



# SCIENTIFIC RESEARCH OF THE SCO COUNTRIES: SYNERGY AND INTEGRATION

上合组织国家的科学研究：协同和一体化

Materials of the  
International Conference

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参与者的英文报告

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这些会议文结合了会议的材料 – 研究论文和科学工作者的论文报告。它考察了职业化人格的技术和社会学问题。一些文章涉及人格职业化研究问题的理论和方法论方法和原则。

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These Conference Proceedings combine materials of the conference – research papers and thesis reports of scientific workers. They examines tecnical and sociological issues of research issues. Some articles deal with theoretical and methodological approaches and principles of research questions of personality professionalization.

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## Foreword

*We thank all participants of our conference "Scientific research of the SCO countries: synergy and integration" for the interest shown, for your speeches and reports. Such a wide range of participants, representing all the countries that are members of the Shanghai Cooperation Organization, speaks about the necessity and importance of this event. The reports of the participants cover a wide range of topical scientific problems and our joint interaction will contribute to the further development of both theoretical and applied modern scientific research by scientists from different countries. The result of the conference was the participation of 56 authors from 7 countries (China, Russia, Uzbekistan, Kazakhstan, Azerbaijan, Tajikistan, Kyrgyzstan).*

*This conference was a result of the serious interest of the world academic community, the state authorities of China and the Chinese Communist Party to preserve and strengthen international cooperation in the field of science. We also thank our Russian partner Infinity Publishing House for assistance in organizing the conference, preparing and publishing the conference proceedings in Chinese Part and English Part.*

*I hope that the collection of this conference will be useful to a wide range of readers. It will help to consider issues, that would interest the public, under a new point of view. It will also allow to find contacts among scientists of common interests.*

**Fan Fukuan,**

*Chairman of the organizing committee of the conference*

*"Scientific research of the SCO countries: synergy and integration"*

*Full Professor, Doctor of Economic Sciences*



## 前言

我们感谢所有参加本次会议的“上海合作组织国家的科学研究：协同作用和整合”，感谢您的演讲和报告。代表所有上海合作组织成员国的广泛参与者都谈到此次活动的必要性和重要性。参与者的报告涵盖了广泛的主题性科学问题，我们的联合互动将有助于不同国家的科学家进一步发展理论和应用的现代科学研究。会议结果是来自7个国家（中国，俄罗斯，乌兹别克斯坦，哈萨克斯坦，阿塞拜疆，塔吉克斯坦，吉尔吉斯斯坦）的83位作者的参与。

这次会议的召开，是学术界，中国国家权力机关和中国共产党对维护和加强科学领域国际合作的高度重视的结果。我们还要感谢我们的俄罗斯合作伙伴无限出版社协助组织会议，准备和发布中英文会议文集。

我希望会议的收集对广大读者有用，将有助于在新的观点下为读者提供有趣的问题，并且还将允许在共同利益的科学家中寻找联系。

范福宽，  
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**STUDYING OF IDEAS OF SUBJECTS OF EDUCATIONAL PROCESS  
ABOUT FREE TIME OF RURAL SCHOOLCHILDREN**

农村中小學生业余时间教育过程主体思想研究

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抽象。 文章定义了“空闲时间”的类别，揭示了农村学童空闲时间组织的特征，建立了空闲时间与农村儿童额外教育组织之间的联系，分析了对参与者的思想研究的结果。关于农村儿童业余时间的教育过程。提出了一些方法来组织学童空闲时间的有益利用。

关键词：业余时间，农村学童，额外教育，社会化，研究。

**Abstract.** *The article defines the category of “free time”, reveals the features of the organization of free time of rural schoolchildren, establishes a connection between free time and the organization of additional education for rural children, analyzes the results of studying the ideas of participants in the educational process about free time of rural children. Methods are proposed for organizing the beneficial use by schoolchildren of their free time.*

**Keywords:** *free time, rural schoolchildren, additional education, socialization, research.*

Free time is most often considered to be the part of extracurricular time remaining in students after completing homework according to the school curriculum, which the child can distribute at will. The enumeration of the signs of free time emphasizes the potential opportunity to use it variably for anything. A person in this period can do household work, household chores and spend it inefficiently (being in a state of "doing nothing", causing damage to his own health, disrupting public order and leisure of others, etc.) [4].

Diversity, rich substantive and spiritual fullness of free time and leisure is transformed into the internal beliefs of a person, shapes his values and needs, develops intellectually and physically, ensures his successful socialization. The converse is also true that the rich inner world of a person, the level of his requests and needs affects the organization of free time, making it more rational, meaningful and focused. An important place in solving the problem of the expedient and useful organization of a person's free time is taken by additional education.

The scope of additional education provides various options and models for the organization of free time, allowing to raise its level qualitatively. The organizations of additional education are faced with the task of offering affordable, modern, interesting, relevant to requests, needs, personal and individual characteristics, additional educational programs that allow any child to express and realize themselves in various fields of activity, using part of his free time.

The analysis of pedagogical and sociological literature allowed us to conclude that the ideas about free time and leisure, its purpose in the life of children are very diverse among different groups of people who are in different social, geographical, conditions, historical and age periods, intellectual and moral stages of development. Accordingly, the needs and requirements will also be different. Therefore, when forming the list of popular programs of continuing education, it is necessary to take into account the characteristics of the population, their ideas about free time and its organization.

We set a goal - to study the ideas of the subjects of the educational process about the free time of rural children. It is advisable to take this into account when determining the conditions and promising attractive areas of additional education in rural areas. Accordingly, the objectives of the study are formulated:

- highlight the meaningful units of the concept of "free time" in the understanding of the respondents;
- find out ideas about the quantitative characteristics of free time for adults and children in rural areas and determine its share in the total time budget;
- identify ways to improve the organization of free time and employment of students in rural areas.

The study involved teachers, parents and students from six rural schools of Yaroslavl Oblast, which are located in various municipalities, at different distances from district and Oblast centers. The number of students ranges from 40 to 200 people. Among the organizations that participated in the study, typical rural options are presented: a full-time school, a school complex, a primary school, a small school, and a school with a preschool group.

The main research methods were: focus groups, questionnaires, interviews, observation, analysis of school performance. In total, 134 respondents took part in the focus groups, of which 38 teachers, 36 parents and 60 children. 199 respondents participated in the survey, of which 96 were children and 103 were parents. Conducted: content analysis on key questions of guides, analysis of respondents' comments, survey results.

One of the first tasks is to study the teachers' ideas about the free time of schoolchildren. Almost half of teachers (47.4%) say that the time is called free when the child is not busy with exercises and homework, helping parents with the housework. A fifth of the respondents (21.1%) define this time as not occupied by class and extracurricular activities, attributing household chores to free time. A few more groups of respondents specify that it is out-of-school (2.6%) or vacation time, weekends, leisure (7.9%). Part of the answers to the definition of free time is given through the opposition, for example, "time **not** occupied by lessons". Thus, the vast majority of educators associated separate time associated with educational activities from children's free time, correlating educational activities with children's work and workload. According to 13.2% of teachers, in your free time you can do what you love, interesting thing, activity, hobby. Another 5.3% indicate the need for "personal" time for the child.

Specific to the countryside is the high proportion of children employment in household work and homework. The opinions of the participants on whether to attribute homework to free time or not, diverged. According to 47.4% of respondents, it is not considered free time.

The employment of rural children with household chores can be perceived both on the positive side, subject to the organization of feasible meaningful work, and negative if the child has to do hard work, to the detriment of health and education. A linguistic assessment of the answers shows that the statements, generally scanty in terms of lexical composition, are unemotional, not elaborated by additional information, which indirectly may indicate the uniformity of free time, the small number of vivid impressions and associations associated with it.

The opinions of parents, teachers and students are close in assessing the amount of free time of children. 43.5% of teachers and 57.8% of parents say that children have 4-5 hours of free time, 39.1% of teachers believe that only 2-3 hours are free. The opinions of children are the most diverse: from single statements like "only 20 minutes a day" and "always free" to 5-6 hours of free time (38.2%), 22.4% of respondents find free 2-3 hours, 23.8 % of children - 3-4 hours.

Adults in determining the amount of free time clarified their response with comments. In their opinion, the amount of free time depends on the child's academic performance in basic education ("if everything is done quickly, then more free time remains"), on psychological characteristics (temperament, character, speed), on the mood of parents, on the time of year, on age ("The younger have more, the elders have almost none").

A decrease in the amount of free time with an increase in the child's age is noted in a number of studies, however, in our study this dependence is clearly not traced. For example, the answer that they have 5-6 hours of free time per day was given by 9.1% of 16-year-old participants, 25.5% of 14-year-olds and 18.2% of 12-year-old participants in the survey. Among 16-year-old respondents, 9.1% answered that "only 1 hour is free" and about the same number (9.3%) answered that they had "a lot of free time", about 8 hours a day. Thus, quite a lot of children indicate 4, 5 and 6 free hours a day.

We were also interested in the opinion of respondents about the content of free time. Among the data obtained, several types of occupations with similar percentage ratios are distinguished. They are presented in table 1, where it can be seen that all three groups of respondents devote a significant part of their free time to walks. The purpose and content of walks are not specified, most likely, they are not focused, but the fact of being in the fresh air of rural children, which is noted as positive by respondents, is important in itself. Parents also expressed that walking is the most attractive pastime for the child, while 11.7% of parents say that children "just play" in their free time. Comparing the data obtained with the findings of other studies [3], it can be noted that psychologists recognize the necessity and need for children, especially adolescents, in solitude, a place where they can be alone, to relax, to analyze their actions. Many people choose natural landscapes, "wild" places for this, and in rural areas there are more such secluded natural places than in urban areas (answers like "go far, do not sit in one place").

**Table 1**  
*Activities of children in their free time (in %)*

Type of activity	Children	Parents	Educators
Stay home	1,3	0,0	0,0
Walking on the street	45,3	31,7	15,1
Games (not computer)	4,2	11,7	0,1
PC games, phone	6,7	15,1	16,7
Watching TV	8,4	18,3	6,1
Their Interests, hobbies	8,4	5,1	1,5
Communication	4,2	0,0	4,5
Helping parents	6,7	6,7	10,6
Sleep, rest	4,2	0,0	0,0
Lessons, self-education	1,3	3,3	4,5
Bike	5,3	1,7	0,0

*Table 1*

Type of activity	Children	Parents	Educators
Sections, AE	4,2	0,0	13,6
Activities with younger	0,0	3,3	4,5
Reading	0,0	3,33	0,0
Not busy	1,33	0,0	3,03
Way to and from school	0,0	0,0	7,58
Sport	0,0	0,0	3,03

It is noteworthy that 15.1% of parents and 16.7% of teachers emphasize the interest in children with computer games and phones, and this group makes up only 6.7% of students. Schoolchildren do not believe that they spend a lot of time at the computer and on the network, and do not consider this a “unnecessary” hobby. 18.3% of parents noted that they were watching television, while the percentage of children and teachers in this type of activity was less (8.4% and 6.1%, respectively). In this case, the children's audience does not determine the range of programs for viewing, but the fact of “sitting in front of the TV” is noted. Increased enthusiasm of rural children in television programs was noted by other researchers [5], and urban peers also have an interest in gadgets, computer games, and “aimless” outdoor walks [6]. It is important to consider that today's students live in a society where the ability to use computer interactive technologies is a basic competency, and the process of active use of various gadgets cannot be stopped, but at the same time, the uncontrolled amount and quality of information obtained in this way can harm the child. The directing and correcting function of the interaction of children with information technology can be taken by additional education, which forms the need to obtain useful and necessary information for the child.

Some respondents believe that the share of children's free time is allocated to help parents and activities with younger brothers and sisters, although some respondents did not include housework in the definition of “free time”.

From table 1 it can be seen that workshops, sections, and additional education take a little free time in rural schoolchildren (4.2%). This insignificant percentage is also traced in the results of other studies [5]. Occupations with one's hobbies, hobbies are insignificant, but this indicator is higher for children (8.4%) than for parents (5.1%) and teachers (1.5%). Preoccupation with self-education is also small, and according to teachers, this parameter is 4.5%, which is more than according to parents (3.3%) and even less among students (1.3%). The total employment of rural children in terms of free time is comparable to the total employment of their urban peers, but in rural areas children are less than in urban areas engaged in additional education and self-education. Rural children tend to spend most of their free time on their own.

Almost all respondents noted that it is possible to allocate part of the time for additional education. The schoolchildren accompanied the comments with doubts, with uncertainty in the desired activity, that they do not know what they would like to do, but are ready to “learn something new”, “gain more knowledge”, “visit new places”, so we can talk about not enough formed demand of students for additional education.

Among the areas and programs of further education that are currently being mastered by rural schoolchildren, the following are mentioned: sports (football, volleyball, general physical training), local history, robotics, music club (without specialization), economics, theater, tourism. Among the mastered programs, 16-year-old participants in the focus group called pre-vocational programs of additional education, which they master for a fee (driving license training). Programs that are popular among rural children (tourism, sports clubs, local history) are traditional for various regions of the country.

In rural areas, the activities of children's associations have recently intensified and become popular: “Young friend of the police”, military-patriotic clubs, local history societies, forestry school, volunteer groups. As practice shows, children spend a lot of time in them.

One of the key functions of free time is socialization. At this time, the choice of the path, moral and professional, takes place, the processes of self-education. There is a danger of missing important turning points in the formation of a child's personality if they are completely uncontrollable and spontaneous. It makes sense to talk about the search for ways of socially significant organization of free time, the culture of free time, the pedagogical management of the organization of children's leisure. The inclusion of additional and non-formal education in the structure of free time allows you to realize the idea of open and continuous education throughout life.

A comparison of our results with the data of other researchers confirmed that rural children have features in the organization of free time, in the degree of readiness to receive additional education. In our opinion, for the appropriate organization of children's free time in rural areas, the following are necessary:

- study of the real employment of children, their interests, inclinations and needs;
- purposeful work on the formation of values, goals and guidelines for the culture of organizing free time for children, their parents and their immediate social environment;
- creating conditions for the rational use of free time for schoolchildren, organizing creative productive activities of children and parents, including them in joint socially useful activities;

- development and implementation of continuing education programs that meet the needs and interests of rural children, arouse interest, develop existing potential and natural inclinations, allow you to realize yourself in your favorite business and create conditions for free creativity and self-realization;
- introduction of new forms of children's activity and cognitive-entertaining activities, modern technologies (train loafs, quests, geocaching, promotions, etc.);
- interaction of systems of general and additional education of rural children on the basis of secondary schools;
- development of youth movements of a socially significant nature (volunteers, search teams, environmental patrols, Unarmeans, etc.);
- integration of the efforts of all interested structures and partners, the social environment, educational, cultural and sports institutions in organizing the free time of the rural population, in the provision of human and material resources.

