally and in writing, and such knowledge is usually shared at discussions, while telling stories about various incidents and in person. It includes skills, experience, vision, intuition, and judgments.

In this regard, the basic elements of retraining subject-teachers for the innovational activity are represented as an advisory support and discussions (online-conferences, blogs, methodical seminars and workshops, etc.). Moreover, the contents, form and structure of the advisory support in the new system of training subject-teachers for the innovational activity depend on the level of competence being acquired:

1) *in the formation of a competent subject-teacher* – providence of subject teachers with advisory and informational services in realizing innovational activity while teaching specific disciplines within organizations of professional training and development of teachers of the Republic of Kazakhstan;

2) *in the formation of a teacher-mentor* – providence of subject teachers with advisory and informational services in achieving a high level of professional qualifications and competence in realizing innovational activity while teaching

specific disciplines, stable performance in their work; the formation of an ability and readiness to share professional experience in elaborating modern innovational technologies of teaching specific disciplines (to take an active part in the activity dedicated to increasing qualifications of other teachers); mastering techniques of advising and counseling teachers including those from other educational centers on problems of innovational activity of subject teachers;

3) an advisory support *in the formation of a teacher expert* – providence of subject teachers with advisory and informational services how to master skills of examining innovational activity in teaching specific disciplines; the formation of a system idea of an innovational activity in teaching and its role and place in the work of a school and in the system of secondary education of the Republic of Kazakhstan as a whole.

A subject teacher can discuss questions which arise in the process of innovational activity not only while communicating with a consultant, but during discussions, while participating in online-conferences and methodical seminars and workshops, while studying reviews and advice of colleagues in his/her own blog. In this regard, organizations of professional training and development of subject teachers must hold *training of teaching to take part online-conferences* concerning innovational activity in teaching specific disciplines, informing teachers of rules of participating in online-conferences and norms of network ethics. Besides that subject teachers are supposed to form a skill to hold discussions while participating in methodical seminars and workshops which will increase the level of methodical mastery of school teachers to organize and hold innovational activity in teaching specific disciplines through an exchange of views of colleagues on issues concerning innovational activity in teaching.

A special role in training subject teachers for the innovational activity must be given to the development of skills in creating and managing their own blogs, which serve the professional development of teachers neither through qualification and training courses nor through reading of methodical literature but through keeping a teacher's diary. Under certain conditions, a blog can become a place of the origin of an educational community of subject teachers and subsequently can be used for its informational support.

The assigned structural elements characterize a new system of retraining subject teachers for the innovational activity in the Republic of Kazakhstan.

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#### THE DIFFERENTIATION PHENOMENON STUDY METHODOLOGY IN THE CONTEXT OF THE STUDENTS' ECOLOGICAL – SOCIALLY EDUCATION CHALLENGE

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The students' ecological – socially education, as the pedagogical challenge, is needed the quite different and the various its sides study. The differentiation is acted, as one of them. In this connection, the general and the specific methodological positions establishment necessity is appeared. So, the filiation approach, having developed by us, in the context of the studying youth's and the young students' ecological – socially education challenge, is acted, by the general methodological basis of the study. The philosophy's initial categories, having presented in the filiation approach; the social ecology, the psychology, the pedagogics categories, just from their positions, having revealed the differentiation phenomenon, are acted, as the specific methodological bases.

Further, we shall reveal and expand each from the above – mentioned positions, and, first of all, the filiation approach. So, it should be reminded, that the filiation (e.g. the filiation < filialis – filial) is meant the relationship, the continuity, the development, the dismembering something in the continuity relationship. Hence, the filiation approach essence to some phenomena study, including and the pedagogical ones, is consisted in their consideration necessity just from three main positions: the systemacy, the development, and the independent existence. At the same time, each from all these positions, in its turn, is structured. So, the systemacy, as the system quality, as the basic elements, is included the relationship and the integration; the development – the continuity, and the progress; the independence – the dismembering, the disintegration, and the part (e.g. the structure). So, the study is carried out, in accordance with the filiation approach necessary requirements, exactly, by all these lines.

As far as the differentiation is concerned, it should be assumed to be revealed all its relationships (e.g. the quite possible and the actual ones) with the other approaches, as the general scientific, well as the scientific – specifically ones; with the students' ecological – socially education system; with its separate elements, with the pedagogical practice *in the framework of the first position*. So, it should be emphasized, that the first position's initial categories are acted the following ones: the universal and the general relationship, the interaction, the relation, the system, and the integration. So, it is meant, that the differentiation should be studied, from the point of view of the relationship, «the things' interaction» with the other elements,

depending on one phenomenon from the other one, in some relation (e.g. Spirkin F.G.); the integration, in result of which the activity's separate elements are united into the integration (e.g. Sheptulin A.P.); the integrated relationship, the integrity restoration, e.g. the whole system is formed, in G.A. Bachinsky's opinion [11; 4; 2].

The filiation approach's *second position* just to the studied phenomena is consisted in their consideration, in the context of the continuity, the development, the progress, the basis of which the motion is made up – it is one of the basic general scientific and the methodological categories. So, to the above – mentioned one, it should be added, that the present study, exactly, and is acted, as the one from the presentation development specific examples on the quite different and the various approaches application possibility, in particular, the differentiated one to the students' education realization, in the field of the interaction with the natural environment, the challenge solution at the theoretical level, and under the Institute of higher education, the College, and the University defined and the specified conditions.

The filiation approach's *third position*, which is assumed to be considered just in the differentiation phenomenon study, in the context of the students' ecological – socially education, is revealed in the following notions and the conceptions: the dismembering, the disintegration, the part, and the structure. So, the foregoing one has its principle and the essential significance, as the education ecological – socially phenomenon itself not only has been included into all these differently directed modern and the advanced processes, but and it also has become their result, it is being developed, at the expense of these processes' contradictory interweaving and the intertwining inside themselves. In connection with that, the students' ecological – socially education is presented itself, sufficiently, the Higher Education system's independent element, having united and integrated with it by the general target and the common goal – that is the professional and the expert – specialist, the citizen and the Russian patriot formation, who is quite able to be established the harmonious relationships with the natural environment. So, at the present day, the integration processes are being left sufficiently, strong in the education system, and the students' ecological – socially education is still only being branched and split off, having had only, in the potency, the wholly integrated and the independent system. Thus, the phenomena study within the framework of the filiation approach's notions and the conceptions *third block* is being provided for their structure, the quite separate parts, and also the disconnecting and the interposition processes study.

So, all the above – stated, in full measure and perfectly, is concerned and to the differentiated approach, which is assumed to be studied, in interconnection with the students' ecological – socially education, to be revealed all its possibilities just

in the students' responsible attitude to the nature, moreover, not only in the framework of the already selected occupation and the vocation, but with due regard for their proper and own interests, the inclinations, the guidelines, and the directives. So, in this connection, the necessity is being arisen in the thorough consideration also other methodological bases, as which the science categories are acted, in particular, the philosophy.

So, the quite different and the various sciences are performed, having revealed their study aspect, are performed by the differentiation category (e.g. from Latin – *differentia* – the division, the dismemberment, the whole exfoliation for the different and the various parts, the forms and the stages). So, the *philosophers* are comprehended the distinguishing moments emphasis on the single principle under the differentiation, having proceeded from the single starting point; this is one from the study principles on the further biological development. It should be mentioned, that the differentiation is connected with the individuation in the philosophy, under which it is meant the universal and the general division into the individuals and the persons, and into the peculiar, the special and the unique one. So, the individuation principle is acted, as the individuals and the persons, and the peculiar, the special and the unique one basis. The individuation notion is usually connected with both challenges by the philosophers: why this process is taken its place; why the unity is not the valid one remains undivided; what are the main reasons for its occurrence [6].

Besides, the differentiation is identified with the further deployment in the philosophical science. So, it is assumed the disclosure, the givenness and the presentation parts display, which in the result of this process are given the quite known independence, and they are able to be better distinguished from each other. The «deployment» term is quite often used, as the «development» term synonym in the modern philosophy, but only in those cases, when the process is being studied, in which the goal is absolutely absent, to which some sense or the meaning is not attributed, for example, the inclinations' deployment and etc. [9]. For all this, and such terms, as the «disintegration» one and the «dedifferentiation» one are used. So, the disintegration is always counteracted to the integration. On the whole, having summarized all his carried out studies, Paveltzig G., for example, reasonably emphasizes, that the objective differentiation dialectics is existed, which, in its turn, is connected with the integration and the disintegration dialectics. For all this, each relationship has its double nature: as in the direction of the assistance, well as in the direction of the opposition. That is why, and all the processes, having proceeded at the quite other levels, will have to be considered and to be taken into consideration [5].