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大学毕业生竞争力形成的理论和方法策略：该地区的实施原则  
**THEORETICAL AND METHODOLOGICAL STRATEGY  
FOR THE FORMATION OF COMPETITIVENESS OF UNIVERSITY  
GRADUATES: PRINCIPLES OF IMPLEMENTATION IN THE REGION**

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注解。 本文将教学策略作为高等教育毕业生竞争力的术语之一。 要特别注意教学策略的形成和实现原则，并定义在学生培训过程中可以有效实现的术语。

关键词：毕业生，竞争力，模式，教育，教学策略，原则，劳动力市场，策略。

**Annotation.** *This paper deals with pedagogic strategy as one of terms of high-education graduates' competitiveness. The special attention is paid on principles of forming and realization of pedagogic strategy and defining terms where it could be realized effectively in process of students' training.*

**Keywords:** *graduate, competitiveness, model, education, pedagogic strategy, principles, labour-market, strategy.*

The current stage of reforming vocational education in Russia is closely connected with the transformations being carried out in the social and economic spheres, aimed at acquiring higher educational institutions more and more independence in choosing the strategic vector of development - both for the student and for the educational organization itself - with the aim of forming its competitiveness in the market labor.

An important role in this process is played by the pedagogical strategy, which should be considered as a mode of action, involving the solution of a complex of tasks through coordination of the actions of scientific and pedagogical workers of the university, students and employers.

It is traditionally customary to invest in the essential content of the original concept of "strategy" a step-by-step action plan (set of rules) developed under conditions of uncertainty in order to achieve the desired results [1, p. 34]. However, in the scientific literature there is another interpretation: strategy is the main guideline, a given direction of development, which in the long term should lead to

the achievement of the goal [3, p.112]. An extended interpretation of this concept implies the following interpretation: a strategy is a long-term plan for achieving a promising goal or desired result through the step-by-step implementation of detailed actions [5, p.27].

Thus, in relation to the field of activity, the strategy has an applied character, which determines the essence and specificity of the formation of a pedagogical strategy.

In the sources that reveal the theory and methods of higher professional education, the “pedagogical strategy” has several interpretations. So, for example, it is argued that:

- “pedagogical strategy” is a rationally formed set of pedagogical actions, which, firstly, correspond to the set pedagogical goals, and secondly, are deployed sequentially and implemented in stages through a qualitative choice of pedagogical support: the content of the academic discipline, the flexible use of methods, forms, tools and techniques aimed at the practical implementation of a specific strategic landmark (the desired state of the object of influence) [8].

- “pedagogical strategy” is the activity of the teaching staff of a higher educational institution, in the context of which the purpose of the educational process is determined, which acts as a strategic guideline, as well as the necessary and adequate means of achieving it [9, p. 56].

- “pedagogical strategy” is a long-term process that expresses a set of appropriate actions by a teacher, focused on achieving a given result (for example, the formation of competitiveness of a university graduate) [4].

- “pedagogical strategy” is the activity of the teacher, carried out in accordance with ideas about the pedagogical goal, plan and means of its implementation, which ensure the effective implementation of actions in the established range of pedagogical situations [2, p.19].

- “pedagogical strategy” is a generalized description of the teacher’s activities, having a pedagogical orientation and focused on solving large-scale educational, educational and professional tasks, carried out in order to achieve a given strategic orientation of the pedagogical process [6, p. 43].

Taking into account the existing definitions of the term “pedagogical strategy”, it can be argued that it is the planned set of actions by the university teacher, which should be consistent with the developed ideas about the pedagogical goal and the means to achieve it, which determine the achievement of the desired result.

It should be borne in mind that the choice of pedagogical strategy should be based on the specifics of pedagogical reality, in the context of which it will be implemented; the level of pedagogical skill of the teacher who implements the chosen pedagogical strategy; available resources, selected forms, methods and possible means of achieving the planned goal.

In modern socio-economic conditions and in accordance with the level of development of Russian higher education, the pedagogical strategy for the formation of competitiveness of a university graduate can be effectively implemented subject to the following conceptual foundations:

1. development and justification of a holistic pedagogical concept for the formation of competitiveness of a graduate student, the theoretical and methodological foundation of which is a competency-based approach;

2. highlighting the "core" of the pedagogical concept, which is identified patterns and the corresponding principles for the formation of competitiveness of a university graduate based on the creation of a practical, professional, socio-educational and innovative (or innovation-oriented professional) university environment;

1. designing a theoretical (structurally-substantive) model of a pedagogical strategy for the formation of competitiveness of a university graduate;

2. determination of the structural and functional components of strategic planning for the formation of the competitiveness of a university graduate (strategic analysis, strategic vision, strategic partnership, etc.);

3. designing a model of effective behavior of a university graduate in the modern labor market.

Defining the essence of the pedagogical strategy for the formation of competitive qualities and personality traits of a university graduate, we turn to its main theoretical provisions, namely:

- Awareness of the strategic purpose of the development of university students of such quality as “competitiveness” - as a way out of the situation in the field of employment of university graduates;

- The strategic goal of forming the competitiveness of a university graduate is to acquire unique competitive advantages that ensure the sustainable functioning and development of a future young specialist in a competitive environment;

- The tactical objectives of the pedagogical strategy of forming a competitive university graduate are to consistently develop opportunities and create conditions for pedagogical support of the formation of each of the components of the graduate's competitiveness. These are: innovative technologies and organizational and pedagogical conditions for the formation of competitiveness of a university graduate, mechanisms and pedagogical implementation tools.

In modern practice of higher professional education there is a very wide variety of pedagogical strategies. Therefore, the content of the pedagogical strategy chosen for the practical implementation should depend on the strategic landmark (goal) and adequate forms, methods and means to achieve the desired result.

Thus, from the whole variety of existing pedagogical strategies for the process of formation of competitiveness of a university graduate, of particular interest are such strategies as: orientation, communication and assistance. Consider their content.

The pedagogical strategy “orientation” [4] affects the emotionally-motivational, cognitive and activity spheres of the student’s personality and involves the implementation of a set of actions aimed at analyzing a problem situation, analyzing it, building an action plan and correcting one’s activities in the course of solving professional problems. In addition, “orientation” as a pedagogical strategy also includes the teacher’s implementation of a set of pedagogical measures aimed at creating competitive characteristics and qualities in the student’s personality.

The following pedagogical methods of orientation are available: to pay attention, guide, introduce, facilitate, provide, activate, correct, facilitate the student to conduct an adequate assessment, etc. The choice of these pedagogical methods of orientation is related to the fact that, in the pedagogical sense, student orientation involves providing him with support and possible assistance in determining the direction of personal formation (namely, as a competitive specialist), activation of the necessary subject areas of activity, analyzing a problem situation or solving a professional range of tasks, drawing up an action plan to achieve competitive advantages in the modern labor market, etc.

The pedagogical strategy “familiarization” [4] has an active character and, in terms of its semantic content, involves providing the student with the opportunity to engage in a certain type of activity, to become its full and active participant. For example, this is introducing a student to the process of formation, formation and development of professional skills and abilities that provide him with competitive advantages in the modern labor market, including building up the student's practical experience in solving professional problems.

The educational assistance strategy [4] is almost officially enshrined in the state documents of our country: the National Doctrine of Education of the Russian Federation, the Federal Law "On Education" and the Federal Law "On Higher and Postgraduate Professional Education", as well as the Bologna Declaration, etc., since all of them are talking about: "promoting educational institutions"; "Assistance in obtaining education"; “Assistance in the training of specialists”; "Promoting employment"; “Promoting self-determination”; “Promoting self-realization”; “Promoting self-development”; "Promoting self-improvement", etc.

Such a diverse application of the term “assistance” allows us to conclude that, in functional terms, it reflects the strategic nature of the training of highly qualified specialists and therefore, “assistance” can act as a pedagogical strategy for the formation of competitiveness of a university graduate.

In the context of using this strategy, it is assumed that special organizational and pedagogical conditions are created that promote self-development, self-realization and self-improvement of the student in the context of acquiring and developing such qualities and qualities of his personality that would provide him with a competitive advantage relative to other job seekers in the modern labor market. At the same time, pedagogical assistance is always a conscious activity of the teaching staff, focused on helping and supporting students in their personal and professional development.

The pedagogical strategies considered above seem to us appropriate for their use in practical activities at universities only in conditions of a personality-oriented professional education, when a student makes his choice in relation to the actions taken by him taking into account his own potential. In addition, the pedagogical strategy of forming a competitive university graduate should have a personality-developing focus - as a necessary aspect of the formation and development of a student's competitive advantages in the labor market.

The personality-developing orientation of the pedagogical strategy is characterized by the following specific features: attitude to the student as to the subject of his own professional and personal development; orientation of the student to self-development, self-education and self-improvement; the creation of conditions for self-realization and self-determination of the student's personality, including: scientific, pedagogical and organizational support for the process of formation of competitiveness of students, implementation of innovative technologies for the formation of competitiveness of a university graduate, the creation of a practical, professional, socio-educational and innovative (or innovative-oriented professional) University environment; the formation of the subject-subject relations during the educational process.

Note that as a student develops and professional qualities and personality traits necessary for competitive struggle are formed, the structure of his interaction with the teacher gradually transforms - he turns from a passive object of pedagogical influence into an active creative personality, capable and ready to set the direction of his own personal and professional development.

Considering the principles of the formation and implementation of pedagogical strategies, it should be noted that the entire system of teaching principles is focused on the development of the student's personality and consideration of his individual characteristics. In addition, the principles of the formation and implementation of pedagogical strategies are developed in accordance with the stages of the pedagogical management cycle of students' practical and cognitive activities. These are the following principles:

1. Developing education is focused on the comprehensive development of the student's personality, providing him with the formation of personal and professional properties and qualities - as competitive advantages in the modern labor market.

2. systematic assumes that the preparation of a student for work in modern socio-economic conditions should include the consistent mastery of not only theoretical knowledge, skills, but also a phased increase in practical experience in solving a wide range of professional problems. This principle also requires and assumes the consistency of the content and construction of the educational process. This gives the theoretical knowledge and practical skills of the student a systematic character.

3. consciousness, independence and creative activity of the student in the process of forming the competitive advantages of a university graduate in the modern labor market, which is reflected in a certain complex of its properties and personal qualities.

4. An integrated approach to the formation of competitiveness of a university graduate, which involves not only theoretical training of students, but also the building up of practical experience, its linking to the real conditions of the implementation of labor activity, and the solution of a wide range of professional tasks in situations of risk and uncertainty. In addition, the complexity of forming a competitive university graduate involves the development of certain qualities and characteristics of the student's personality, which together reflect his competitive advantages in the labor market in relation to other job seekers.

5. Organization of the educational process on the basis of a competency-based approach to training future specialists, which proceeds from the following: competitiveness of a university graduate is determined by its professional competence, in which special knowledge should be supplemented by a number of individual properties and personal qualities of the student. The priority of the competency-based approach is due to the fact that it is in its mainstream that the possibility of reorienting the educational process from the primary transfer of knowledge from teacher to student (broadcasting) to create the conditions necessary for the student to master the set of competencies that characterize the ability of a university graduate to successfully function in a modern social economic environment and, in particular, in conditions of intense competition in the labor market.

6. the relationship of training with the real conditions of employment, which draws us to the need to create a practical, professional, socio-educational and innovative (or innovation-oriented professional) university environment.

In addition to the above principles of the formation and implementation of the pedagogical strategy, we should not forget, of course, about the general principles of teaching, which are commonly referred to: science, the development of cognitive strength of students, the strength of learning outcomes, a rational combination of individual and collective ways and forms of organization of educational work and etc.

The principles listed above are not equivalent, but all of them are focused on the formation of a competitive graduate student in modern socio-economic conditions.

Thus, a correctly chosen pedagogical strategy allows for the most effective development of the student's personality, taking into account his individual characteristics, which ultimately makes it possible to prepare a highly qualified specialist who is competitive in the labor market by the time he graduates.

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使用模块化学习技术的知识培训知识计算机验证系统

**SYSTEM OF COMPUTER VERIFICATION OF KNOWLEDGE  
OF KNOWLEDGE TRAINING USING MODULAR LEARNING  
TECHNOLOGY**

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抽象。 根据评估使用模块化培训技术培训高素质人员的质量的法规, 开发用于测试学生知识的计算机化系统。

关键字: 信息, 通信, 技术, 计算机, 计算机网络, 远程教育, 部门, 大学。

**Abstract.** *Development of a computerized system for testing students' knowledge on the basis of the regulation on assessing the quality of training highly qualified personnel using modular training technology.*

**Keywords:** *information, communication, technology, computer, computer networks, remote education, department, university.*

With the development of information technology in education, various testing programs for students and students are becoming increasingly popular. Now testing programs are not just a banal algorithm for outputting a question and getting an answer to it, but are increasingly developing into extensive systems with a large number of variable parameters. An active implementation of the Point-Rating System in the educational process is also underway. In order to automate the educational process, we have developed a system of computer testing of students' knowledge. This system is developed on the basis of the regulation on assessing the quality of training highly qualified personnel using modular training technology. The system automates the entire chain of interaction from the system administrator to the student. Four roles are used in the work: system administrator, faculty methodologist, department teacher, student.



The student is registered in the system by the faculty methodologist or system administrator. Registration is done once. To enter the system, the student must enter a username and password. The login number is his grade book number. The student has the right to pass the designated module test for his course-semester-discipline-module. If access to the test is open, then the student will be able to proceed to the test. If access to the test is closed, the corresponding message will be displayed.

After the start of testing, the student is shown the name of the test, the number of the question, the question itself, instructions, answer options or a field for entering the answer and a list of questions. The question may contain figures, tables, diagrams, links, audio, video, flash models, etc. If, for some technical reason, the student has not completed the test, then upon re-entry, he will continue with the question he stopped at and taking into account earlier given answers.

If the student's test result is less than 50%, then he automatically has the right to repeat it to correct the assessment. But it will be possible to pass the test only after the teacher / methodologist has allowed him to repeat the test. Issues issued in the first case are not repeated during repeated testing. Those the student receives a different set of questions on a given topic with the same number of questions as in the first passage. The student has the opportunity to answer questions in any order and change his answer until the test is completed. Testing is considered completed when the student clicks the "End Test" button.

It is possible for a student to view his or her results on passed tests. The best and worst options are automatically indicated. After completing work, the student must exit the system by clicking the "Exit" button. While the student is in the system, it is not possible to enter the system under this login (student). This function eliminates the situation of working with a system of two users under the same account. Which excludes the possibility of substituting test results.

The teacher is registered by the methodologist or system administrator. Each teacher is assigned to a particular department of the faculty:

1. If the teacher works simultaneously in two departments, then he is registered in each of them separately.
2. 3 main types of questions: choosing one true, choosing several true, keyboard input.
3. Include figures, formulas and tables, flash elements, audio-video fragments in the texts of questions.
4. Indicate the weight for each question.
5. View, verify and correct entered information.
6. Indicate the number of questions displayed to the student during testing.
7. Display statistics of types of questions used in the test.

All tests created by the teacher are tied to the department, which the teacher is attached to. Teachers of the department have the opportunity to work with tests only of their department. Some teachers (department heads and other possible teachers) have the right to approve tests. This feature is indicated at registration. Only approved tests can be declared for appointment in a particular discipline. Unapproved tests do not have the ability to be assigned.

Approved tests cannot be edited by any of the teachers and cannot be deleted. The process of editing and deleting a test is possible only after the teacher has withdrawn approval, having the "Approval Right". If the test has already been appointed by the methodologist and is used in the educational process, then the possibility of withdrawing approval from such a test is not available and the text "Module is used" is displayed. Such an opportunity is available only for tests not used in the educational process. The teacher also has the ability to view student test results. It is possible for the teacher to see what questions the student answered correctly or incorrectly. Also, the teacher can print a sheet with the results of the test students.

The methodologist is registered in the system by the administrator. The methodologist can register students and teachers in the system. The methodologist builds a structure at his faculty: specialty, form of training, course, semester, discipline and the number of modules in the discipline. On the page of the discipline itself, how many modules the discipline contains are displayed, which modules are assigned tests, and a list of the tests declared by teachers in this discipline.

Methodologist indicates how many points are set student for a particular module. This is due to the fact that if the teacher creates a test for one of the modules of the discipline, and the same test is suitable for another module (for example, in one of the faculties where the teacher conducts this discipline), then you can use a ready-made test to not create a new test. And the maximum number of points can be equal, or it can vary.

Depending on the faculty, specialty or form of study. The methodologist also controls access to tests. He can completely prohibit students from passing the test until a certain time, can allow access to pass only the first attempt or only retake (correcting the assessment), or open full access to the test. If the assessment is corrected, the system will allow the student to retake only if in the first attempt the student correctly completed less than 50% of the entire assignment. The methodologist can also get statistics on tests.

The statistics of the tests is calculated by obtaining statistics for each question in the test. The system administrator sets the criteria for evaluating the quality of the test. Depending on what percentage of the answer to the question is determined, "good" is the question or "bad". Each test is automatically painted in the corresponding color.

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准备学院教师进行创新活动

## PREPARATION OF TEACHERS OF COLLEGE FOR INNOVATIVE ACTIVITY

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抽象。 本文提供了为教师准备创新活动的经验,讨论了教师为创新发展做准备的阶段,动机,培训,组织和支持创新活动的手段,同时考虑了教师对变化的反应方式。

关键词: 创新活动, 创新, 个性化, 培训, 准备, 大学。

**Abstract.** *The article offers the experience of preparing teachers for innovative activity, discusses the stages of preparing teachers for the development of innovations, means of motivation, training, organizing and supporting innovative activities, taking into account the style of teachers' reaction to changes.*

**Keywords:** *innovative activity, innovations, individualization, training, preparation, college.*

The Russian system of vocational education is undergoing major changes that require teachers to be ready not only to reconsider their usual ways of working, but also to restructure the system of their professional worldview. However, many educators are not ready for the implementation of this process and experience difficulties in meeting with innovations, which is manifested in their resistance to these innovations. In this regard, special training of teachers for innovative activity is required [2].

According to the results of our study, 59% of educators believe that they need special preparation to overcome difficulties in the process of innovative activity. Processing the results of the questionnaire allowed us to conclude that it is advisable to develop a series of special measures to solve this problem.

An analysis of scientific research and work experience has shown that such training is most effective in the process of mastering a specific innovation. We show this by the example of the development of teachers of new ideas and technologies related to the individualization of the educational process. By individualization, we mean “a dynamic, person-internalized process of interaction that is adequate both to the individual educational potential of the student and the system of social values, requirements and goals; contributes to a positive change in the inner world of a person, provides mastery of the ways of knowing the world and oneself for self-realization in education and life” [1].

The preparation of teachers for the individualization of the educational process took place in several stages. At the first diagnostic stage, we identified six groups of teachers according to the style of responding to changes: those who resist innovation; indifferent to innovations; understanding the need for innovation, but not seeking to implement them; accept innovations; ready to implement innovations; being at a creative level and ready to take an active part in the development of innovations.

The motivational-preparatory stage involved an analysis of the work of the team, during which the teachers were asked to get acquainted with a number of relevant documents that talk about the formation of the subjective position of students, about the development of their personality. As a result of the collective discussion, the theme was formulated - “Individualization of the educational process”, which was planned to be mastered for the next two academic years; the goal of innovative activity has been formulated and an approximate plan of measures has been outlined, which included the invariant and variable parts presented by methodological associations, master classes, participation in scientific and practical conferences, the activities of working groups on the implementation of innovations. At this stage, conditions were created for the formation of sustainable motivation for innovative activity and the desire for professional self-development. The choice of means of motivation for teachers was carried out on the basis of the selected groups, taking into account the individual characteristics of their motivational sphere, which implied the implementation of invariant and variable components.

The invariant part of motivational support included the use of such forms of work as methodological advice and seminars in which the entire teaching staff took part. In order to form a positive attitude towards overcoming difficulties and stimulating the innovative activity of teachers, a methodological council was held on the theme “Integrating individualization ideas into the educational process”, during which participants discussed various aspects of innovation. A group of teachers with low motivation analyzed the advantages and disadvantages of mastering the ideas of individualization. During the discussion, the moderator applied

reflection, problematization and persuasion, as a result of which, each shortcoming was turned into an advantage. The group of teachers with the level of adoption of innovations for discussion was offered the topic "Opportunities for applying the individualization of the educational process", aimed at discussing the benefits that the development of this innovation provides. During the experimental work, the teachers of this group analyzed the results of their activities and proposed conditions for increasing the effectiveness of the educational process.

Strengthening of motivation was also provided with material incentives based on the annual results of innovation, which also served as the basis for increasing interest in this topic from teachers.

As a result of the implementation of the motivation stage, the teaching staff decided to organize special training, to contest the methodological developments on this topic and to change the bonus criteria based on the results of the end of the year, taking into account the development of innovation. Providing teachers with the opportunity to participate in managerial decisions and involving some teachers in the development of an individualization program made it possible to form a creative atmosphere in the team and increase the interest of most teachers in innovation.

The stage of training teachers to individualize the educational process included refresher courses for teachers who do not have pedagogical education, and also provided for the formation of competence in the field of individualization of the educational process during seminars and "round tables", familiarization with the experience of other teachers on individualization, and methodological tips on the problems of innovation with specific examples. To conduct seminars, more active teachers acted as moderators or organizers, thereby demonstrating a positive attitude to innovative activity on their own example and convincing their colleagues of its necessity.

Due to the fact that many teachers have little knowledge of individualization problems, during the implementation of the experimental work, we held seminars on the topics "Individual educational routes in working with gifted students" and "Individual educational routes in working with lagging students" teachers were able to learn more about the possibilities of individualization in the educational process.

The seminar "Designing individual educational routes during classes" related to the invariant part, but also included elements of variability. The seminar participants, having divided into subgroups, designed the beginning of the lesson in accordance with the stages of individualization technology, determined the purpose of the lesson, the first three stages with the subsequent independent design of the planned lesson, and also thought out the possibilities for its implementation in their own practice. Subgroups were formed at the request of teachers, taking into account the aspects of the problem they were interested in.

An effective means of mastering innovative activity was the mutual attendance of classes, during which teachers could get acquainted with the experience of using means of individualization by colleagues and use the elements of innovation in their classes.

In the process of education, we implemented the training "How to overcome pedagogical stereotypes and barriers to innovation." During which the following qualities were formed: the ability to organize the reflection of professional experience; ability to manage oneself in innovative activity; skills of innovative activity and solving the difficulties and problems that accompany it; willingness to use modern innovative methods and technologies in the design of educational work; ability to use innovative technologies in practical professional activities.

Training sessions were aimed at the development of innovative thinking and overcoming stereotypes of thinking in pedagogical activity, which allowed to reduce the resistance to innovative changes [3]. The structure of the training included five sections: "Pedagogical Innovation", "Overcoming Pedagogical Stereotypes and Attitudes", "Development of Innovative Thinking", "Ways to Overcome Resistance", and "Reflection".

Teachers who are at a creative level and are ready to take an active part in the development of innovations participated in conferences with the results of their own research, attended seminars at the university on the problem of individualization of the educational process.

The result of the experimental work at this stage was to increase the level of awareness of teachers about innovations, the difficulties and their resistance caused by them, overcoming pedagogical stereotypes, and increasing the ability to solve problems in the innovation process.

The next stage of preparation was the organization of a joint innovative activity, providing for the participation of each teacher in the implementation of individual educational routes for individual students and involving the organization of methodological associations on the topics "Building individual educational routes for various categories of students" and "Planning innovative activity". The most active teachers participated in the work of creative groups implementing their own projects to individualize the educational process. So, the following topics were formulated by teachers: "Development of individual educational routes in the development of special discipline", "Application of individualization tools in course design", "Information and communication support for the activities of the class teacher in individual work with group students", "Normative support for individual educational routes".

The next stage was independent innovative activity, which required the comprehension of personal responsibility for work, the level of one's own preparedness, and further development prospects. At the end of their independent work, teachers turned to self-esteem, which ensured an objective analysis and reflection of the results of the implementation of innovative activity, professional development of teachers.

The implementation of the above stages involves the participation of the methodological service, administration and psychologist of the educational institution, which accompany the innovative activity of teachers, contribute to their self-development and self-improvement.

As a result of the behavioral work, the teachers' preparedness for innovative activity increased and resistance to innovation decreased from 70% to 42.9%, which manifested itself in increased awareness of knowledge of innovative problems, increased motivation, a positive assessment of past experience and the results of innovative activity.

Innovative activity opens up new opportunities for further study of educational problems related to the training of teachers for innovative activity and the retraining and advanced training of educators.

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实施新一代联邦州教育标准中的高等教育法律框架分析  
**ANALYSIS OF THE LEGAL FRAMEWORK FOR HIGHER  
EDUCATION IN THE IMPLEMENTATION OF THE NEW  
GENERATION OF FEDERAL STATE EDUCATIONAL STANDARDS**

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抽象。本文分析了实施联邦州教育标准的原因和阶段，其缺点以及过渡到新一代标准的原因；分析了基础专业教育计划的组织和发展的监管框架；描述教育活动的监管支持的依据是，在当今条件下制定和实施教育计划应以第三代教育标准为基础，并考虑到已批准的专业标准（个人通用劳动职能和符合以下条件的劳动职能：资格级别），这将由俄罗斯联邦教育和科学部根据基础教育计划范本（以下简称MBEP）批准。

关键字：联邦州教育标准，基本专业教育计划，法律行为，教育，能力。

**Abstract.** *This article analyzes the causes and stages of the implementation of federal state educational standards, their shortcomings and the reasons for the transition to a new generation of standards; the analysis of the regulatory framework of the organization and development of basic professional educational programs is presented; The regulatory support of educational activities is described on the basis that the development and implementation of educational programs in today's conditions should be based on third-generation educational standards, taking into account the approved professional standards (individual generalized labor functions and labor functions in accordance with qualification levels), which will be approved by The Ministry of Education and Science of the Russian Federation, taking into account the Model basic educational programs (hereinafter - MBEP).*

**Keywords:** *federal state educational standards, basic professional educational programs, legal acts, education, competencies.*

In accordance with the Law on Education in the Russian Federation (hereinafter referred to as Law № 273-ФЗ), relations in the field of education are governed mainly by the Constitution of the Russian Federation, specified by the Federal Law, and other federal laws that contain norms governing relations in the field of education.

One of the frequently used documents, as a result of lawmaking, is a regulatory act that is adopted in a special order by strictly defined entities and contains a rule of law. The normative legal acts are the Constitutions, other laws, regulatory decisions of executive authorities. The legislative acts of the Russian Federation on education include the Constitution of the Russian Federation, Law № 273-ФЗ and laws on education, which are adopted by the constituent entities of the Russian Federation.

The basic and fundamental law, a system-forming legislative act in the system of Russian legislation on education is Act № 273-ФЗ, which performs an integrating function, uniting into the general branch of legislation the whole variety of regulatory legal acts regulating legal relations in the field of education. This law clearly establishes the place, importance and role of federal state educational standards of education, including higher education.

The federal state educational standard (hereinafter referred to as the standard, FSES) is a normative legal act that regulates the implementation of state policy in the field of education and represents a set of mandatory requirements for the implementation of state programs, enshrines a number of changes in the content and methods of training bachelors, specialists, masters in educational organizations.

FSES features are noted in Article 11 of Law № 273-ФЗ, which discloses its essence and significance, and also emphasizes that the standard ensures: unity of the educational space of the Russian Federation; continuity of educational programs; variability of program content; State guarantees of the level and quality of education.

The main purpose of standardizing education is to create conditions for solving the strategic task of developing Russian education — improving its quality, achieving new educational results that ensure higher education's competitiveness, its readiness to solve new social problems: consolidating society, creating a Russian identity, aligning social opportunities of people with different starting conditions.