So, it should to be noted, that, by the justly and the reasonable remark after Spirkin A.G., the dif-

ferentiation, side by side with the integration and the further improvement and the perfection, is the general and the common criterion of the progress. Moreover, the nature progress, as the paper's author writes, it is quite impossible to be presented, in the straight line form. In its further development, the nature «is not gone by the right march forward» (e.g. after A.I. Gertzen), that and it is being conditioned by the endless variety and the eternal diversity forms of the material bodies and the phenomena existence. Thus, the further development – this is not the straight line, and not the motion by the exclusive circle, but this is the spiral with the turns' endless series, the fanciful and the intricate combination of the forward motion with the movement in a circle. As the matter further development is being unfolded, and more and more the highly organized systems formation, the variety and the diversity objects quality is consistently being increased. Thus, the progress criteria is consisted in the further development possibilities expanding [11; 9].

The other sciences, having proceeded from the philosophical presentation on the differentiation and having operated with this concept, are concretized it, in accordance with its study's object. For example, *the sociologists* single out the social differentiation, under which they comprehend the emergence process in the activity quite new types society. So, this process is connected with the productive forces, the public distribution, and the labor division further development, in result of which the following changes are appeared in the social position of the social groups' series. At present, the differentiation is connected with the society's informatization, the new technologies, having raised the production efficiency [7; 13].

Now, the differentiation category is being developed not only by the humanities sciences. It, moreover, is operated and by the natural scientific field of knowledge. So, the *geographers – scientists and the scholars* consider the differentiation, as the process, at which the territorial structure complexity of some geographical formation is being increased, its differentiation is being raised and widened; the tangible compartmentalization is in the territorial aspect. In conjugation with the differentiation category, the *geographers* are used the «mosaic structure» terms, in relation to the landscape, the reverse process – «the leveling» [1]. So, the modern geographical science is exactly the influence result upon it by the both opposite processes – e.g. as the integration, well as the differentiation (e.g. Maksakovsky V.P.) [8].

*The biological science* is based upon the differentiation general scientific definition, and it is revealed it, as the system dismemberment, originally integrated or having been from the identical and the same elements, into more or less isolated differently qualitative parts. So, the differentiation is connected with the given system functions widening and the intensification, the division them among its parts.

This is made the system's work more efficient, on the whole, under condition of the integration corresponding mechanisms further development. Thus, the biologists single out the phylogenetic and the morphological differentiation. In addition, they operate on and the «differentiation» notion, having assumed the differences emergence between the homogeneous cells and the tissues, their changing during the individual further development, having resulted in the specialized cells, the organs, and the tissues [3].

Thus, in our study, the defined and the specified interest is presented the differentiation consideration *in the ecological sciences*. So, in their time, Marx K., and Engels F., having revealed the society interaction peculiarities with the nature, have not limited themselves to the consideration only the interaction processes. The last one, in their opinion, is inseparably connected with the disintegration. The scientists and the scholars have noted, that in the material production, in the human labor, it is carried out, as the unity, well as the human struggle with the nature, it is realized, as the integration, well as the disintegration processes, in which, in the end, the forms variety and the diversity reasons, the integration and the disintegration types, the differentiation and the dedifferentiation kinds inside the society have been concluded [9; 5]. Eventually, the differentiation processes have already covered and the modern ecology, for that Reimers N.F. rightly indicates. So, it has been presented in the following way: today, the most common and the general ecological challenges are included into the general ecology, but their part – into the mathematical, or the theoretical ecology. So, the ecology branches have been emerged and have been formed with quite varying and the unequal completeness, and they are distinguished and are quite differed by their volumes. All the new ones and their branches are emerged, and they are formed [10].

Having kept with the above – stated, N.M. Mamedov's ideas and his concepts, having singled out the differentiation principle, as one from the formation main principles of the ecological education system. So, it is permitted to be delimited and to be studies the quite different and the various processes in the ecological education, to be distinguished it from the educational system ecologization process. At the same time, N.M. Mamedov notes also the organic relation and the symbiotic relationship necessity of this principle with the other one, not less the significant one – the integration principle. So, their both application in the optimal combination between each other and also with the other principles will be permitted to be raised some challenge study results reliability, in particular, in the ecological and the ecological – socially education system [12].

Thus, the modern period of the scientific knowledge further development is characterized by the main interconnected and the interrelated tenden-

cies presence: as the integration and the disintegration, well as the differentiation and the dedifferentiation. All these tendencies practically are covered not only the science, but and the quite other activity's spheres, in particular, the educational sphere. In accordance with the present study's goals and the tasks, the necessity is emerged and is formed, in the differentiation processes thorough consideration in the ecological – social education system, at the quite different and the various its stages.

#### References

1. Alaev A.B. The Social and Economic Geography. – M., 1983.
2. Bachinsky G.A. Socioecology – the Science on the Relations between the Society and the Nature. – Lvov, 1987.
3. The Biological Encyclopedic Dictionary / Under the Editorship of M.S. Gilyarov. – M., 1989.
4. The Dialectical and the Historical Materialism / Under the Editorship of Sheptulin A.P. – M., 1985.
5. The Integrative Tendencies in the Modern World and the Social Progress / Under the Editorship of M.A. Rozov. – M., 1989.
6. The Concise Encyclopedia of Philosophy. – M., 1994.
7. The Concise Dictionary on Sociology / Gvishiani D.M. et. al. – M., 1989.
8. Maksakovsky V.P. The Geographical Culture. – M., 1998.
9. The Philosophy World. In 2 books. – M., 1991.
10. Reimers N.F. The Ecology. – M., 1994.
11. Spirkin A.G. The Philosophy. – M., 2006.
12. The Ecological Education Philosophy / Under the Editorship of Liseev I.K. – M., 2001.
13. Yatzenko N.E. The Glossary Dictionary of the Social Sciences Terms. – M., 1999.

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## Short Reports

**ROLE OF FOREIGN LANGUAGE  
PROFESSIONAL AND COMMUNICATIVE  
COMPETENCE IN INTEGRATIVE  
PROCESS OF FORMATION OF LINGUISTIC  
PERSONALITY OF A SPECIALIST**

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International foreign language communication has become an essential component of professional activity of specialists. Therefore, foreign language training should be profession-oriented. Thus, being an indispensable component of general education, foreign language is an integral part of a qualitative vocational education. In terms of competence-oriented approach professional competences of engineering specialists concerning a foreign language, among which a communicative competence is a leading one, are basic competences and integrate common cultural, intellectual, social and professional qualities of a personality providing the effective establishment of business contacts, the solution of specific professional tasks. Profession-oriented approach in teaching foreign languages allows to obviate the entire set of psychological, linguistic and social difficulties related to the formation of the personality of a student as an independent thinker, a manager of their own learning process capable of creativity and innovations [4].

Hence, there is a need to form a personality of a student through the closest connection between the foreign language and specialized disciplines and understanding by the learners the applied purpose of foreign language.

Today foreign language as a subject is increasingly becoming a language for the profession and is intended to ensure the readiness of future specialists for adaptation and self-determination in the world of new information technologies, for long-life education and personal development. Foreign language is an organic component of such training. The knowledge of it broadens the professional context of specialists, makes their professional field wider due to availability of foreign information. Social order is expressed in the prestige of the knowledge of a foreign language, in the students' priorities, thereby activating the pragmatic aspects of foreign language learning. The pragmatic approach to the study of foreign languages turns the researchers to Hutchinson and Waters's theory, which focuses on the following conceptual principles of language learning for specific purposes:

- determination of learning objective becomes a constitutive factor in the process of profession-oriented foreign language learning. T. Hutchinson said: «Tell me, why you need English and I'll tell you what English you need»;

- analysis of the learners' needs is a starting point in the construction of profession-oriented courses of training the language of profession;

- language variations and registers become the basis for the language of specific context since the analysis of linguistic characteristics of particular

professional areas has revealed no significant differences between the language for special purposes and the basic language;

- language for special purposes is described as a «limited language» used in the situations of professional communication, around which a special vocation-oriented course is constructed [3].

Communicative needs of the profession in turn necessitate the mastering of the communicative competence. Communicative competence as a pedagogical category is characterized by such features as: deep professional knowledge of the individual for successful professional activity, awareness of the personal meanings and values of professional knowledge for the practical and professional activities; awareness of the algorithm for the solution of professional problems, creative approach to any sort of activity, manifestation of tolerance in situations of professional communication [5].

It is obvious that the professional level of communicative competence makes an individual a highly developed personality, improves their social mobility and economic freedom, allows them to enter an open information space [2].

Thus, in line with mentioned above communicative competence of university students is considered by us as the formation of an integrated personality of system organization and complex structure and having a set of intercultural, linguistic and didactic, discourse, and interpersonal communication skills and knowledge, which are based on the concept of the development of a linguistic personality capable of productive communication, ready for the dialogue.