The educational standards of different generations are increasingly focusing on providing conditions for the development of the personality of students, thereby stimulating innovative aspects of the activity of scientific and pedagogical workers, they call for changing the situation in the education system as a whole. The developers of the standards, in our opinion, pursue the goal: using the constant modernization of educational standards to create conditions in Russia for the formation of a new educational system.

The novelty of this system is that it should be focused on the formation of an innovative economy, since the standards are based on a social contract - a new type of relationship between an individual, family, society and the state, which fully implements a citizen's right to receive an education. The standards emphasize the priority of education, the need to protect and develop ethnic and cultural characteristics and traditions of the peoples of Russia in a multinational state (through a competency-based approach and through all generations of standards) [3].

The standards of the second and third generation were developed as integral requirements, a kind of constitution for the life of higher education, for the entire educational system, and not as requirements for the subject content of education, designed to ensure systemic changes in the entire activity of the educational organization.

Education as a whole is an open system, which tends to change, be interconnected, interchangeable, complemented, fluid, flexible and mobile, which is not just a feature of the education system as such, but a feature of modern life as a whole. Noting that the rhythm of life is changing, the students themselves, the concept of education, an appropriate approach to education is also necessary [4].

When setting the deadlines for higher education, current standards take into account the characteristics of various categories of students, educational technologies, and various forms of education. The following activities take place on the basis of federal state educational standards: the creation of sample basic education programs; creation of work programs of disciplines (modules); creation of standards for monetary support of the educational process; supervision and control of compliance with the laws of the Russian Federation in the field of education; certification of students - final and intermediate; creation of systems of internal quality control of education in the institutions themselves, including ongoing monitoring of student performance; organization of work of methodological services; certification of teachers and managers in state and municipal institutions; training, retraining, advanced training of educators [3].

The competency-based approach in the education system prompted the introduction of a promising idea for the evolutionary development of standards in Russia. A legislatively new concept of the state educational standard was introduced in 2007, and for the period from 2011 to 2013 we saw a new generation of FSES that do not establish a minimum of content (there is no set of compulsory disciplines and didactic units), but sets the following requirements: for the results of mastering basic professional educational programs (BPEP) (as a set of graduate competencies); to BPEP implementation conditions; to the BPEP structure (introduced a credit system) [4].

FSES deficiencies that were identified during the monitoring of the Association of Classical Universities of Russia (hereinafter - ACUR) (2011-2012), and led to the need for a new generation of standards, were eliminated in the new edition of

FSES 3+. The following were considered as such disadvantages:

- list of general cultural competencies of graduates defined in different FSES was not unified in terms of the number and approaches used even of related training areas;
- list of professional competencies in most FSES was excessive and not structured by type of professional activity of graduates, and they did not highlight the “core” of the training direction, that is, the set of competencies that should be provided to any graduate of the educational program, which leads to a forced the need to “work out” the whole set of competencies specified in FSES (from 30 to 80 competencies) when designing a BPEP of a university;
- learning outcomes for individual elements of the educational program (cycles, sections) specified in FSES weakly correlate with a set of competencies defined in the same FSES;
- cyclic (horizontal) structure of BPEP and the volume of laboriousness of cycles in credit units specified in the FSES do not allow universities to design “vertical” elements of educational programs and implement the program in a modular format defined by the European system for accumulating and transferring academic loans (ECTS Guidelines, approved by the European Commission in 2009)

The reasons for the FSES update (FSES-3+) were reviewed at ACUR meetings and had the following content:

A) newly introduced standards defined by Law № 273-ФЗ:

- possible forms of education and training;
- training periods for all forms of training;
- the volume of the educational program in credit units;
- the possibilities of e-learning, the possibilities of the network form of program implementation;
- requirements of inclusive education, etc.

B) Different types of undergraduate and graduate programs have been introduced within the framework of one area of study and FSES HE:

- “applied” undergraduate programs: State Program of the Russian Federation “Development of Education” for 2013-2020; RCD for 2014 and 2015 (applied undergraduate); “Guidelines for the development and implementation of educational programs of higher education at the undergraduate level. Type of OP “applied bachelor's degree””(Letter of the Deputy Minister A.A. Klimov from 09.11.2014);
- “applied” master's programs: can be introduced by organizations engaged in educational activities, along with academic master's programs from the moment FSES 3+ was introduced.

The principles of updating FSES (FSES-3+) also affected the requirements for the conditions for implementing BPEP, these are: system-wide requirements for implementing the program; requirements for personnel implementation conditions;

requirements for material and technical and educational-methodical support of the program; requirements for financial conditions for the implementation of master's programs [1].

Some of the standards common to all FSES were first made in the "Procedure for organizing and implementing educational activities for higher education educational programs - undergraduate programs, specialty programs, master's programs" (approved by order of the MES of the Russian Federation № 1367 of 11.19.2013), which abolished the standard provision about a university (PP № "71 of 02.14.2003), and then became part of the "Procedure for the organization and implementation of educational activities for educational programs of higher education - undergraduate programs, specialty programs, graduate programs "(approved by MES order № 301 from 04.05.2017) (in effect).

Today we are already talking about the prospects for the development of state regulation of the content of higher education programs in the light of the following events:

- FSES-4 at OCSO (according to the new List), the results of mastering in the form of universal and general professional competencies, only framework requirements for the structure and conditions for the implementation of programs. Where will all possible types of professional activities and relevant professional competencies of graduates enter, which the educational organization will take from Professional standards (which should be reflected in the Model Basic Educational Programs - MBEP);

- state accreditation - at OCSO, to fulfill FSES requirements for program implementation conditions and program structure; including assessment of the quality of educational programs - professional and public accreditation.

Describing the legal support of educational activities, one must proceed from the fact that the development and implementation of BPEP in today's conditions should be carried out: on the basis of FSES 3+; taking into account the approved professional standards (individual generalized labor functions and labor functions in accordance with qualification levels), which will be approved by the Ministry of Education and Science of the Russian Federation; taking into account the Model basic educational programs (hereinafter - MBEP) - are developed by established educational organizations.

It should be noted that MBEP under FSES 3+ and under FSES-4 will not become "typical EP" (they will not have "working" sample curricula (and there will be only "basic sample" MP) and sample discipline programs). The main thing in MBEP is the algorithm for the formation of competencies among students ("Competency Maps" that describe the stages (levels) of achieving competency through specific and measurable education results (ER), including criteria for

assessing the achievement of RO; recommendations for the formation of the EP structure and the use of educational technologies).

Already now, with the implementation of FSES HE 3+, we see the beginning of a gradual transition to FSES-4. Through FSES-3 +, developers propose the formation of competencies through the “Competency Map”.

Pursuant to the Order of the Government of the Russian Federation dated March 31, 2014 № 467-r of the Ministry of Education and Science of the Russian Federation, a draft of methodological recommendations was formulated on the development of basic professional educational programs (as well as FSES and MBEP) and additional professional programs, taking into account relevant professional standards, which will be officially announced in the near future approved and brought to educational organizations [2].

Given the differences in the approaches used in compiling the characteristics of professional activities and determining the requirements for the development of an educational program in FSES HE and the description of qualifications in professional standards, in each case, developers must independently determine which units of the professional standard and how they correspond to FSES units [1].

Summarizing the legal documents regulating educational activities through the implementation of FSES, you can see the following step-by-step algorithm for creating BPEP HE:

- confirmation of the social “order” for the program, determination of its type and profile;
- the formulation of the objectives of the program and the definition of competencies of the graduate (general (universal) and professional) taking into account FSES HE, Professional standards, UTQG, UQDPP;
- definition and description of measurable learning outcomes necessary for the formation of competencies of graduates ("dissection of competencies", the creation of their "maps");
- formation and description of the program structure (the composition of the modules and the learning outcomes expected by the results of their development, the volume of modules in credits);
- checking the mutual conformity of the program structure, learning outcomes and a set of declared competencies (tables or matrices of compliance);
- determination of educational technologies, teaching and learning methods appropriate to the required learning outcomes, assessment of the generated competencies for each module;
- creating a system for assessing and ensuring quality, including - establishing feedback mechanisms for updating and making adjustments to the program.

Analyzing the proposed algorithm, it is clear that not every point is supported

by regulatory acts of the federal level. In conclusion, we can say that the work on regulatory support is systemic and widespread, rather even global in nature, affecting all levels of education, and therefore will have a long time vector.

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信息和沟通能力是未来管理人员专业活动的基础

## **INFORMATION AND COMMUNICATION COMPETENCE AS THE BASIS OF THE PROFESSIONAL ACTIVITY OF FUTURE MANAGERS**

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抽象。 本文讨论了与未来管理者职业活动有关的问题, 以及作为未来管理者职业活动的主要组成部分的信息和沟通能力的实质。

关键字: 专业活动, 专业能力, 信息和沟通能力, 未来经理。

**Abstract.** *In article discusses issues related to professional activities of future managers and the essence of information and communication competence as the main component of the professional activities of future managers.*

**Keywords:** *professional activities, professional competence, Information and communication competence, future manager.*

In modern conditions, in connection with the ongoing reforms in the economic, social, educational spheres of our society, the professional activity of managers is becoming increasingly important, the effectiveness of which depends on the external factors and internal potential capabilities of the individual.

Professional activity is a type of work, a consequence of its differentiation. The success of a professional activity involves the possession of its operational, organizational, psychological and moral aspects, as well as generalized professional knowledge and a willingness to implement optimal methods for completing work tasks. Labor experience in production does not always create attitudes to the acquisition of certain professions. The greatest influence on the professional intentions of students has an interest in academic subjects. But no matter how well the vocational training was built, at the end of the educational institution, a specialist with completely completed professional suitability and professional reliability has not yet been trained.

Tasks and functions of enterprise management are carried out only through



the professional activities of a special category of specialists, which are usually called managers. The functions of the manager and the situations in which they are implemented are different. The manager manages the work of one, several or many employees, he manages the company or its functional unit, having a certain independence for decision-making. A manager is, first of all, a hired manager who organizes the specific activities of employees subordinate to him and simultaneously performs certain managerial functions.

The professional activities of future managers are based on professional competence. Questions of professional competence are considered in the works of both domestic and foreign scientists. The definitions of professional competence existing today in foreign literature as “in-depth knowledge”, “state of adequate performance of a task”, “ability to carry out activities” (GK Britell, RM Jueger, WE Blank) and others do not fully specify the content of this concept .

The problem of professional competence is actively studied by domestic scientists. Most often, this concept is used intuitively to express a high level of qualification and professionalism. Professional competence is considered as a characteristic of the quality of specialist training, the potential for labor efficiency. In pedagogy, this category is considered either as a derivative component of “general cultural competence” (N. S. Rozov, E. V. Bondarevskaya), or as “the level of specialist education” (B. S. Gershunsky, A. D. Shchekatunova).

The professional competence of the manager is the most important criterion for the quality of managerial activity and is understood as the ability and willingness of the manager to manage, based on professionally significant and personal qualities. From the point of view of business practitioners, professional competence is the ability of a subject of professional activity to perform work in accordance with job requirements. The latter are tasks and standards for their implementation, adopted in the organization or industry. This point of view is very consonant with the position of representatives of the British school of labor psychology, mainly adhering to a functional approach, according to which professional competencies are understood as the ability to act in accordance with the standards of work performance. This approach is focused not on personal characteristics, but on performance standards and is based on a description of tasks and expected results.

Therefore, at present, not only special knowledge, but information and communication competence as the basis of professional activity, ensuring the personal and professional development of a specialist, is becoming an important resource of professional competence.

In connection with the formation of the information society, information and communication competence has been added to the list of knowledge, skills, abilities, qualities and abilities that are professionally significant for the future man-

ager. In order to understand the essence of this type of competence, it is necessary to master a certain subject area, the ability to think in categories. Information and communication competence is one of the key competencies of a modern person and is manifested, first of all, in activities when solving various problems involving a computer, telecommunications, the Internet, etc.

Information and communication competence can be considered as a comprehensive ability and willingness to independently seek, select the necessary information, analyze, organize, present, transmit it; to model and design objects and processes, implement projects.

It is information and communication competence that characterizes deep awareness in the subject area of knowledge, personal experience of the subject, aimed at the future in work, at the formation of a modern scientific worldview; open to dynamic enrichment and self-improvement through the receipt, evaluation and use of information; able to create new information; able to achieve significant results and high quality in professional activities. Thus, the formation of information and communication competence is the main, key in the professional activities of the future manager.

Let us single out the following functions of information and communication competence in the professional activities of a future manager:

- information - the desire and ability to search, select the necessary information;
- communication - the ability to perceive and transmit information;
- technological - the ability to use ICT in the process of finding information and presenting it;
- organizational - the ability to independently search for, select the necessary information;
- Creative - the development of creative thinking and a creative approach to solving the problems of professional activity with the help of ICT.

Based on the functions, the structure of the information and communication competence of the future manager contains the following components:

1. The motivational component includes a system of motives, emotional-volitional and value relations of the manager to activity, to people, to his abilities, their development, reflects the manager's personal interest in the use of ICT in professional activities.

2. The cognitive component expresses the ability to possess theoretical knowledge, skills and abilities to operate information, information objects, etc., knowledge of the methods of obtaining, processing and transmitting information, skills of professional self-improvement, knowledge of the history of computer technology, knowledge of intersubject communications, etc. are required. .

3. The active component represents the ability and willingness to actively use

ICT in professional activities as a means of cognition, development and self-improvement.

4. The reflective component is manifested in the ability to control the results of its activities, to analyze and introspect the manager of his own skills in the field of ICT and his willingness to look for new tools to solve emerging problems in the professional sphere.

Thus, the analysis of the content of information and communication competence made it possible to determine its leading role in the professional activities of the future manager. At present, information and communication competence is the basis of the professional activity of a future specialist, the formation of which must be dealt with in a university. This will allow future managers to put into practice the acquired knowledge and skills, use them and make effective decisions in professional activities.

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“法律文化”概念的实质, 其组成部分  
**ESSENCE OF THE CONCEPT "LEGAL CULTURE", ITS  
COMPONENTS**

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Legal culture is an integral part of the general culture of the people and the individual. It should be borne in mind that culture is understood not only as spiritual achievements, but also material values created by man in the process of his creative activity. In this regard, the legal culture includes all the achievements of legal theory and practice. All positive, positive, accumulated by mankind in the field of law - this is the legal culture. We can distinguish the objective and subjective aspects of legal culture.

Legal culture depends on morality, on the level of economic development of society, on the material well-being of the people. But this is a special value of society. If society has a certain level of legal culture, then we can talk about the formation of a rule of law state. If there is no this legal culture, then the formation of a rule of law is extremely difficult. The rule of law and the rule of law are organically interconnected, and the existence of a democratic civil society is a prerequisite for the formation of a legal culture and the rule of law.

Very often, legal culture is understood as the level of legal awareness, that is, people's knowledge of the law, their attitude to the law, court. But in fact, a legal culture is more than legal awareness. It involves a fairly high level of legal consciousness. Legal culture is based on legal awareness, but it does not come down to it, as well as ideological, theoretical and psychological elements of legal awareness. It includes legally significant behavior of subjects of legal relations. Legal culture is not just this or that relation to legal reality (legal awareness), but above all a respectful attitude to law.

Legal culture is not just this or that relation to law (legal awareness), it is primarily a respectful attitude. Already therefore, it can be argued that not every person with a legal consciousness has a legal culture. A person with a legal culture is characterized by a certain level of knowledge of existing norms; he has a respectful attitude to law and it builds its behavior in accordance with the positive assessments of law that it makes.

Thus, legal culture is a unity of legal knowledge, assessments and behavior. To have a legal culture means not only to comply with the requirements of legal norms, but also to ensure that other entities follow them.

For example, in accordance with applicable law, a person who was aware of petty theft at the enterprise, but did not report this to the competent authorities, is not punished. There is no doubt that such a person, even if he impeccably complies with the requirements of law, does not possess the necessary legal culture. In other words, the legal culture also involves evaluating the legitimacy of the actions of others and actions aimed at preventing them from committing offenses.

Legal culture reflects not only human activities directly in the legal sphere, but also beyond, related in one way or another with the application of legal knowledge. The latter are in demand today by many sciences, disciplines and specialties of both a humanitarian and non-humanitarian profile. This knowledge is necessary in almost all areas where laws and legal norms apply. It is no accident that in almost all universities of the country, general education of students includes legal, because any profession, any type of activity needs it. Legal culture inevitably contains a worldview moment.

The structure of legal culture is made up of the components that make up it. In addition, legal culture is a multi-level concept. Distinguish between the legal culture of the whole society and the legal culture of an individual, the culture of various layers and groups of the population, officials, employees of the state apparatus, professional culture, internal and external. Hegel pointed to the discrepancy between "theoretical and practical culture."

The legal culture of society is part of the general culture, which is a system of values accumulated by humanity in the field of law and related to the legal reality of this society: the level of legal awareness, the rule of law and order, the state of legislation, legal practice, etc. The culture of society is the result of social and legal activity, individuals, collectives and other legal entities. She acts as a starting point, the basis for this kind of activity and in general for the legal culture of the individual.

The legal culture of the individual is the degree and nature of the progressive legal development of the individual, determined by the legal culture of society, ensuring its legitimate activities. The legal culture of the individual are:

- legal awareness and legal thinking;
- lawful behavior;
- the results of lawful behavior and legal thinking.

The legal culture of the individual (general and special - professional) contributes to the development of a cultural style of lawful behavior, which is formed depending on:

- the degree of assimilation and manifestation of the values of the legal culture of society;

- specifics of professional activity;
- individual uniqueness of creativity of each person.

The legal culture of the individual involves:

- the presence of legal knowledge, legal information. Awareness has been and remains one of the fundamental channels for the formation of a legally mature personality (intellectual cut);

- the transformation of accumulated information and legal knowledge into legal beliefs, the habits of lawful behavior (emotional and psychological cut);

- willingness to act, guided by legal knowledge and beliefs, i.e. act lawfully - in accordance with the law: use your rights, fulfill obligations, comply with prohibitions, and also be able to assert your rights in case of violation (behavioral cut).

The legal culture of an individual characterizes the level of legal socialization of a member of society, the degree of assimilation and use by him of the legal principles of state and social life, the Constitution and other laws. The legal culture of an individual means not only knowledge and understanding of law, but also legal judgments about it as a social value, and most importantly, active work to implement it, to strengthen the rule of law and order.

In other words, the legal culture of an individual is a positive legal consciousness in action. The transformation by a person of his abilities and social qualities on the basis of legal experience is its important component. The cultural style of lawful behavior is characterized by the constant observance of the principles in lawful behavior, the specifics of solving life problems, expressed in the peculiarities of choosing the option of lawful behavior within the boundaries that are defined by the rules of law.

community of people that is professionally engaged in legal activities that require special education and practical training.

Professional legal culture is characterized by a higher degree of knowledge and understanding of legal phenomena in the relevant areas of professional activity.

Highlighting the three types of legal culture, it should be remembered that in real life they are closely interconnected: legal culture, as a social phenomenon, is one; the legal culture of society does not exist outside the legal culture of its members (individuals, groups); it is a condition, form and result of the cultural and legal activity of citizens and their professional groups.

The culture of a lawyer as a specialist is inseparable from the legal culture of society. The level of legal culture of a society substantially depends on the professional culture of a lawyer. On the other hand, the state of the legal culture of society and citizen depends on the professional level of a lawyer. The level of legal culture of a professional group is determined by the degree of development

of the culture of each of its members, i.e. the degree of general education, the level of his qualifications.

The legal culture of the individual implies a respectful attitude to law, an adequate level of legal awareness. A person with a legal culture is characterized by:

- 1) a certain level of knowledge of legal norms;
- 2) a positive legal consciousness, i.e. respect for the law;
- 3) behavior based on respect for the law.

Therefore, the legal culture of an individual is the unity of legal knowledge, a positive attitude to law and lawful behavior. Sources of legal knowledge of the individual are practical experience, the environment, the media, etc. They directly depend on the level of education of the individual, age, occupation, etc. Knowledge of the law is an incentive for legitimate behavior. A high level of legal culture is inconceivable without high moral qualities of a person, without the skills of lawful behavior and legal activity.

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文学文本中的对立类别: 原文与翻译

## THE CATEGORY OF OPPOSITE IN A LITERARY TEXT: ORIGINAL AND TRANSLATION

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抽象。 本文根据T. Hardy的短篇小说《三个陌生人》的原著和翻译, 提出了一种对立类目在其特定语言表现形式中的比较分析。 作者从关于对立作为社会文化和语言认知现象的普遍性的陈述中得出。 本文的作者比较了在句法和词汇语义上对立的语言表现形式, 并使用了两种语言-英语和俄语。

关键字。 对立, 对立, 原创, 翻译。

**Abstract.** *The paper proposes a comparative analysis of the category of opposite in its particular linguistic manifestation on the basis of the original and translation of T. Hardy's short story "The Three Strangers". The author proceeds from the statement about the universality of the category of opposite as socio-cultural and linguistic-cognitive phenomenon. Language manifestations of opposite in syntactic and lexical-semantic levels are compared by the author of the article with the involvement of two languages - English and Russian.*

**Keywords.** *Opposite, opposition, original, translation.*

### Introduction

Human thinking is characterized by one of the most important abilities - the ability to oppose; it is necessary for streamlining and categorizing the objects of the surrounding reality. Similar processes, initially carried out using the basic units of the universal subject code, receive objectification in a natural language that mediates higher mental operations. Relationships of dissimilarity, dichotomous separation into which the components of reality enter into the minds of the subjects operating them, form the basis of most complex inferences. All this allows us to consider the opposition as one of the key components of rational knowledge.

The described phenomenon, penetrating virtually all levels of the language system (phonetic, morphological, lexical-semantic, syntactic), is the mental basis of the opposite language category, which represents one of the urgent problems of modern linguistics. Opposite semantics is manifested not only explicitly, but also



implicitly, uniting both parts of the superphrase unity and sememe of one word, and therefore does not have an unambiguous universally accepted definition. Linguists (Bakalova Z.N., Ishkhanova D.G., Milovanova M.S., A. Ngadiman, L. Vicente, etc.) note the multifaceted nature of the problem and pose corresponding scientific tasks. So, for example, D.G. Ishkhanova defines oppositive as “*syntactic* expression of a relationship of opposition” [Ishkhanova, 2007: 37]. While in terminological dictionaries only the most obvious signs of a category are referred to, denoted in the broadest sense as “expression of opposing relations” [Ozhegov 1992: 314].

The complex nature of the oppositive - the linguistic and cognitive universal - causes a special interest in its study in the linguistic-comparative aspect. The contrast has the properties of expressing hidden meanings and, therefore, verbal manipulative potential, and the analysis of the ways of expressing the contrast in the original and translated literary text touches on the issues of cognitive linguistics, propositional logic, theory and practice of translation, and neurolinguistic programming. Since linguistic and cultural specificity crystallizes most clearly in the literary text, we believe that it is this linguistic material that can become a good research base. In this work, the comparison is carried out on the material of the Russian and English languages that function in disconnected cultural environments.

Often built on the principle of contrast and characterized by a completely antithetical composition, the works of English classical literature are very indicative of the implementation of the oppositive category. In this regard, the basis of this study was T. Hardy’s short story “The Three Strangers”, written in 1883 and included in the collection of “Wessex Tales”, as well as its translation by O.P. Kholmisky and first published in 1959

### **Syntax and category of oppositive**

As is known, the zone of direct explication of oppositive relations is the syntax, where the most obvious differences between the original and the translation are found. A polypositional oppositive sentence usually includes two dictum (contrasting facts) and one logical proposition (grammatical marker: oppositive conjunction or, more rarely, preposition) and is constructed according to fixed structural models. Their semantic classification proposed by D.G. Ishkhanova [Ishkhanova, 2007: 58], allows to identify quantitative and qualitative discrepancies between two texts, as well as to establish some reasons for the impossibility of an accurate translation.

From the first lines, the reader pays attention to the abundance of compliant constructions. Aiming at a high degree of objectivity, the narrator consistently shows the negative and positive sides of the depicted reality, the different sides of the same phenomenon, which is facilitated by the regular use of introductory words and adverbs with the meaning of the optionality of certain actions, characteristics, states:

1. by tokens and phrases - «possibly», «perhaps», «at a rough guess», «to all appearance» etc., correlating with Russian «может», «пожалуй», «по крайней мере»,

2. semantic, modal and auxiliary verbs «seem», «appeared», «could», «might», «would».

Opposition semantics in combination with concession form repeated repetition of conjunctions *though, yet, but, though, however*, предлогов *in spite* and *despite*: ***In spite*** of its loneliness, ***however***, the spot, by actual measurement, was not more than five miles from a county-town. ***Yet*** that affected it little. – Пустынный этот склон, если точно подсчитать расстояние, находился всего в пяти милях от главного города графства; ***однако*** это соседство нисколько здесь не ощущалось. In the above example, the translator omits two markers of the oppositional relationship – words

*in spite* and *however* – and combines independent sentences into one using a semicolon, which, in turn, is associated with changes in their prosody. A long pause with a subsequent drop in tone is replaced by a brief and less accented in the Russian text. The translation of the preposition *in spite* and the word-conjunction *however*, in our opinion, is generally irrelevant. However, the destruction of the original prosodic structure is the decision of the translator. In fact, even at this stage it can be argued that the original and translation become non-identical units, because, being in close connection with semantics and being dependent on punctuation marks, prosody helps to comprehend the original intention of the author. The narrative rhythm, perceived at the level of internal speech when reading “to oneself”, conveys the writer’s attitude to the message, helps to put emphasis. The question naturally arises, which in the framework of this study is still impossible to give a definite answer: is the transformation of the syntactic and punctuation division of the message fair?

Marked by various means of syntactic communication, the relations of concession permeate the entire semantic fabric of the work, combining parts of one statement and related sentences: *Mrs. Fennel, seeing the steam begin to generate on the countenances of her guests, crossed over and touched the fiddler's elbow and put her hand on the serpent's mouth. But they took no notice, and fearing she might lose her character of genial hostess if she were to interfere too markedly, she retired and sat down helpless.* – Миссис Феннел, видя, что на лицах гостей уже проступает пот, пробралась к скрипачу и потянула его за рукав, а потом прикрыла ладонью раструб серпента. ***Но*** музыканты даже и глазом на нее не повели, и она, боясь слишком явным вмешательством повредить своей репутации гостеприимной хозяйки, отошла и с безнадежным видом села поодаль. Here, the conjunction *but* reveals a semantic similarity to the Russian pretext *несмотря на*, and the constructions themselves logically mean the following: ***despite*** the efforts of the hostess, the musicians did not fulfill the promise given to her at the beginning of the party.

With an extensive set of meanings and various semantic functions, oppositive conjunction are distinguished by a variety of contextual translation options. For example, stylistically neutral *but* and *though* correlate with such markers of concession in the Russian language as *но, однако, хотя, да, только*. This indicates casual rather than conventional patterns of using grammatical indicators of contrast. So, translating sentences with the conjunction *though*, O.P. Kholm'skaya uses not only an equivalent conjunction, *хотя*, but the conjunction *однако*, which in our opinion, is often more appropriate in the Russian version of the story. In addition, given the regular repetition of *though* in the original text, synonymous tokens make it possible to avoid repetition, while maintaining the narrator's intention: *The sad wan light revealed the lonely pedestrian to be a man of supple frame; his gait suggested that he had somewhat passed the period of perfect and instinctive agility, though not so far as to be otherwise than rapid of motion when occasion require.* – *В этом тусклом, печальном свете видно было, что одинокий пешеход худощав; судя по походке, он уже вышел из того возраста, которому присуще резвое проворство юности, однако не настолько еще был от него далек, чтобы не суметь двигаться быстро, если того потребуют обстоятельства; ему, пожалуй, можно было дать лет сорок».* For the same purpose, the prepositions *notwithstanding* and *despite* occurring in the same sentence are translated using the derived preposition *несмотря* into and conjunction *хотя* respectively: *Notwithstanding the regularity of his tread, there was caution in it, as in that of one who mentally feels his way; and despite the fact that it was not a black coat nor a dark garment of any sort that he wore, there was something about him which suggested that he naturally belonged to the black-coated tribes of men.* – *Несмотря на ровную свою поступь, он двигался с осторожностью, как бы все время нащупывая дорогу; и хотя на нем не было ни черного сюртука, ни другой какой-либо темной одежды, что-то в его облике заставляло думать, что он принадлежит к тому кругу людей, в котором черный сюртук – общепринятая одежда.*

It is noteworthy that the colloquial form of the conjunction *хотя* – *хоть* – is used as a means of compensating for the stylization of the heroine's speech, far from the literary norm, expressed in the original by other linguistic means: *Poor man! Then, in spite o' seeming, you be worse off than we?' replied the shepherd's wife.* – *Бедняга! Так, значит, вы хоть и по-городскому одеты, а на поверку еще беднее нас? - откликнулась жена пастуха.* Analyzing Mrs. Fennel's remarks, one can't ignore the constant reduction of the consonant in the preposition *of*, inherent in the inhabitants of Upper Crowstairs and Casterbridge, shortening of *it is* to simplified *tis*, incorrectly formed grammatical forms of verbs like *you be worse*. The synthetic structure of the Russian language does not allow us to fully convey the peculiarities of the characters' verbal communication, so the replacement of the neutral preposition *in spite* with an inertly colored conjunction in an oppositive sentence, we believe, is quite stylistically justified.