The typological traits of the linguistic personality of the communicative, democratic type, according to Vorozhbitova A.A. are: the desire for bilateral subject-subject relations, the achievement of consensus, the constructive dialogue [1]. The principle of foreign language profilization determines the content of vocation-oriented foreign language training as a complete, complex and at the same time integrative process of the formation of a specialist as a linguistic personality with professional foreign language and communicative competence.

Considering the fact that the learning process is a long-life process high school is to prepare future specialists to work independently, motivate them for further self-promotion in the professional space using for this purpose an effective tool – the knowledge of foreign languages.

## References

1. Vorozhbitova, A.A. Synergetic Aspect of Higher Education in the Context of Linguistic and Rhetorical Approach // High School Bulletin. – 1999. – №2 – P. 22–26.
2. Isaeva T.E. Classification of Professional and Personal Competences of University Teachers // Pedagogy. – 2006. – №9 – P. 55–60.
3. Krupchenko A.K. Formation of Professional Linguistic Didactics As a Theoretical and Methodological Problem in Professional Education // Abstract of a dissertation for the degree of Doctor of Pedagogical Sciences. – M., 2007. – P. 46.
4. Slesarenko I.V. Objectives of Language Training in Modern Technical University // Higher Education in Russia. – 2011. – №11. – P. 151.
5. Hutorskoy A.V. Key Competences: Formation Technologies // People's Education. – 2003. – № 5. – P. 55–61.

*Materials of Conferences***THE PRESERVATION OF THE OFFISH  
CAUGHT CTENOPHORES  
MNEMIOPSIS LEIDYI (A.AGASSIZ)**

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Because of the lack of the good fixative the morphological description of the and subsequent identification of the ctenophores were very difficult, because researchers have to worked mostly with living material.

Study of the preservation of ctenophores was the subject of many studies. But until recently, it was impossible to keep samples ctenophores for a long time.

The most successful was the fixation of *Mnemiopsis leidy* in cognac [1] and in an alcohol tincture of oak bark [2].

Experiments on the preservation of the ctenophore *Mnemiopsis leidy*, conducted in the laboratory of Hydrobiology Institute of Zoology of the National Academy of Sciences of Azerbaijan, have shown that the ctenophore *Mnemiopsis leidy* may be preserve in an alcohol tincture of tea leaves (black and green).

Alcohol tincture of leaves of tea (black, green) has specific properties defined by the content of tannins, essential oils, alkaloids, amino acids, pigments and vitamins in it.

Fixation of mnemiopsis in the alcohol tincture of tea has several advantages. First of all, *Mnemiopsis leidy* is well preserved in alcohol tincture of tea. Decomposition of the body of mnemiopsis was not observed. The alcohol tincture of tea is inexpensive and available fixing substance. The alcohol tincture of tea not poisonous.

However, this fixative has its shortcomings. First of all, the body of the ctenophore having a translucent milky color, colored in various shades of brown or green, depending on the variety of tea kinds and strength of spirit. Paint is resistant. In addition, muddy sediment can be appeared.

**References**

1. Shamionova N.Sh. Fixation of the ctenophore *Mnemiopsis leidy* (A. Agassiz) // Conference of the Baku State University. – Baku, 2010. – P. 193–194.
2. Shamionova N.Sh. Fixation of *Mnemiopsis leidy* in the alcohol tincture of oak bark // E- Conference of RAE «Biological Sciences». – 2011.

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**TO THE STUDY OF FIXATION  
OF CTENOPHORE MNEMIOPSIS LEIDYI**

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Attempts to fixing of the ctenophores were very much. Until recently the fixing substances used to preserve of ctenophores were complex in composition and they could not keep samples for a long time. The first experiments on the fixation of the caspian ctenophore *Mnemiopsis leidy* also have been unsuccessful.

For the first time the attempt to fixing the *Mnemiopsis leidy* in cognac was successful. However, because of the high cost the cognac cannot be used to fixing large numbers of samples of ctenophore.

Researches on preservation of *Mnemiopsis* have been conducted in alcohol tinctures of various plants – chamomile, celandine, calendula, oregano, etc . However *Mnemiopsis* isn't fixed in alcohol tinctures of these plants.

The further researches have shown that the *Mnemiopsis* can be fixed in alcohol tincture of an oak bark and in alcohol tincture of tea leaves (black and green).

The cognac, oak bark and tea leaves contain large amounts of tanning substances. Therefore, it has been assumed that *Mnemiopsis* can also be kept in alcohol tinctures of other plants containing the big percent of tanning substances.

In an eucalyptus bark contains twice as much tanning substances than in the oak bark. Therefore experiments on preservation of *mnemiopsis* in alcohol tincture of an eucalyptus bark have been carried out. Researchers have shown that *Mnemiopsis leidy* is well kept in alcohol tincture of an eucalyptus bark.

On the basis of these researches it is possible to draw a conclusion that the ctenophore *Mnemiopsis leidy* can be fixed in alcohol tinctures of other plants containing the big percent of tannins. There are a lot of such plants.

Also it is possible to assume, that other ctenophores can be stored in alcohol tinctures of plants containing tannins. The fixation of offish caught *Mnemiopsis leidy* and other ctenophores will promote their to the best studying

We hope that there will be exhibited not only *Mnemiopsis*, but also other ctenophores in museums shortly.

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*Materials of Conferences***CONTROLLABILITY FACTORS  
IN SOCIAL ORGANIZATION**

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Many Russian companies in the current conditions facing the serious problem – the lack of an effective management system. The old Soviet enterprises under central planning did not need to develop responses to changing business environment and, accordingly, to create open systems management, new business as companies often have no traditions of organized management. As a result, under the pressure of internal and external changes, companies lose control and bear the financial loss.

On the one hand, controllability means that degree of control that a control subsystem performs in relation to controlled. On the other hand, degree of autonomy, the control subsystem keeps in relation to the management. Thus, the concept of «controllability» shows one of the major contradictions of social organization. In one case it may be the submission of controllability as a total control when the manager is convinced that the control is defined by its degree of control over all processes in the organization. In another case manager may assume that controllability is the degree of achievement of this goal and if it is necessary to provide greater autonomy to subordinates and rely on their initiative, it is not considered a reduction in controllability.

Generally, allocated few-controlled and well-controlled organizations. Few controlled organization characteristic of separate existence of administrative staff and the rest of organization. Administrative staff live their life, it is self-sufficient and often very active. But all its activity has on the organization of the minimal performance impact and reduces to intrigue, struggle for positions. At the same time minimal impact indirectly the presence of the levers of power. So for example when deciding on the direction of financial resources for specific projects, the rest of the organization may oppose this decision and forced to adapt to the decisions taken. That is an organization alive and functioning on the basis of the established order, referred to as intra-organization mechanism, which is a search mechanism of a compromise resolution of multidirectional individual and group self-interest of organization members. The case itself (business, production process) is only supported because everyone is aware that it affects their survival.

In turn normal degree of controllability of the organization is characterized: the presence in it of the internal situation, when any management decisions inherent in the relevant (adequate maintenance problems), the reaction of the organization, which runs from sufficient for the effective imple-

mentation of solutions speed. In such organizations, administrative staff and all the rest of the organization is a whole. Cannot assert that they are monolithic they may be inherent contradictions, larger or smaller but the unity of purpose and action remains. Accepted staff solutions are controlled. The organization responds to them in the expected form and with the necessary speed. If it does not happen then the solutions are adjusted or changed. The attention of administrative staff and subordinates are focused on business and production process. To realize their selfish interests except through the implementation of the organization's interests is not possible: the organization eventually rejects the one who is not considered a common interest. Ineffective management and incompetence in an organization become apparent almost immediately.

However the development of socio-economic systems can be a state where the factors of internal and external environment are in a negative direction, leading to failure or malfunction of life-support subsystems, thus comes the stage of general disorder of the system, a systemic crisis. The return «rebellious» socio-economic system in former administering condition requires the determination of the causes of loss of control, reconstruction activities, the normal functioning of life support subsystems, eliminating the harmful effects of factors internal and external environment.

Controllability as the degree of response to management decisions depends primarily on the personality of the manager conducting the managerial impact, rather from a management style characteristic of peculiar to a particular manager. In the context of this article under the management style should be understood form of subordinate perceptions of managerial decisions emanating from the manager. Management style can be characterized as hard or soft. In terms of controllability of the organization preferable to act tough management style. Since in this case the subordinates under the influence of possible discontent manager there is a natural desire to respond to the impact assessment in accordance with retractable manager requirements. Soft style allows subordinates to interpret ambiguous effect because they are aware of impunity own response in the free form. Management style stands testament to manager's strength or weakness in providing practical impact on subordinates.

Personal qualities of the manager, acting on the degree of controllability is not limited to management style. Another requirement of a manager, describes his ability to make effective decisions and to organize the implementation of decisions. This requirement involves the ability of manager to formulate out-organizational and intra-organizational goals. But the goal can be formulated effectively

when the manager is well aware object of management, the organization, and is able to simulate the future functioning. In this case it faced with the need for strategic thinking and a clear vision of an integrated scheme of administrative activity.

Qualitative characteristics that determine the effectiveness of the management process is largely dependent on the personality of the manager, because qualitative management means achieving and maintaining an organization of business success, to success as an organization lead at the head of manager. Manager ensures the effectiveness of the impact on his organization through way, forms and methods for ensuring business success, which form the individual control model.

In the field of professional management the notion of success in business organizations and business success are inseparable manager. If competent, clever and perfectly qualified manager never placed

oneself at the head of an organization or he never lead his organization to the level of business success (or keep on this level), so there are no reasons assert that such a specialist reached business success. There are sufficiently a lot of examples where a thriving company with leadership changes lost won first position, and vice versa – seemingly dying company with leadership changes were revived and achieved success. So business success of an organization is largely determined by effectiveness of individual management model who heads the organization, whose implementation is carried out through methods, forms and methods for ensuring business success.

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*Materials of Conferences***STATISTIC MATERIAL AS A SOURCE OF EDUCATION HISTORY**

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An irreplaceable source in study of many problems of secondary and higher professional education in the end of XIX – the beginning of XX century is statistic material that form a complex of documents in which systematic quantitative data on main phenomenons of historical reality are registered. Statistic of a studied period was imperfect due to the lack of single system of statistic data collection, so data on education was distributed among various bodies and organizations. While studying statistic sources most frequently we are forced to pay attention to published data as the majority of initial statistic materials hasn't persisted. On the whole an organization of statistic function in pre-revolution Russia did not provide us with a necessary material quality.

A significant source for an implementation of comparative analysis of professional education development in Kazan in comparison to all-Russian trends, are statistic collections that were published by central institutions. The education department of Ministry of trade and industry (further – MTI) in 1910 released the «Collection of statistic data on condition of secondary and basic professional education in Russia» [2] that consisted of two parts. Its first part contained aggregate tables and the second – data on each educational institution in particular with regional allocation. The provided data was characterized by accuracy as it was formed on basis of single questionnaires that were composed by education department of MTI and in the beginning of 1910 sent to all governors (excluding Finland) for the further distribution to all secondary and basic professional education institutions. Filled tables were being received by the education department up to June 1910 and in July it got down to aggregation of the received data. The «Collection» is the most systematic statistic source, its material allows us to compare data on Kazan and the province with the data of other regions, define the role of Kazan professional school in the system of the country's professional education system. Similar collections that contain information of only professional schools that belong to MTI were released in 1908–1917-ies [3] as tables. They contained: general data (year of foundation, education period, number of classes, education fee size, etc.), data on property (value of buildings, size of reserved capital, debts, etc.), data on income and expenses, information on students (their number, allocation on classes, religion, nationality, etc.), data on tu-

tors (number of pedagogues on general and special disciplines).

An important statistic data is contained in annual reports of educational institutions. They allow us to define social, religious, age content and number of students, level of tutors' education and wages, condition of budgets and material base of educational institutions, etc. An investigation of a number of each educational institution's reports allows us to see a dynamics of alterations and formulate the questions on the reasons of undergone transformations. A certain difficulty is represented by the fact that statistic data, provided in reports was formed on different criterions and sometimes even within the same educational institution. «Surveys» of Kazan province [1] in category «National enlightenment» contains data that reflects a number of professional educational institutions, number of students, sums that were discharged for a maintenance, etc. Statistic data was placed in the second part of «Surveys» as tables-registers. In «Memorable books» of Kazan province an information on a number of educational institutions in the province and cities is provided.

Statistic data allows us to define the number of educational institutions in the province, outline those that trained specialists for economy, specify a number of students and clear the process of training within a studied period, characterize the professional education system in the province. A disadvantage of statistic sources is that all quantitative characteristics are conditional. It makes in necessary to apply to their comparison to other sources. In this case it is important to use mathematic methods in the formation of tables. Besides, in order to define a statistical source reliability, we need to establish the initial authorship of the provided data – was it received from a questionnaire that was completed by an individual, personally interested in a certain elucidation of the studied phenomenon, or from a statistic who is obliged to accurately fix the received data.

**References**

1. Survey of the Kazan province of 1911. – Kazan: Typography of the province authority, 1913. – 156 p.
2. Collection of statistic data on the condition of secondary and basic professional education in Russia: V.1. – SPb.: Typography of A.V. Orlov, 1910. – 94 p.
3. Collection of statistic data on the condition of educational institutions that are under jurisdiction of Education department of Ministry of trade and industry of 1914–1915 academic year. – Pg.: issue of Education department of Ministry of trade and industry. – 1917. – 279 p.

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*Materials of Conferences*

**THE ROLE OF COREFERENCE  
IN NOMINATIVE PHRASES  
IN OVERCOMING COMMUNICATION  
FAILURES IN CHEMISTRY-ACQUISITION  
IN BILINGUAL CONTEXTS**

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The goal of our work is studying coreferent relations in nominative phrases (NPs) in order to overcome communication failures in chemistry-acquisition in bilingual contexts

Transnationalization of education aims to increase the percentage of overseas students in Russian higher education institutions, and this requirement is caused by the demand to improve their competitive potential.

The goal of our work is studying coreferent relations in nominative phrases (NPs) in order to overcome communication failures in chemistry-acquisition in bilingual contexts.

In Pyatigorsk Pharmaceutical Academy there are 85 international students from Asia, Africa and Commonwealth of Independent States. Sorry to say, in some of these countries the level of education does not quite meet Russian standards.

The profession of pharmacy is known to blend science, technical art and human relationships in a unique fashion. The subject of pharmacy is studying chemical substances. On the whole, basic to the science in pharmacy are contributions from biology and chemistry. As the teaching language is Russian, lecturers of Russian higher education face two principle problems: the language barrier and lack of specific knowledge in the subjects at the beginners' level.

It should be notified, that chemistry refers to a group of disciplines whose function is to adopt a system of student academic competence to explain the basic processes occurring in the real world. Besides, it introduces students to scientific knowledge. Making up a holistic chemical world picture in the minds of our students becomes possible only at a certain point of sufficient development of their cognitive interest, cognitive activity and successful communication. To optimize the process of successful communication in teaching the basics of chemistry to international students, it is necessary to correctly decode the key concepts embodied in conceptual systems of the chemical picture of the world.

A cognitive approach to studying the real world concepts means striving to understand this world, expanding information about the reality and in such a way finding expanded solutions to the problems a human being is facing.

In the process of teaching lecturers inevitably resort to the act of reference, and in this respect they should be very careful and precise working with international students.

We argue that overcoming communication failures in the process of teaching chemistry to international students in medical institutions is much more successful in case coreference resolution systems are thoroughly studied and the results are taken into consideration. We view reference resolution as a clustering task and hereby distinguish between hypernyms and the corresponding hyponyms.

At the first stage of teaching chemistry *coreferential communication* can be turned to only with the purpose of denoting anaphoric relation. According to M. Poesio, the term «coreference» is used to indicate both the annotation of (generalized) anaphoric information and of information about reference proper (Poesio, 2000). The term «anaphoric relation» is used to indicate the relation between two textual elements that denote the same object; the subsequent mention of an entity already introduced is often marked by means of a particular type of noun phrase (NP) called an anaphoric expression. It is used by a human speaker to avoid repetition referring to the same unity. Annotating corpora with information about such relations between elements of a text is useful both from a linguistic point of view and for applications such as information extraction.

Later on, it is possible to use *coreference descriptors* explaining their significance.

In our opinions, to establish coreference correlations, a lecturer should keep to two essential rules:

- distinct differentiation between hypernyms (linear primary coreference and the corresponding hyponyms (linear secondary co-reference);
- determination of the cluster radius, i.e. measuring the distance between two noun phrases.

Overcoming communication failures in the process of teaching the basics of chemistry to international students will be successful if we correctly make up coreference clusters to distinguish between hypernyms and hyponyms. Just as in *linguistics*, in *chemistry* we interpret a hypernym as a word (in our case – NP) with a general meaning that has basically the same meaning of a more specific word (NP) representing the relation of class to subclass. Hyponyms are NPs whose *semantic field* is included within that of another NP. In simpler terms, a hyponym shares a type-of relationship with its hypernym and is used as a descriptor reflecting any specific characteristics of the main concept.

Let us consider the hypernym «alkenes». It names the class of organic compounds. Its hyponym, «saturated hydrocarbons», is used to reveal the characteristic chemical properties of alkenes, emphasizing that in alkenes molecules all the ties are saturated «to the limit».

Another hyponym for alkenes, homologues of methane, is used to make an emphasis on its similarities to methane as far as its composition and characteristics are concerned.