The marker of concessively-oppositive relations – an adverbial combination *меж тем* – in the meantime - is not offered by traditional Russian-English dictionaries as one of the acceptable translations of the word-link *however*. Among other lexical and grammatical means, it forms the general mood of the story of peasant life, which does not claim to belong to high literary genres: ***However, the second comer, after taking off his greatcoat, and hanging his hat on a nail in one of the ceiling-beams as if he had been specially invited to put it there, advanced and sat down at the table.*** – «**Меж тем** вновь пришедший сбросил плащ и повесил шляпу на гвоздь в одной из потолочных балок, словно ему нарочно указали для нее это место, а затем вышел вперед и уселся за стол.

In the course of a comparative analysis, it was found that the conjunction *and*, classified as connective, also translates the oppositive semantics. In construction *A smoker, and no pipe about 'ee? – Куришь, а трубки нет?* fact and its consequence are contrasted, and propositional statements enter into a relationship of mutual inconsistency. This once again confirms the thesis of the ambiguity of conjunctions, preserving the shades of individual lexical meanings.

Note that the analyzed story is saturated not only with concessive constructions expressing oppositive semantics. Thus, the combination of the conjunction “or” and the adverb “rather” marks an incomplete clarification, indicating that the position expressed in the first part of the syntactic construction is not completely denied, but concretized: *By the time that he had arrived abreast of the shepherd's premises the rain came down, or rather came along, with yet more determined violence.* – *К тому времени, как он поравнялся с домом пастуха, дождь с особым ожесточением принялся лить сверху или, **вернее**, хлестать сбоку.*

A study of the text of T. Hardy shows that when translating sentences with oppositive prepositions and coordinating conjunctions, the initial type of connection between the parts of the statement is usually preserved. The main differences are noted when comparing complex subordinate English-language constructions and equivalents selected by the translator in the Russian language. The analysis also shows that oppositive relationships that are not syntactically expressed in the original take on this form in translation: *The hedge-carpenter was suggesting a song to the company, **which nobody just then was inclined to undertake**, so that the knock afforded a not unwelcome diversion.* – *Плотник предложил было спеть песню, **но** никто его не поддержал, и стук в дверь пришелся кстати, обещая неожиданное развлечение.* The example illustrates the replacement of submission by composition, which is reflected in the semantics of the sentence: attributive subordinate *which nobody just then was inclined to undertake* does not express opposition, while the translation explicitly explicates all propositions of oppositive relations. Probably, this decision of the translator is due to the desire to more clearly define the semantics under consideration, to facilitate the perception

of the construction by the Russian-speaking reader, because, according to D.G. Ishkhanova, a complex sentence - the so-called "invariant zone" of the oppositive category in Russian. The same thing happens in the sentence *Mrs. Shepherd Fennel assented, and made room for the self-invited comer, who, having got completely inside the chimney-corner, stretched out his legs and his arms with the expansiveness of a person quite at home.* – *Миссис Феннел выразила согласие и освободила местечко у камина для неожиданного гостя, а тот, забравшись в самый угол, уселся с удобством и совсем уже по-домашнему принялся греть руки и ноги перед огнем*, where the contrast is combined with the simultaneous comparison of heroes.

Russian-language dialogic communication is characterized by a large number of oppositive-comparative sentences. In this regard, interpreting the speech of the characters, O.P. Kholmetskaya usually introduces new cues and questions by conjunction *a* - *А я вот своего занятия не скрываю, – сказал он, – пусть хоть всякий знает. Я колесник* – and resorts to the inversion technique just as traditional for Russian speakers: *You may generally tell what a man is by his claws. – Ремесло можно всегда по рукам узнать.* The transformation of the dialogue, therefore, involves two stages: its primary translation in the form of a sequence of lexical units and the subsequent linguistic and - more broadly - cognitive adaptation. Oppositive combination *да нет, не совсем*, used in the line *Not quite that – further up the country. – Да нет, не совсем: мои родные подальше живут, в долине* vividly illustrates what was said.

Differences between the original and the translation are also found in oppositive constructions with repeating conjunctions. So, in the sentence *Yes, het or wet, blow or snow, famine or sword, my day's work to-morrow must be done. – Дождь ли, снег ли, хоть разорвись, хоть лопни, а свою работу я завтра должен сделать* translator replaces conjunction *or* by particle *ли* and a conjunction *хоть*, and tokens *famine* and *sword* – by expressive colloquial expressions *хоть разорвись, хоть лопни*. This, we believe, creates a more expressive than in the original text, the effect of gradation when listing adverse conditions, contrary to which the executioner - an occasional visitor to the house of the shepherd Fennel - does his job.

Telling about the life of ordinary people, everyday life, as O.V. Kucherenko notes [Kucherenko: 2013, 160], the story is full of folklore and poetic material. Particularly noteworthy is the song, composed and performed by the executioner, in a mysteriously aphoristic form telling about his craft. The first and second couplets contain sentences built on the principle of syntactic parallelism and at the same time they are clearly contrasted: *My trade is a sight to see. – My tools are no sight to see.* Contextual antonyms *trade* and *tools* in combination with opposite in meaning predicates organize oppositive semantics, which is lost in translation due to the complete transformation of the expression plan.

Thus, syntactic constructions clearly marked in the text of the original using conjunctions and conjunction of words, in some cases turn out to be transformed in the text of the translation. It is obvious that in the original text there is compensation through lexical and grammatical translation transformations, due to which a shift in semantic, stylistic, pragmatic accents is possible.

**Opositive relationship in the deixis category. Chronotope of an artwork and author's characterization of characters**

Dictum propositions of opositive statements are regularly represented by antonymic words and expressions, and any opposition is based on differences in the seminal composition of lexical units. In addition, antonymy - is one of the key means of organizing the chronotope of a work of art. Adverbs-antonyms, serving to express the category of deixis, form the chronos and topos of the story, due to which a holistic picture of the depicted appears in the mind of the reader. Since the narration in the studied story is conducted in the past tense and the opposition of the types of temporal forms of verbs-predicates becomes impossible, the author is forced to use additional concretisers to logically structure the sequence of actions, for example, the *then* adverb. The temporal continuum of the story is "broken" into two parts: the first half of the time axis covers earlier actions, the second – later. At the same time, the indicated intervals do not remain static, shifting as the plot develops.

In English, the length and sequence of actions convey the different past tense forms of verbs-predicates, which is unattainable by the grammatical means of the Russian language. This determines the saturation of the Russian text with adverbs *затем, потом, после*, as well as derivative time prepositions of the *впоследствии* type. They correlate with contextually antonymic lexemes and phrases *сначала, вначале, в первую очередь*.

At the topos level, there is a continuous opposition between the open space hostile to the lonely traveler and the warm home of the shepherd Fennel, where the characters of the story found "the most pleasant refuge from the weather that you could wish for." Anthonyomic descriptions made with the metaphorical character of T. Hardy's prose are particularly contrasted: *The level rain-storm smote walls, slopes, and hedges like the clothyard shafts of Senlac and Стесу. – Косой дождь бил в стены, в склоны, в заборы, словно длинные стрелы лучников при Сенлаке или Креси; On the hearth, in front of a back-brand to give substance, blazed a fire of thorns, that crackled 'like the laughter of the fool. – В камине весело пылал сухой хворост с громким, "как смех глупца", гулом и треском; крупные поленья, дающие жар, были сложены подалше, в глубине очага.*

In the original and the translation, the opposition takes place in the author's description of the characters, in particular the recklessly generous shepherd Fennel and his frugal wife. Two strangers who by chance met under the same roof on a dank spring evening were also opposed: a prisoner who escaped from Casterbridge prison and an executioner who arrived to execute a sentence. Although this contrast is revealed only at the very end of the story. Sitting next to a man whose "terrible position" causes superstitious awe among those gathered at the celebration of christening (not without reason *палач* is found only four times in the text and along with the token *казнь* is subjected to careful euphemization: *это ведь на завтра назначено, за тем и приехал*, the criminal shows the true miracles of courage. Initially, the opposition is recognized at the level of the notation "executioner" – "victim", but a detailed linguistic-stylistic analysis of the text shows that it is much more complex and wider. The feelings experienced by the escaped prisoner are oxymoronically inconsistent with his behavior. The right to assume how difficult it is to maintain unshakable self-control, being sentenced to death and being alone with the arbiter, still remains with the reader: the author deliberately avoids detailed descriptions of the hero's inner world, dwelling only on some details: *заслышав стук, незнакомец, сидевший у камина, взял кочергу и принялся разгребать горящие угли с таким усердием, словно хорошенько их перемешать было единственной целью его жизни...; незнакомец у камина, размахивая кружкой с таким азартом, что мед выплескивался в огонь, как и раньше подхватил глубоким басом... .*

### **Opposition in the framework of the figurative narrative system**

The oppositive category is also found in the figurative system of the work, in which researchers of T. Hardy's works find Gothic motifs. This is the biblical allegory of the sheep as a symbol of the ransom sacrifice and savior, opposed to the formidable "Prince of Darkness" (*circulus, cujus centrum diabolus*), with whom the executioner is metaphorically compared, and the iconic references of King Nebuchadnezzar and the feast of Belshazzar, and the comparison borrowed from Ecclesiastes "like a fool's laughter." The latter serves as a reference to the source, claiming that the fate of man does not depend on blind rock, but on Divine conduct, which enters into controversy with the law in the work of T. Hardy. The criminal succeeds in avoiding execution, and in this, perhaps, the merit of that highest and sovereign will leading the heroes through life. In addition, in the Gospel of Matthew the sheep is mentioned in the phraseology "wolf in sheep's clothing", which allows us to draw a parallel with the "stranger in gray", who at first was silent about his craft.

The musical instrument brought to the holiday by the sexton Elijah New is also symbolic – a serpent, the name of which comes from the French *serpent* – a snake. The universal symbolism of the snake excludes an unambiguous interpretation of the image: on the one hand, it means death and destruction, being a killing creature, on the other hand, life and resurrection, periodically changing the skin and as if being born again. Diametrically opposed sememes in the lexical unit indicate that opposite relationships can be identified within the framework of one linguo-cultural concept by studying the linguistic means of its objectification.

### **Oppositive and prosody of fiction**

In the story “The Three Strangers”, the opposition is implemented at the level of suprasegmental units of the language, which means that it can be the subject of pragmalinguistic research. The analyzed text is conventionally constructed in three ways and includes: the narrative itself, brief author digressions and character dialogs, opposed not only stylistically, but also prosodically, which is realized, in particular, at the level of differences in the speed of perception of information.

Melodiousness, leisurely narration is achieved due to the abundance of words with female and dactylic clauses, however, due to their regular alternation with one- and two-syllable tokens (often unstressed), an excessive slowdown in the development of the plot does not occur: *Fifty years ago such a lonely cottage stood on such a down, and may possibly be standing there now. – Лет пятьдесят тому назад на одном из таких косогоров стоял именно такой домишко; быть может, он стоит там и до сих пор.*

The presentation becomes even smoother in the author's digression, starting with the words *Now the old mead of those days... – Надо сказать, что старый мед...* Numerous pauses dividing the intonation groups in the enumeration create a special rhythm and “mood” of reading, the impression of a slowly developing thought, warm memories.

Sudden changes in prosody are observed in the replicas of the characters. The number of male clauses is noticeably increasing, vocabulary is being simplified. When the characters, interrupting each other, talk about the alleged offender – one of the three random guests of the shepherd Fennel, – short, devoid of details replicas form a feeling of polyphony: *'His teeth chattered, and the breath went out of his body,' said the dairyman. – Зубы у него застучали, и дух захватило от страха, – сказал тесть хозяина; 'And his heart seemed to sink within him like a stone,' said Oliver Giles. – И сердце у него ушло в пятки, – сказал Оливер Джейлс.*

The prosodic juxtaposition of the fragments of the story, fully realized in the original and translation, seems to be important for an adequate semantic division of the work and its full perception.



## Conclusion

A comparative analysis of the texts of the original and the translation of T. Hardy's short story "The Three Strangers" showed that opposite relations are manifested at all levels of the literary text, in some cases being implicit and requiring appeal to the vertical context of the work to find them. The extremely multidimensional phenomenon is inextricably linked with the processes of deep processing of information in the human mind, therefore, its comprehensive study is possible only with the expansion of interdisciplinary research that can not only enrich and improve the theoretical base of linguistics and other sciences, but also contribute to solving practical problems of emotional survival in modern information space.