These characteristics should be collected in conceptors i.e., synonymous multitudes, to explain to students that all of them are characteristics of the same concepts and they are only different in definitions. A combination of a cognitive approach of symbolic (sign) systems connected with their related concepts (conceptors) leads to the adequate understanding of the text.

Nowadays thesauri are worked out. Making up a thesaurus that can describe the lexicon of the language in its diversity and wholeness can expand the boundaries of knowledge. Knowledge classification can be, and often is, TAXONOMIC (sometimes called «entity classification») like the classification of chemical elements (which means that they are going to list one concept in one place only in the classification structure). The aspect of classification is of crucial importance for information retrieval as it helps to establish the context in which one concept or phenomenon might be studied within the document.

General (special as well) bibliographic classifications are existing systems with big vocabularies. These systems give provision to describe not only subject, but also the form in which it is presented, the time and place that subject is connected with, the language it is presented in the document, the physical quality of the carrier etc.

Some of these classification schemes have a hierarchical structure, some list both single and composed concepts and are basically enumerating all possible subjects predicted to be studied in the documents. Some, however, tend to have faceted feature, i.e. to be synthetic, enabling expression of an infinite number of subject combinations in the documents. These classification systems are widely accepted and used in hundreds of countries and translated into many languages.

It is important that new concepts are constantly being added to follow the growth of knowledge. The above mentioned schemes are available in the electronic form as well.

As they use symbols rather than words they are especially suitable for the multilingual environment of the Internet. They can be used as the basis for developing thesauri or for building and tailoring a list of indexing terms for specific purposes. They can be used to describe any object not just textual. Classification can be designed and suitable for information retrieval and in most European countries have rich traditions in using classification as a language independent indexing tool.

In Russia there are a few best-known thesauri widely used by chemists. The Thesaurus of Descriptors of Chemistry and Chemical Industries (ТЭХИМ) represents a set of descriptors indicating semantic relationships between them, covering

specific areas of chemistry, e.g. the foundations of organic chemistry. There are 5.373 keywords and 10.133 descriptors in it. In the focus of another well-known Thesaurus there are words of chemical terminology in 19 languages [ГОСТ 7.24-2007].

It is commonly observed that people avoid repetition by using a variety of noun phrases to refer to the same entity, and some human audiences (e.g. international students) can have difficulty in this respect. Students should be taught to view the problem as one of partitioning, or clustering, the noun phrases, and define each group of coreferent noun phrases as an equivalence class.

In the process of chemistry-acquisition communication failures occur when the clustering algorithm gets broken down as a learning problem, i.e. while extracting wrong descriptors from thesauri students make up incompatible NPs.

The lecturer's task is to explain the students the algorithm of extracting descriptors and to revise the meaning of the concepts mapping a collection of noun phrases onto the same entity in the Thesaurus.

According to Cardie and Wagstaff, the clustering approach has a number of important advantages over existing learning and non-learning methods for coreference resolution. The most important for our paper is the following: the clustering approach provides a flexible mechanism for coordinating context-independent and context-dependent coreference constraints and preferences for partitioning noun phrases into coreference equivalence classes (Cardie and Wagstaff, 1999, 82).

In machine word processing, clustering requires additional filters, which determine the threshold of the clustering radius. It is very important because all of the NPs used to describe a specific concept will be «near» or related in some way, i.e. their «conceptual distance» will be small. A description of each NP and a method for «measuring» the distance between two noun phrases, a clustering algorithm, can then group NPs together: NPs with distance greater than a clustering radius are not placed into the same partition and so are not considered coreferent.

Lecturers, on the contrary, should determine the clustering radius and hereby coreference links intuitively via a set of hand-crafted heuristics and filters.

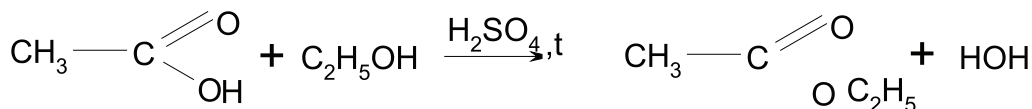
The principle characteristic features of coreferential links are as follows:

- Lexical features, i.e. the use of proper names and pronouns. E.g., in the class of alkenes in chemistry the names of separate members (homologues) act as proper names (Methane, Ethane, etc.). In more complicated cases, substances are given names according to certain rules, nomenclature – UPAC. Students should be explained these rules, which themselves are coreferentially independent.

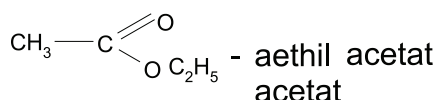
- Grammatical features, i.e. the features testing the grammatical properties of one or both of NPs (Ng, 2007, 1692).

• Semantic features. There are two semantic features, both of which are employed by Soon, Ng, and Lim's coreference system (Soon, 2001).

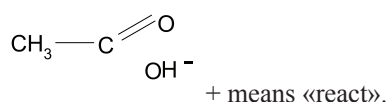
*The first feature* tests whether the two NPs belong to the same semantic class. This feature is directly connected with clustering, determining the clustering radius and its threshold.



This chemical formula means that acetic acid reacts with ethyl alcohol, resulting in ethyl acetate and water. There are the following acronyms used here:



$\text{C}_2\text{H}_5\text{OH}$  - ethanol



HOH- water

• Positional feature. There is only one positional feature that measures the distance between the two NPs in sentences.

As a rule, coreference has sense only with respect to the specification within one language, e.g. «the language of chemistry», «the Russian language», «the English language», etc. The notions sounding in Russian and in chemistry in a similar way, can have different meanings, and it is possible to reflect it in coreferential NPs made up correctly. Let us discuss the descriptor «energy» («энергия»).

The meanings of NPs in English and Russian languages coincide: электрическая энергия – electric energy, энергичный человек – an energetic man.

The corresponding NPs in chemistry represented in English and Russian are: энергия химической связи – chemical bond energy, энергия химической реакции – the energy of a chemical reaction.

So, the meaning of the same concept in natural languages and in the language of sciences (chemistry, in our case) can be different.

Summing up, we can say that recent years have seen an intensifying interest in NP coreference. This is the problem of determining which NPs refer to the same real-world entity in a document.

As a result of this investigation, various new models and approaches to NP coreference have been worked out. The investigation of new coreference models and new linguistic features can hardly be overestimated.

One of the principle problems nowadays is to establish relations of coherence between ref-

*The second feature* tests whether one NP is a name alias or acronym of the other. Acronyms were borrowed into linguistics from natural sciences and are used in chemistry to denote all chemical substances. A specialist should understand symbolic formulas, e.g.

erence objects. As chemistry belongs to sciences, coreferential links are in the deep structure of its concepts.

Using coreference in order to overcome communicative failures in teaching chemistry to international students in Russian gives us a possibility to represent the real world from the holistic point of view.

#### References

1. GOST 7.24-2007 The thesaurus the information retrieval multilingual. Structure, structure and the basic requirements to construction.
2. The thesaurus of organic reactions of chemistry, chemical manufactures // AN USSR. – M.: Science, 1980.
3. Cardie C., Kiri W. Noun phrase coreference as clustering. In Proceedings of the Joint SIGDAT Conference on Empirical Methods in Natural Language Processing and Very Large Corpora // College Park, MD. – 1999. – P. 82–89.
4. Shallow Ng.V. Semantics for Coreference Resolution // Proceedings of the Twentieth International Joint Conference on Artificial Intelligence (IJCAI). – 2007. – P. 1689-1694.
5. Nomenclature of organic chemistry (Sect. A. – H., Oxford, Pergamon Press, 1979).
6. Poesio M. Coreference. MATE Dialogue Annotation Guidelines-Deliverable D2.1. – January 2000, 126-182. (2000) (<http://www.ims.uni-stuttgart.de/projekte/mate/mdag>).
6. Soon W.M., Ng H.T., Lim, D.C.Y. A machine learning approach to coreference resolution of noun phrases // Computational Linguistics. – 2001. – №27(4). – P. 521–544.

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*Materials of Conferences***SOCIAL ASPECTS OF INFORMATION  
OF THE SOCIETY**

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Research of social aspects of information of a society assumes consideration of methods of the analysis of problems of intellectualization of various social subsystems. A role of new information technology all-important: it is a question of creation of base structures of new social formations, technological reequipment of industrial and non-productive spheres in economy, efforts on acceleration of development of productive forces, formation of new system of a society. However the social parties of corresponding transformations as shows experiment, appear the most difficult, demanding a deep theoretical substantiation.

Now it became clear that specificity of universal progress, anyway, its major line consists in transition from industrial to a postindustrial (information) society. An information civilization – the objective stage of world-wide and historical process meaning an exit of mankind on qualitatively new boundaries of development of productive forces.

The concept of information of a society is the global social problem demanding qualitative transformation of economic, political, cultural bases of ability to live of a society, radical updating of all system of its motivational mechanisms. Information processes, having the general technological, in many respects an organizational and cultural basis, at the same time submit to specific laws of various social and economic formations, have various social consequences. They are objectively caused by a social and economic information need, in introduction of new information technology. The civilization is guided in the development by information model.

It is a question of the information resources of a society developed in sphere of spiritual manufacture which are considered as the basic value of the modern world.

There is essentially new type of the expanded reproduction depending in the solving measure from intellectual factors. Therefore the fundamental principle putting all parties of public life in dependence on economic relations (relations of production of goods), has lost the universality. In general division of public subsystems into spheres of material and non-material, productive and unproductive work became problematic.

Have radically changed, have become complicated character of productive forces and a condition of their development. Has arisen and quickly

the special kind of a social production – information manufacture increases.

On this base has developed and quickly the special kind of public relations – information relations extends. These are relations which people concerning manufacture and use with a view of development of intellectual values (knowledge, the information enter). Paramount value in ability to live of a modern society has got intellectual (in particular information) the market. Now this market on goods turnover volume exceeds the traditional market of material services in a number of the countries. But the most important thing that information relations essentially influence shape of all public system. They in the increasing measure determine social dynamics, including level of economic development.

All is a concrete embodiment of the social information which theoretical substantiation should become the major practical function of social studies.

However it is necessary to note, what not all in a society are ready to successfully to carry out this practical function. Serious theoretical advancements in respect of judgement of new mechanisms of social dynamics, understanding of specificity of information relations in a context of social progress, laws of functioning of the intellectual market, including pricing for the spiritual blessings, criteria of an estimation of results of intellectual work are necessary. Without it not probably to create enough effective mechanism of an intensification of a social production, and economically effective public reproduction taking into account domination of non-material (information) manufacture in volume and qualitative relations and the new concept of consumption and a standard of living. The place and a role of such consumer component, as the spiritual blessings in many respects reduced to the information considerably changes.

Occurrence of the information as a part of the consumer blessings conducts to qualitative shifts in consumption, a way of life, gives rise to new model of ability to live of individuals, social groups and a society as a whole. In modern conditions not simply blessings (material and spiritual), and organizational – information factors start to play especially important role.

Especially the great value in respect of social information has increase of intellectual level of various social systems. Until recently in a science and practice it was a question of intellectualization of technical systems. To it basically problems of development of system engineering at the present stage are subordinated. Intellectualization of means of information technology became the major direction of scientific and technical progress. Now there

is not less important and difficult direction – intellectualization of social systems.

Society information assumes increase of intellectual level of those or other social subsystems. As an indicator of level of functioning of this or that social subsystem the structure of use of time acts. Special value in respect of intellectualization of social systems is defined by a role of each individual intelligence (each person) in system.

It is a question of formation by methods of social engineering of the information environment as bases of the intellectual environment. It becomes the major problem of the applied sociological analysis.

There are concepts of the social and economic environment, and also intellectual, and information. All is different «cuts» of the social systems, different foreshortenings of their consideration. The concept of the information environment doesn't substitute for itself other kinds of social environments.

If the concept of the intellectual environment characterizes operating conditions of all potential of knowledge (information) concept of the information environment (narrower) concerns operating conditions of only social information (knowledge in the form of messages).

At different historical stages in a society there was this or that intellectual environment – more or less favorable for development of spiritual processes. This or that information environment – conditions of development of intellectual communications, transfers and uses of messages (information) was an element of this environment. But never earlier in the history of mankind the information environment (as an element of the intellectual environment) didn't play such important role, as in second half XX-th century – the XXI-th century beginning.

Now on the basis of modern computer and telecommunication means there is a revolution in the information environment, that is in the field of social communications that considerably changes not only all intellectual, economic, but also the social environment. New technological revolution (creation of information technology) has begun in the field of the information environment. And these technological transformations strengthen value of an information resource in society life, give it a new, defining role.

Intellectualization of public systems means increase in their ability to live of a role of an information resource that is reached, first of all, by development of telecommunication both in considered system, and in sphere of its external relations.

Noted versatile analysis of problems of intellectualization of various social subsystems can be spent successfully only under condition of connection to it of sciences of a public cycle.

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### THE PUBLIC INFORMATION: KINDS AND PROPERTIES

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To allocate kinds of the public information is means to give certain classification by any bases. If to start with position as some authors do that the information is only a cybernetic category the question on classification of kinds of the public information would dare the same as in cybernetics. As marked A.D. Ursul, «it is characteristic that the cybernetics is interested mainly in information processing» [1]. V.M. Glushkov wrote that «the cybernetics studies operating systems from the point of view of information transformation» [2, with. 225-230]. Actually, the cybernetics subject is usually defined through concept of management. Hence, classification can go by various kinds of administrative activity.

However such approach to classification of kinds of the public information was useful only at the first stage and most of all just to that has shown limitation of purely cybernetic approach and has raised the question about necessity of other bases of classification.

The scientific information is connected with manufacture of new knowledge. On spheres industrial and to other kinds of activity it is possible to distinguish also such kinds of the public information, as industrial, trading, bank, financial, scientific and technical, theatrical, sports; on requirement degree – long-term, flowing; on the importance – essential, insignificant; on carried out functions – communicative, scientifically-informative, orientationno-adaptive, kontrolno-operating. Each kind of the public information differs on subspecies.

The public information possesses corresponding properties. It is possible to allocate such parameters of the public information, as an urgency, novelty, reliability, completeness degree (insufficiency, redundancy), intensity or quantity (in bits, bytes), an optimality (the optimal value of course of certain information process), efficiency, reliability, availability.

Let's stop on consideration of some of them. For addressees the validity of the information expresses reliability as something already established by the subject during public practice. Reliability transforms true, but not proved logically and practically, so to say, the information «in itself» into the information for the subject of an information work [3]. Degree of development of the true information a society expresses reliability which is connected with its such characteristics, as completeness, depth, accuracy, definiteness.

The above-stated properties of the information express degree of the adequacy received by the consumer of pithiness of the information. With quantity of the information it is not necessary to mix them,



as not always to increase of completeness and accuracy of the information conducts increase in quantity of the information; if the information displays insignificant and minor details it can increase only redundancy. Completeness of the information expresses not in general all information which can be extracted about a corresponding source, and only the most essential, that which can promote correct decision-making. Excessive completeness and accuracy can harm only, increase time and complicate decision-making. The validity and completeness of the information represent characteristics of the public information necessary for well-founded decision-making.

Talking about the informative and other information processes having mass character, it is necessary to use still additional characteristics of the information, except earlier considered. The information containing in the message, should be convincing, proved, demonstrative and frequently obvious; elements of its maintenance should be so are connected in system that it with the maximum force influenced audience.

In the public information the dialectics new and old (forgotten, left in the past) is shown also; it is necessary both display new, and to reproduce old trues for adequate decision-making. The oblivion or ignoring old, but the true information, orientation only on the novelty, not always justified, can lead to those, to results, as the dogmatism absolutizing old, and to turn simply to a pursuit of a fashion. Though the scientific information is focused on an increment new, nevertheless, such processes as recognition of old knowledge, streamlining of already received knowledge, information search and a number of other scientifically-information processes, are inevitably connected with «the old» information. For strengthening of the public information “the old” information is important not only in logic aspect, but also in the sensual plan – old messages which cause positive emotions – pleasure, pleasure, the pleasant memoirs calming or encouraging, are willingly consumed by recipients.

Efficiency of the public information is defined by some time interval in which the information is necessary for transferring and using, otherwise it will already become outdated and will be excluded from socially-information processes. Efficiency of the public information depends on an information source (the faster it changes, the the information by the consumer faster should be used) from used for its transfer and processing of means. Mass media, the Internet appear most operative of means of mass communications television.

The following characteristic of the public information – an optimality. The optimal value of course defined, in this case information, process usually understand as an optimum. If this process is managerial process here there is a concrete criterion of efficiency which in case of optimum control accepts the optimal value and more often – minimum or

maximum (in the given conditions and at the given restrictions). The information which conducts to development of optimum strategy of decision-making in managerial process, is understood as the optimum information.

There are also such characteristics of the information in a society which cover its is formal-quantitative parties: the quantity measured in bits, bytes and other information units, redundancy of the information which can be used for more clear and accessible statement with a view of popularization and propagation. Redundancy also increases at hindrances and noise, it is harmful there where the information optimality, its efficiency and reliability decreases. Therefore for various socially-information processes and types of information the norms of redundancy are established.

Such characteristic of the public information as its reliability, that is ability to remain at transfer and use and to display thus the basic and the major in an information source is connected with redundancy. Only to it and to a noise stability by transfer on communication channels (on this basic attention the cybernetics turns) reliability of the public information isn't reduced. Its validity, importance, absence of casual components which can affect decision-making, also here join. Not last role such characteristics of the public information, as its material carrier, the representation form, expressiveness, presentation, the brevity concerning more to the form of its existence and movements.