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表示人的心理状态/属性的形容词的衍生潜能  
**DERIVATIONAL POTENTIAL OF ADJECTIVES DENOTING  
MENTAL STATES / ATTRIBUTES OF A HUMAN**

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抽象。 本文致力于研究形容词的派生范式的空洞性, 这些形容词表示人在形成人名时的心理特征。 在分析形容词的推导潜力的实现/未实现的基础上, 尝试确定特征语义的哪些参数与母语使用者有关, 从而形成了具有“属性载体”含义的名词。

关键字: 语义, 形容词, 人类心理状态, 人类心理属性。

**Abstract.** *The article is dedicated to the research of lacunarity of derivational paradigms of adjectives denoting mental characteristics of a human in forming names of persons. On the basis of the analysis of realization / non-realization of derivational potential of adjectives an attempt is being made to determine which parameters of feature semantics are relevant to a native speaker in forming nouns with the meaning “attribute bearer”.*

**Keywords:** *semantics, adjectives, human mental states, human mental attributes.*

### **Introduction**

In attributive word combination a human can be represented as a bearer of any mental attribute: *грустный человек* ‘a sad person’, *впечатлительный человек* ‘a impressionable person’, *жадный человек* ‘a greedy person’ etc. In case of a substantive denotation of a person according to one attribute or another, some selectivity is observed (*жадный человек* ‘a greedy person’ – *жадина* ‘a greedy person’, *жадюга* ‘a greedy person’, but *грустный человек* ‘a sad person’ – \*; *впечатлительный человек* ‘a impressionable person’ – \*). The absence of derivative nouns naming a person according to an attribute requires a significant interpretation.

## THEORETICAL BACKGROUND AND RESEARCH QUESTIONS

On the one hand the absence of one derivative or another indicates that there are certain morphemes compatibility restrictions in the system of the language which don't allow names of persons to be formed from adjectives; on the other hand **lexical gaps**<sup>1</sup> are the markers of a national sphere of concepts, they are indicative of different representation in linguistic world-image of mental characteristics of a human. As noted by A.Vezhbitskaya «if one “qualitative concept” gets two denotations, one nominal and one adjectival this happens not because the part-of-speech-status semantically doesn't have a meaning but because the considered concept is divided into two related but not identical concepts, one of which semantically is more meant to be a denoted substantive than an adjective» [2].

If some adjectival denotation of the quality doesn't have a substantive analogue it doesn't mean that the lexical system is «guilty». Presumably the absence of a derivative – is the evidence of a specific regularity in understanding by the speaker of the observable world.

**The subject** of the current paper – derivational potentials of adjectives denoting mental characteristics of a human.

**The research materials** are adjectives which are used at least in one of their meanings to characterize a person. The total number of units comprises 1101 lexical units<sup>2</sup>.

**The objective** – to determine which senses from the point of view of native speakers of the contemporary Russian language deserve one-word nomination with the meaning “a person according to the attribute”, which «information bit» is distinguished by «the body of a sign from the mainstream of information about the world» [4].

### Proposed methods

To achieve this objective data obtained from scientific literature on psychology, dictionary definitions of adjectives and corpus data are analyzed.

The research is based on the **complex linguistic description method** which includes such devices as comparison, generalization, interpretation and classification. The elements of componential analysis, definitional and contextual analysis are used. All above mentioned methods and devices allow to achieve the research objective.

<sup>1</sup>**Lexical gaps** are understood to be «gaps in the lexical system of a language, the absence of words which are supposedly must have been existed in the language based on its reflective function (i.e. its task to denote phenomena of reality) and the lexical system of the language» [1].

<sup>2</sup>The term lexical unit is used here in the interpretation of the Moscow school of semantics and denotes «a word in one of its meanings, but together with all inherent to that particular meaning properties, and the essential methods are only those to which the rules of the language are related to» [3].

## RESULTS

In science in mental activity of a human it is accepted to distinguish between processes, states and properties. We are interested in the two latest<sup>3</sup>. The main difference between states and properties is their **temporal localization**. Mental states are **temporal** while properties are **constant**.

Even the shallow analysis of definitions of adjectives shows that the identified peculiarities of the represented mental phenomena find reflection in the meaning of adjectives, cf.: *радостный* 'joyful' – "испытывающий чувство радости" 'experiencing a sensation of joy', *спокойный* I<sup>4</sup> 'calm' – "находящийся в состоянии спокойствия, не испытывающий волнения тревоги, беспокойства" 'being at a state of tranquility, not experiencing emotion, anxious, restless'; *ленивый* 'lazy' – "склонный к лени, к праздности; избегающий труда" 'prone to laziness, idleness; avoiding labor', *своевольный* 'willful' – "склонный к своеволию, поступающий по своей воли, прихоти" 'prone to willfulness, doing things their own way'.

Let's consider the dictionary meaning of the unit *радостный* 'joyful' and *спокойный* I 'calm'. The adjectives are interpreted through the lexical units *испытывающий / не испытывающий* and *находящийся* 'experiencing / not experiencing and being', which accentuates the **temporality** of the property denoted by the adjective: *испытывать* 'experience' – "пробывать, находиться в каком-либо душевном, физическом состоянии; чувствовать, ощущать" 'to be at some state of mind or at some physical state; to feel, to perceive'; *находиться* 'to be' – "пробывать в том или ином состоянии" 'to be at one or another state'. In general the meaning of the adjectives can be defined as follows: *X is in Y (where Y – is a specific mental state which has a property to be interchanged by another state, i.e. another Y)*.

Adjectives *ленивый* 'lazy', *своевольный* 'willful' denote properties which have a **permanent character**, cf.: *склонный* 'apt' – "имеющий склонность к чему-либо" 'having an inclination for something' (*склонность* 'inclination' – "расположенность к какой-либо деятельности, занятиям, а также одаренность в каком-либо отношении"; // 'наличие каких-либо задатков (физических, умственных, нравственных), **предрасположенность** к чему-либо" 'a propensity for some activity and also an aptitude for something'; // "existence of some inclinations (physical, intellectual, moral), **an inclination** for something"). In general the interpretation formula of adjectives is as follows: *X has an inclination towards Y (where Y – is a specific behavior of a human)*.

<sup>3</sup>The information about mental processes is irrelevant because unlike any other phenomena having relative statics they have a dynamic character and cannot be denoted adjectivally.

<sup>4</sup>In the article the author's numeration of lexical units is used which doesn't correspond to a dictionary one. Only those lexical units are counted which are included into the lexical-semantic group. Cf.: *спокойный* 1 = *спокойный* 2 "находящийся в состоянии спокойствия (во 2 значении), не испытывающий волнения тревоги, беспокойства" 'being at a state of tranquility (in the second meaning), not feeling agitated, anxious, restless'; *спокойный* 2 = *спокойный* 3 – "отличающийся уравновешенным характером" 'characterized by an equable temper'.

The available differences are reflected in the contextual use of lexical units. Let's compare the two sentences:

(1) <...> *дедовы приезды вносят смуту, нарушают привычный домашний распорядок и волнуют обыкновенно **спокойную** бабушку, будоражат маму* (A.Varlamov) 'grandfather visits bring discord, violates the usual home routine and concern usually **calm** grandmother excite your mother'.

(2) *Сержант Иван Аниканов, **спокойный** человек с широким простоватым лицом и маленькими, великой проницательности глазами* (A.G.Kazakevich) 'Sergeant Ivan Anikanov, **staid** person with a wide rustic face and small, great insight eyes'.

In (1) the adjective *спокойный* 'calm' denotes a *state* of absence of nervous excitement or strong anxiety, in (2) the adjective *спокойный* 'staid' denotes a *psychological attribute*, occurring in a balance of nervous processes of anxiety and inhibition typical for a human. This difference is revealed by the context. In (1) the adverb *обыкновенно* 'usually' is used (*обыкновенно* 'usually' – “как правило, большей частью” ‘as a rule, for the most part’), which accentuates that the property denoted by the adjective has a temporal character. In (2) the adjective neighborhood points at the property stability and namely (denoted by) its neighborhood with word combinations naming the permanent peculiarities of the *appearance*.

Thus there are some differences between the adjectives denoting mental states and mental attributes. The main difference is in the realization method of a semantic property “+/- **temporal localization**”. Adjectives of the type *радостный* 'joyful' denote a temporally localized state (“+ **temporal localization**”), the units of the type *ленивый* 'lazy' – a temporally non-localized stated (“- **temporal localization**”).

Among the adjectives motivating names of persons only adjectives of the second type are encountered, cf.: *аккуратный* 'neat' → *аккуратист* 'a neat person'; *ленивый* 'lazy' → *ленивец* 'a lazy person'; *своевольный* 'willful' → *своевольник* 'a willful person'.

It may be assumed that it is connected with the fact that the adjectives naming mental attributes of a human denote attributes which are **permanent** for their bearer while the first ones are **temporal**.

This assumption is supported by the derivative substantives analysis which shows that every noun names such person which is a **permanent** specific attribute-bearer.

For example:

*аккуратный* 'neat' + *-ист-* → *аккуратист* 'a neat person'

*аккуратный* 'neat' – “соблюдающий порядок, точность” ‘keeping order, precision’.

The substantives formed by means of the suffix *-ист-* have a meaning “лицо, характеризующееся свойством, взглядами или сферой занятий, которые названы мотивирующим прилагательным” ‘a person characterized by a property, views or activity which are named by a motivating adjective’ [5]. *Характеризоваться* ‘to be characterized’ – “иметь какие-либо отличительные черты, отличаться какими-либо особенностями” ‘to have some distinctive features, to be distinguished by some features’, i.e. the meaning of the can be defined as follows: “лицо, имеющее своей особенностью то свойство, взгляд или сферу занятий, которые названы мотивирующим прилагательным” ‘a person having as unique feature such a property, view or activities which are named by a motivating adjective’. In this particular case *аккуратист* ‘a neat person’ – “тот, кто отличается свойством, обозначенным прилагательным *аккуратный*” ‘is someone who has a unique feature which is denoted by an adjective *аккуратный*’.

### Conclusion

In an attempt to accentuate the individuality of a certain person we point directly at what distinguishes him from others. Everyone can be in one mental state or another and therefore it is not a distinctive feature of an individual.

Thus for a native speaker of the contemporary Russian language in forming of adjectival-based names it is important that an adjective denotes an attribute having a **permanent** character.

Therefore the semantic component which enables to form names of a person from adjectives denoting mental attributes of a human can be considered to be a “**temporal localization**”.

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1990年至2010年俄罗斯文学的“中文”  
"CHINESE TEXT" OF RUSSIAN LITERATURE 1990 – 2010

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抽象。 本文介绍了对1990年至2010年俄罗斯文学中的中文文本的分析。在现代文学批评中，对各种形式的“主题文本”的研究已变得广泛，其中“中文文本”是一个新的方向。 本文讨论了描绘上海和哈尔滨生活的艺术品，它们代表了俄罗斯文学“中文”的特殊版本。 俄罗斯文学的“中文文本”（始于十九世纪的前几十年）旨在与“大众”文学积极互动，并与跨文化交流和跨文化对话的问题相关，并提出并解决了这一问题。 理解个人和人民之间产生的误解。

关键词：“主题文本”，现代文学批评； 俄罗斯移民； 国外俄语； “中文文本”； 中国； 哈尔滨 上海。

**Abstract.** *The article presents an analysis of the Chinese text in Russian literature, 1990 - 2010. In modern literary criticism, the study of various versions of "thematic texts" has become widespread, among which the "Chinese text" is a new direction. This article discusses works of art depicting life in Shanghai and Harbin, which represent a special version of the "Chinese text" of Russian literature. The "Chinese text" of Russian literature (starting from the first decades of the XIX century) was oriented towards active interaction with "mass" literature and correlated with the problems of intercultural communication and transcultural dialogue, with the formulation and solution of the problem of understanding - misunderstanding that arises between individuals and peoples.*

**Keywords:** *"thematic texts", modern literary criticism; Russian emigration; Russian abroad; "Chinese text"; China; Harbin; Shanghai.*

In literary criticism of the 1990–2010s, it became popular to analyze various versions of “thematic” texts, united by a spatial locus (“artistic space” of cities) —Petersburg text [9], Venetian text [8], Perm text [1] (they can be conditionally called "urban" texts).

In our work, by the term “text” we understand the meaning introduced by Yu.M. Lotman [7] and poststructuralists [2]: as a complex structured whole, “culture text” associated with many texts and contexts intersecting each other in various ways [4]. In other words, it is a cultural text associated with many other texts and other cultural phenomena. With this understanding, the text turns out to be the intersection point of many connections uniting the author and the reader, literature and other forms of spiritual and material culture in a single value system. In literary criticism and linguistics, such texts are often called hypertexts or supertexts, which represent a “set of sentences” limited to “temporally and locally”, united “meaningfully and situationally”, characterized by “solid modal attitude” and “sufficiently definite positions of the addresser and addressee”. [6]

Among the many and varied "supertexts" created by Russian culture, a special place is occupied by works in which a description of China appears as a special type of art space (the "art world"), as a collective image that affects the fate of specific characters and the development of the plot. Such works will be considered by us as a single "supertext" and hereinafter referred to as the "Chinese text" [5: 34 – 35].

In the 1990–2000s, after that, the topic of Russian emigration became open to objective scientific research and many works of art created in China were published in Russia, as well as historical documents related to emigration, numerous historical, cultural, and literary studies appeared on this topic. Many aspects of this topic were deeply revealed in the works of Russian researchers - A. A. Zabiako, G. A. Kanevskaya, P. E. Kovalevsky, O. I. Kochubei, G. V. Melikhov, V. F. Pecheritsy, M. V. Chuprina and others who have made a significant contribution to the study of the fate of white emigrants in China. Great attention was paid to this topic by prominent Chinese scholars-Russists - Li Yanlin, Wang Zhicheng, Li Shingeng, Shi Fang, Li Shuang, Li Debin, Yang Baolin, Zhang Zonghai and others, as well as young researchers - Ju Wei, Ju Kunyi, Liu Shi, Liu Cunying, etc.

In addition, it can be noted that the Russian East abroad in the 2000-2010th itself became a special subject of literary and artistic depiction.

Among the books published on this subject, one can name the study of N.D. Staroselsky's “Everyday Life of the “Russian China” (it can be attributed to the genre of the “popular historical composition”), the adventure and adventure novel by A.Yu. Orlova “Harbin Express” (in two books), novel by B. Akunin [speaking under the pseudonym “Anna Borisova”] “Vremena Goda”, novel by E.V. Baryakina "White Shanghai", a novel by EM Antashkevich's "Harbin" and related thematically novel "33 stories about the Chinese police lieutenant Sorokin."



Adjoining these works is V. Davydov's novel "The Heirs in a Straight" (2008), which consists of three adventure novels: "Cimmerian Fortress", "To All Deaths to Spite" and "The Predestination", in a number of chapters of which the life of Russian cities and towns is described, located along the CER, where the main character of the cycle Guros ("Gur") is<sup>1</sup>.