#### References

1. Ursul A.D. The information nature. A philosophical sketch. – M.: Politizdat, 1968.
2. Afanasyev V.G. Century Scientific and technical revolution, management, formation. – M., 1972.
3. Shljapentoh V.E. Problems of reliability of the statistical information in sociological researches. – M., 1973.

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#### THE POLITICAL POWER IN THE CONTEXT OF INFORMATION- MATHEMATICAL ASPECT OF KNOWLEDGE

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The important both perspective characteristic and tendency of any power, as well as any area of a science about the power, is the aspiration to definiteness, accuracy, clearness. We will note those areas of a science which can and should promote strengthening of the power and its realization: the mathematical knowledge, and now in growing de-

gree – is information – mathematical knowledge. In the foreground there is a mathematics (from arithmetics to higher mathematics) here again and the computer science which has had for the last half a century huge development as a science.

Arithmetics of the power – figurative judgement, and also a statement of the beginnings giving in to the theoretical description, bases of the power which should be well familiar to each citizen and allows it to understand the existing real political power.

In case of serious allocation of sciences about the power, system of its areas, undoubtedly, it will be a question and of arithmetics of the power as primary complex area *кратологии* just as the reference to the power alphabet is lawful also. Arithmetics, mathematical judgement and classification of knowledge of the power, about a society as a whole – the procedure which is going back to sources of the ancient world, to thinkers of the last centuries. «Art of building and state preservation, like arithmetics and geometry, is based on certain rules, and not just in practice» [1, with. 162].

In centuries pass attempts of promotion and considering of philosophy of mathematics, philosophy of physics, geometry philosophy, and after them and philosophies of the power, policy and legal philosophy philosophy. The Netherlands philosopher B. Spinoza, being the consecutive supporter of the French philosopher – the mathematician and the scientist R. Descartes and following its method, considered that only the mathematical way of thinking conducts to true. It allows the person to learn better own forces and a nature order, helps it to supervise over itself, to establish for itself rules and to abstain from useless things [2, with. 434]. These ideas penetrate B. Spinoza's main work «the Ethics proved in a geometrical order» [3, with. 350]. By the such *matematiko-geometrical* analysis B. Spinoza came to a conclusion that «the society can affirm only in the event that it will assume the right everyone to revenge for itself and to judge that is good and that badly. That is why it should have the power to order the general way of life and to establish laws, doing their firm not by means of reason which to limit affects not in a condition, but by threats. Such society which is based on laws and the power of self-preservation, is called as the state, and the people who are under protection of its right, – citizens» [3, with. 391].

The theory of the power from positions of its social understanding and a role isn't completely comprehended yet. The algebra of the power (algebra of power) is a formed area of knowledge, a trope characterizing complexities of knowledge and functioning of mechanisms of the power, and first of all the government, difficulty of development by political leaders of the duties, findings of experience of use of the power. In the long term the algebra of the power can and should be issued as one of complex fields of knowledge about the power. In it

application and use of mathematical apparatus and mathematical modeling is lawful.

Algorithm of the power – the concept borrowed in higher mathematics allowing with reference to difficult sphere of the power and public service to characterize a set corrected, leaning against knowledge, experience and intuition of the dominating subject and giving the chance to it practically without additional efforts to solve this or that state (political) problem from some class of the same problems. Power geometry – the interbranch applied discipline, a formed science about spatial distribution and power distribution, its volumes, and also ways of their studying and measurement.

Scientists of different epoch and directions addressed time and again to a geometry problematics at judgement of the public and natural phenomena and processes. So, about geometry in «the treatise D. Jum talked about a human nature» [3, with. 589-590]. In «philosophy Bases» T. Gobbs, directly named geometry a philosophy part [4, with. 123], told and about the physicist as philosophy parts, about philosophy of morals and state philosophy, underlined importance of geometry and physics for understanding of philosophy of the state [4, with. 125].

There are bases to believe that sooner or later this problematics will promote deeper and detailed knowledge of a phenomenon of the power. On the basis of mathematical knowledge, its methodology and procedures the most serious prospects for the power are opened by the computer science representing largest *социокультурный* the phenomenon of the present.

Now the information, computer science, information becomes the major condition of successes of the power. Information development, realization of information of various aspects of life of people, formation of a new information society create absolutely new, special conditions and prospects of life of a society, development of its economy, the power, formation, a science, culture and as a whole movement to the future. The information and computer science play an increasing social role [5].

The information (from an armor. *informatio* – an explanation, a statement) – one of fundamental concepts of a modern science and a policy. In the mass media especially working in interests of the power, it is accepted to distinguish the information the authentic, reliable, objective, political information with the analysis of events. The purposeful information is important for creation of image of the power, a policy and politicians, it is capable to organize and direct behavior of the big groups of people.

Last years in Russia problems of the information, computer science, information are allocated at the state level. The numerous information (information-analytical) centers, managements, divisions in imperiously-administrative, scientific, educational structures are created and function. The computer science becomes a part of social sphere of a society,

its role constantly increases. At the head of process of introduction and computer science development there should be main operating subjects of a society and the states personifying real (including information) the power.

Great value information security – protection of the information, programs and information networks against unapproved access to them, carried out for the purpose of disclosing gets, changes, uses or destructions of that or other data. Such safety is necessary in government system, especially in its higher spheres and power structures. It is reached by means of application of program, hardware and cryptographic methods and protection frames, and also by use of a complex of corresponding organizational actions and measures.

The computer science as the major field of activity demands thorough legal registration. The information, information, computer science, the information right for a society, for the govern-

ment is an area priority. It is necessary to notice that information represents organizational, social and economic and scientific and technical process of creation of optimum conditions for satisfaction of information requirements and realization of the rights of citizens, public authorities, local governments, the organizations, public associations on the basis of formation and use of information resources.

#### References

1. Gobbs T.Soch.: in 2 т. Т. 2. – М.: Thought, 1991.
2. The short philosophical encyclopedia. – М., 1994.
3. The anthology of world philosophy: In 4 т. Т. 2. – М., 1971.
4. Gobbs T.Soch. Т. 1. – М., 1989.

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*Materials of Conferences***THE PRESSURE CONTROL IN MOTOR VEHICLE TIRES, AS THE TRAFFIC SAFETY GUARANTEE**

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The motor transport is considered, as the most unsafe and rather dangerous one. According to all available data, exactly the traffic accidents (TA) are being taken the first place, by the lost and the injured persons' number. The automobiles are considerably being overtaken the railway, the air service, and the water transport, under all these parameters.

The traffic safety guaranteeing challenge, as usual, is being taken one from the leading places in the country's social and the economic development. Today, this challenge solution has already been related and referred to the state policy higher – priority directions number, – the RF Police Colonel – General Victor Kiryanov noted, who is the RF Traffic Safety Main State Inspector, having made his speech at the «Traffic Management in the Russian Federation (RF)» International Congress opening in Moscow.

According to the Russian IM TSSI official data, the 199,431 traffic accidents (TA) have been fixed on the country's roads and the highways during the 2010 year, that is for 2,1 % less of the last year similar index. As a result of it, the 26, 567 persons have already been lost (e.g. that is less for 3,9%), and the 250,635 persons have been received the various wounds (e.g. that is less for 1,9%).

So, the statistics data is indicated to the fact, that the accident rate in Russia is being decreased throughout the last some years. At the same time, RF, as usual, is being held its unfortunate lead on the accident rate among the European countries. Annually, about 1,7 mln. persons in Europe are being received the various wounds, in a result of the traffic accidents (TA). So, the traffic accident traumatism and the injury rate in Russia have been made up more than 260 thousands persons, by the others, only for the 2009 year. By the Russian IM TSSI official data, the 8,5 thousands persons' lives have already been saved for the last 60 months (e.g. the last 5 years), despite the fact, that the transport vehicle park has been increased only for a quarter. Thus, the motor vehicle tires are closely connected with the traffic safety all the three components: the transport vehicles safety, the traffic participants' behavior, and the infrastructure. The first two elements, directly, are being connected with the motor vehicle tires. So, the correct motor vehicle tires, having corresponded with the road and the highway conditions and their wheeling, are being increased the transport vehicle safety. The motor vehicle tires, especially, having developed for the safety indices further improvement,

are also being played their significant role in the safety on the roads and the highways, day in day out. Besides, the confidence in the motor vehicle tires safety and also the correct maintenance for them are meant more confident behavior at the wheel, that is why, it is quite possible to be said, that the motor vehicle tires contribution into the safe driving guarantee is greatly significant.

So, the pressure in the motor vehicle tires is being fixed, depend on the fact, what kind of the machinery these motor vehicle tires are being operated, and what the maximum load is on them. It is quite possible to be found all the necessary the character references on the optimal pressure in the motor vehicle tire, which, in their turn, which are made their start from the automobile's working and the service conditions, its horse power, and the maximum load on the axis in the specifications to the automobile. So, the insufficiently inflated or the over-inflated motor vehicle tires, as the traffic accidents (TA) statistics is shown, quite often are the accidents' main cause and the corresponding reason. By the [www.autonews.ru](http://www.autonews.ru) cite information, the incorrectly inflated motor vehicle tires in Europe, where there are the sufficiently safe roads and the challenge – free highways, have already been become the main cause and the corresponding reason of every sixth traffic accident (TA) in July – August, in the holiday season, when the families go on their holiday by the car. By the Traffic Safety National Agency of the USA data, annually, up to 660 persons are lost their lives and the 33,000 persons are received their various wounds in the country, owing to the traffic accidents (TA), having closely connected with the motor vehicle tires.

By the Swedish Committee on the traffic accidents (TA) investigation research data, exactly motor vehicle tires have played their decisive and the crucial role in every sixth fatal and the lethal traffic accident (TA).

The «DEKRA» firm, which is engaged in the official check ups and the examinations carrying out in Germany, the automobiles' safety studies and the corresponding researches, the consultation and the advisory activities, the automobiles' tests and the operational materials and the engineering maintenance ones, having conducted the traffic accidents (TA) main causes and the corresponding reasons analysis, has been fixed the following:

1. The automobile's engineering deficiencies and the technical shortcomings are the main cause and the corresponding reason of every tenth traffic accident (TA).
2. The traffic accidents' (TA) share is made up 47% from the traffic accidents' (TA) total number, having made for the technical reasons and the corresponding technical challenges, due to the motor vehicle tires' defects and the shortcomings.

Pierre Poncelet, the motor vehicle tires tests department manager of the «Goodyear» research – and – development center in Luxemburg, tells beforehand, that the drivers often forget, that the inflated motor vehicle tires are quite able to be coped with their challenge only in the proper way, ipso facto, having provided the automobile's necessary steerability. So, as the over – inflated motor vehicle tires, well as the insufficiently inflated ones are made their considerable influence upon the automobile's service behavior, and also its breaking distance. So, the studies and the researches, having conducted in the European Union (EU), are testified, that more 64% of all the automobiles are driven on the partly flat motor vehicle tires. Thus, many drivers simply do not check up with the following necessary regularity, but yet it is able to have the serious influence on the driving safety, as Pierre Poncelet noted.

Thus, the pressure check up and the corresponding testing in the motor vehicle tires must to be carried out, obligatorily, just before the tour's start, on the cold motor vehicle tire, and with due regard for the automobile's weight, and also its necessary loading.

So, the insufficiently inflated motor vehicle tire is quite able to be resulted in a number of the following challenges, namely: the pressure strengthening on the motor vehicle tire's side wall, in a result of it as far as the further movement, the side wall is being overheated, that is affected upon the automobile's general steerability and the traffic safety, further the motor vehicle tire is also quite able spontaneously dismounted; the decrease in the contact area between the motor vehicle tire and the road, having resulted in the poor adhesion, in the stopping distance lengthening, and, consequently, in the traffic safety reducing; the wear increase of the motor vehicle tire's external face, that is being reduced the motor vehicle tire's wear resistance and the wear-resisting properties, as the tread is being worn quicker and unevenly; the fuel consumption increase, as the insufficiently inflated tire is being consumed more energy for the smooth motion;

However, at the motor vehicle tire's operation and its service at the low temperatures, it is much worst to be remembered, that the air inside the motor vehicle tire is being compressed with the further temperatures decrease, ipso facto, and the pressure is also being decreased. Accordingly, it should be created the necessary pressure slightly more, that it is quite necessary and it is supposed in the motor vehicle tire, at the operation and its service, at the low temperatures.

So, the excess pressure in the motor vehicle tires is also being resulted in the negative consequences: the motor vehicle tires' interior face accelerated wear, in a result of which, also, as and at the insufficient pumping, the wear resistance and the wear – resisting properties are being lowered down; the motor vehicle tire is became more exposed to the blowouts and unprotected to the pun-

tures, the motor vehicle tire's flexibility is being impaired, that, in its turn, is being resulted in the motor vehicle tire's more severe reactions for the obstacles' passing; the motor vehicle tire's service life and its operation are being shorten; the motor vehicle tire is became heavy, and this is made the additional loading upon the automobile's hydraulic steering control.

Thus, the excess pressure in the motor vehicle tires is also being posed the traffic safe threat. However, in the extreme cold and in the strong frosts, the service operator is quite able to be exceeded the recommended pressure in the motor vehicle tire, for the purpose of the further adaptation to the cold.

So, it is quite possible to be made the conclusion on the fact, that it is necessary regularly and correctly to be controlled the pressure in the motor vehicle tires. The pressure check up in the motor vehicle tires is usually carried out by the manometer just under their «cold» condition. At present, the motor vehicle tire – pressure monitoring system, having derived and further displayed the necessary information on the pressure at the fascia instrumentation panel just in the automobile's saloon, is used in the modern automobiles with their superior comfort. So, at the same time, the motor vehicle tire – pressure monitoring system is quite allowed efficiently to be received the necessary and the precise information on the present pressure in the motor vehicle tires, having given the alarm signal to the driver, in the case of the critical deviations detection from the rating and the technical regulations. They usually use the piston pump or the pumping post, if necessary to be made the urgent boost pressure of the motor vehicle tire. So, the motor vehicle tires pumping post – this is the specialized center, having situated at the overwhelming majority of the gas service stations. So, the automobile's motor vehicle tires are quite able to be pumped by the air or by the nitrogen – in the full compliance with the technical requirements and the standard specifications. So, the experienced drivers the most necessary equipments and the corresponding devices have with themselves, for example, the compressor for the motor vehicle tires pumping, which it is quite be purchased, practically, in the every car dealer's. So, the auto compressors, by their device, are being divided into, as the vibrating ones, well as the piston ones. The vibrating type is quite frequently distinguished by the not high price, so its main purpose – is the motor vehicle tires pumping of the small – sized cars, with the wheels, the radius of which is not being exceeded the 14 inches. So, the piston compressor is quite able to be made more pressure, having, substantially, exceeded the vibrating compressors by this factor. It should not be forgotten, that these compressors are quickly overheated, and they are needed the work break just after every 10–15 minutes of their operation. Practically, the whole services spectrum, from the pressure survey in the motor vehicle tires up to its complete nor-

malization, is always able to be rendered the service help in every tire fitting shop center.

So, the optimal pressure maintenance in the motor vehicle tires challenge is, particularly, actual and urgent for the Russian Federation (RF) vast territory with the quite different and the various climatic zones and the conditions, as the present pressure in the motor vehicle tires is being depended on the surrounding environment temperature, the atmospheric temperature and also the air moisture. The surrounding environment temperature researches in the diurnal regime have been conducted by us by many stations in the following cities and the towns: Arkhangelsk, Astrakhan, Krasnodar, Moscow, Novosibirsk, Rostov – on – Don, Saint – Petersburg, Sochi, Khabarovsk, Perm, Yakutsk, which are rather representative for the Russian territory. (This kind of the information by the above – mentioned stations has been presented by the «All – Russian Research Scientifically Institute of the Hydro – Meteorological Information – The World Data Center» State office («ARRSIHMI – WDC» SO)). For example, the motor vehicle tire's temperature measurement in the Sochi city, at the Sochi – Adler highway's route, in the midday, having carried out by the TEHE 5 contact electronic thermometer, was shown, that the surface temperature had been reached 58,4 °C, that it is more the air temperature for 26,1 °C. For all this, the pressure change in the motor vehicle tire has been made 0,5 atm. So, such

pressure changes in the motor vehicle tire are, considerably, being affected on the steerability, reliability, and the economic efficiency of the traffic motor transport's operation and its service on the Russian territory during the changing.

Thus, the external climatic conditions various measurements on the pressure in the motor cars' motor vehicle tires, having conducted by us, by example of the «VAZ» motor car's the «175/70R13» motor vehicle tire, have been allowed to make the conclusion on the challenge formulation necessity of the pressure control in the automobiles' motor vehicle tires in the process of the operation and its service at the State level, for the purpose of the whole traffic safety rise and the further improvement.

#### References

1. Tarnovsky V.N., Gudkov V.A., Tretyakov O.B. How to Increase the Motor Vehicle Tires' Run. The Advices for the Cars Owners. – M.: Transport, 1993.
2. [www.car-tyres.ru](http://www.car-tyres.ru).
3. <http://www.gibdd.ru/news/604>.
4. <http://www.nokian-msk.ru/news/content/32.html>.
5. <http://www.gibdd.ru/news/604>.

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