All these works have a number of common artistic features.

Firstly, their authors make extensive use of documentary materials, memoirs of Russian emigration and historical works. Among the heroes of the works appear - along with fictional - real historical characters: "The Leader of the October Revolution" V.I. Lenin; Governor of the CER Railway Exclusion Zone, General D.L. Croat; the founder of Russian fascism, the organizer of the All-Russian Fascist Party (ARFP) in Manchuria K.V. Rodzaevsky; representative of the Comintern in China, political adviser to the Central Executive Committee of the Kuomintang (1923–1927) M.M. Borodin [Gruzenberg] and his wife F.S. Borodina; Naturalist writer Colonel N.A. Bikes journalist and writer Vs. N. Ivanov; Manchurian Governor-General "Old Marshal" Zhang Zolin and his son "Young Marshal" Zhang Xueliang et al.

Since the history of China in the second half of the XIX - the first half of the XX century (as well as the history of Russian emigration) is poorly known to modern readers, writers who have addressed this topic, inevitably have to do "inserts" (digressions), which offer historical explanations, reproduced "background"- the context of recreated events.

Secondly, in these works, a description of the events of the 1920–1930s (and sometimes even earlier), as a rule, is combined with a statement of some events that occurred in later periods (in the 1950s, 1970s, 1980s and the 1990s.), which allows the reader to offer a modern assessment of events (that is, the works had two - and sometimes more - temporary "layers" that "overlap" each other).

Thirdly, the works under consideration have a ramified plot, which made it possible to consider them as adventure novels written on a historical theme. So, for example, in A. Orlov's novel "Harbin Express" describes how, during the Civil War, the exiled physician P. Dokhturov, along with adventurers, searches in Manchuria for a mysterious Chinese remedy for all diseases - a "panacea", which the Soviets also hunt for, Japanese and Chinese intelligence services. In the novel by A. Borisova [B. Akunin] "Vremena Goda" describes how the main character, Sandra, and the wise Chinese Wang Ying ("Ivan Ivanovich") are looking for the so-called "yang-shen" - "life flower", which allows people to gain physical and spiritual strength.

<sup>1</sup>This cycle of novels can at the same time be attributed to the third variety of texts that we have identified - the works of the "alternative history" (although its author is not a synologist). A significant difference between this novel cycle and the works of writers "sinologists" is that they do not describe the past of China.

Fourth, in these novels there are several contrasting points of view that are associated with a certain interpretation of the events described: “truth” of the White Guards and the inhabitants of pre-revolutionary Russia (represented, for example, by Harbin), “truth” of “revolutionary Russia” (the Soviet Union), “truth” of the Chinese population, a look at the historical events of modern “post-Soviet” Russia... Such a clash of different - sometimes diametrically opposed - positions, none of which, as a rule, are drowned out by the dominant “voice” of the author “allows the reader to make their own conclusions and to offer their own assessment of the characters and their actions.

Fifth, in these works there are several types of art space: revolutionary and post-revolutionary Russia - Moscow, St. Petersburg (Petrograd), Siberia, the Far East; Russian “enclaves” in China (Harbin with several “Russian” cities located on the CER — Qiqihar and Mukden, and Shanghai); China itself (outside of foreign concessions), which is presented through a description of the nature and culture of the country, an image of numerous representatives of the Chinese people, a description of everyday realities.

A major role in the novels is played by reflections on national specifics — the “secret” of Chinese culture and history — in comparison with Russian and European cultures, which are represented either on behalf of the author or through the thoughts of one of the heroes.

Here, for example, are some of the thoughts on the features of Chinese culture expressed by one of the heroes of the novel A. Borisova “Vremena Goda”:

“Yes, Manchuria is a temporary, puppet state, nothing more than a springboard for the Japanese to conquer all of China. And very good and excellent”, he said, ironically smiling. - Let the samurai conquer us, this does not need to be resisted. In fact, having ceded them to a cocky swoop, we ourselves will conquer them. We, the Chinese, will drown them in our immense body, swallow them with our vast, ocean-like spirit, dissolve in our great culture. Whenever the Middle Empire began to wither, it received an injection of fresh barbaric blood. The Mongols conquered us - and where are they? They became Chinese. They conquered the Manchus - and became Chinese. The aristocracy of conquerors became related to ours, our language became their language, our culture became their culture. We swallowed them all and digested them. The same will be with Japan. Our true enemy is the World of the West. It is opposite to us in everything. It has been tearing pieces out of our body for a hundred years, and now through a communist ideology he is trying to penetrate our soul. Without marriage to Japan, we will not stand in this great struggle. China is a great female, and she needs a strong male. But it is a mantis female. When fertilized, she eats and consumes her lover”. [3: 55–56].

Thus, the works of art created between 1990 and 2010 by representatives of different generations of writers greatly complement each other and provide the reader with the opportunity to create their own picture of the life of Russian emigration in China, mentally reconstructing the events of the past and the actions of their participants.

Artworks depicting life in Shanghai and Harbin represent a special version of the "Chinese text" of Russian literature. In the foreground in these works is a description of the life of the Russian emigration, while China remains mainly the general "background" of the events described. In fact, this kind of "Chinese text" can be called its "Russian version".

If in relation to Russian literature of the late XVIII - first half of the XIX century, we talked about the "Chinese context" of Russian literature, which was the research of the first Russian Sinologists and some "non-artistic" sources of information about China, then with respect to works of Russian literature of the beginning of the XXI century, describing Russian emigration, we can say that the image of China in these novels turned out to be the "context" of Russian life, recreated the "Russian world" in them.

At the same time, it should be noted that the image of China in these works was not just a "background" (scene). The "Russian world" in these works was inevitably compared with the similar "Chinese world", and such a comparison made it possible to pose problems of intercultural communication, national specificity, and allowed making historical and philosophical conclusions about the fates of different nations and the general patterns of historical development.

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通过操作教育发展六岁自闭症儿童的社交和家庭技能  
**DEVELOPMENT OF SOCIAL AND HOUSEHOLD SKILLS IN SIX  
YEAR OLD CHILDREN WITH AUTISM THROUGH OPERANT  
EDUCATION**

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抽象。本文介绍了通过操作教育对自闭症儿童的社交和家庭技能发展特征进行研究的结果。详细描述了实验的形成阶段，显示了使用三个不同级别的提示儿童自闭症的具体细节以及视觉时间表的使用，并反映了使用视觉计时器的方法。

关键字：幼儿自闭症，社交和家庭技能的发展，操作教育，PECS卡，视觉时间表，视觉计时器。

***Abstract.** The article presents the results of a study of the characteristics of the development of social and household skills in children of six years with autism through operant education. The formative stage of the experiment is described in detail, the specifics of using three different levels of prompting a child with early childhood autism and the use of a visual schedule are shown, and the methodology for using a visual timer is reflected.*

***Keywords:** early childhood autism, development of social and household skills, operant education, PECS cards, visual schedule, visual timer.*

Interest in the problem of helping preschool children with early childhood autism syndrome has increased at the present time, as a result of this, one of the areas of modern special education is qualified psychological and pedagogical assistance to these children. An important point is the early development of social skills in children with early childhood autism syndrome, which contributes to the development of their adaptation.

Often, the efforts of parents of children with autism spectrum disorders are aimed at developing intellectual potential. As a result of this, we can observe a fairly large number of preschool children with autism who have an average or

high level of intellectual development, but are practically helpless in matters of self-care. Such actions as eating, handling clothes and shoes, using the toilet, body hygiene become available only with the significant help of adults, which significantly reduces the standard of living of a child with autism.

The problem of the development of social and household skills in children with autism spectrum disorders is reflected in the works of domestic authors: OS Baenskoy, M.M. Libling, L.M. Shipitsyna, Bronnikova V.A., Kislyakova Yu.N., Yakovenko T., O.S. Nikolskaya and others. Among foreign researchers, L. Kaner, G. Asperger, E. Bleyler and others studied this problem.

Currently, there are more and more autistic children, however, there is a lack of adapted domestic programs for the development of social and household skills in this category of children, which is a serious problem, since each person needs these skills in his daily life. The programs available in the scientific literature on the formation and development of social and household skills cannot be applied to all categories of children with autism and other similar disorders. The method of operant education in our country is not sufficiently developed, which is why our task is to formulate a correctional program for the development of social and household skills in children with autism through operant education.

Social and household skills are knowledge and abilities directly related to the organization of one's own behavior and communication with people in different social situations. In its general sense, the concept of "social and household skills" implies the ability to independently build your behavior in all life situations outside the framework of educational or professional (labor) activities [1].

The development of these skills contributes to the child's entry into society, where he will be independent and feel like a full member. The process of a person entering the social environment and his accommodation to psychological, cultural and sociological factors is considered by socialization using the concept of "adaptation".

A.R. Muller identifies the following criteria, indicators of social and household skills [2]:

1. Skills for interacting with other people (skills such as interacting with adults, children and following the proper rules of behavior).

One of the main conditions for the development of a child is his interaction with other people, which has a great influence on the formation of children's self-awareness. Communication with others is the most important factor in the formation of a child's personality, a type of human activity that is aimed at assessing and knowing oneself through interaction with other people.

2. Skills of self-service and social and household orientation (for example, eating skills, cultural and hygienic skills, indoor orientation skills, time orientation, etc.).

Significantly reduces the child's dependence on the adult, mastering him even the simplest skills of self-care and social and household orientation, which in turn strengthens the child's self-confidence. Therefore, the subject of special care in the family is the formation of the child's basic (minimum necessary) household skills.

3. The child's self-image (identification of his name and recognition of himself in the photograph).-

A particular problem for a child with early childhood autism syndrome is the development of household behavior and self-care skills. Habitual situations and household items are considered the first objects on the basis of which contacts with a child are built, this is the difficulty of teaching his household skills.

At the same time, an autistic child can learn complex action on his own, but through imitation of another person is very rare. However, in this case, mastery of a skill can only be correlated with a specific situation and is rarely used in another.

If, acting by trial and error, imitating adults, children normally master many skills, then a child with autism needs special training and multiple, joint with an adult mastering everyday household situations.

According to O.S. Nikolskaya, you should not try to teach a child everything at once, it is better to focus on one skill that is most accessible to him first, only gradually connecting him to the most simple operations in other everyday situations. The process of mastering the necessary everyday skills by an autistic child of preschool age is long and gradual and requires a lot of patience from adults [3].

At this age stage, it is operant education that can be a particularly effective way of upbringing. This type of correction is intended to educate autistic children in social and household behavior through separate, simple operations that gradually come together.

According to statistics, this approach allows preschoolers with the disease in question to master the school curriculum and get a chance to work successfully and even earn a living. There are facts, admission of adolescents with autism to colleges and universities just after operant education [4]. The primary thing for a child to master social and household skills is to create an everyday situation. Thanks to the multiple emotional experience of life situations shared with adults, the child begins to be more involved in the events surrounding him, to respond to the appeal.

As part of a scientific study under our leadership, a research was conducted of the features of the development of social and household skills in children of six years with autism through operant training. In diagnostic study ABA (Applied Behavior Analysis: therapy based on applied behavioral analysis) method by Ivar Lovaas (mod. Schramm R.) using PECS cards (Lori Frost, Andy Bondi) as an alternative communication were used. The study involved three 6-year-old children with a diagnosis of early childhood autism.

As a result of processing the obtained empirical data, it was revealed that the first child studied has 1 level of formation of social and household skills. In some areas, the girl is most successful, for example, she herself can use a towel according to verbal instructions and rinse her hands under running water; under the control of an adult, she eats with a spoon and with a little help from an adult, she can button herself. But along with this, the child experiences difficulties in performing such important operations as dressing and undressing, managing the need for a toilet, brushing her teeth; completely not oriented on the street and in time (day of the week, month, season).

Active and passive attention is unstable, the girl fixed her gaze for a short time only after the instruction “Look.” With a hint, she fulfilled a request consisting of only one word (“get up”, “sit down”, “give”, etc.). The child does not correlate the word and image of the subject, however, the items of clothing, utensils and furniture were more often used for their intended purpose.

The second studied child has a 2 level of formation of social and household skills. In some areas, the girl is most successful, for example, she can use a towel herself, with a little help from an adult (a tip at the elbow level), soap her hands with soap and rubs herself under running water, sees the difference between the seasons and can find herself in the photograph. But the child has difficulties in performing such important operations as dressing and undressing, managing the need for a toilet, brushing her teeth; not oriented on the street and in time (day of the week, month). The girl’s attention is unstable, there was frequent distraction to foreign objects and behavioral disturbance when she did not want to follow instructions (self-aggression, ignoring the teacher). It assimilates norms of behavior, fulfills in the presence of external control.

The third child studied has 1 level of formation of social and household skills. In some areas, the girl is most successful, for example, she herself can use a towel according to verbal instructions, according to verbal instructions she can dress and undress herself, with a little help from an adult she uses Velcro, sees the difference between the seasons, can behave calmly in class if it causes interest, and experiencing joyful revival at the sight of the mother. But at the same time, the girl has difficulties in performing such important operations as soaping her hands with soap and rinsing them under running water, meeting the need for a toilet, brushing her teeth, and using a cup; not oriented on the street and in time (day of the week, month). The child’s attention is quite stable, provided that she is interested in the activity, there was a violation of behavior when she did not want to follow instructions (self-aggression, ignoring the teacher). It assimilates norms of behavior, fulfills in the presence of external control.



Based on the results of a study of the level of development of social and household skills in children of 6 years old with autism, a correctional development program was drawn up aimed at developing social and household skills in children of 6 years old with autism through operant training.

The tasks of the program included:

- development of the skill of interaction with other people: interaction with an adult (teacher), calling him by name; making available contacts with other children; interaction with parents;
- development of self-service skills and social and household orientation: cultural and hygienic skills; eating skills; skills to maintain and monitor their appearance; compliance with the proper rules of conduct; orientation indoors, outdoors and in time;
- development of the child's self-image: identification of his name and recognition of himself in the photograph.

In the process of conducting classes aimed at developing the skills of interaction with other people and developing the child's self-image, photographs of the parents of children, photographs of the children themselves and a photograph of the teacher were used as specific means of correction. So, for example, at the beginning of the lesson, we put in front of the child a visual schedule with photographs of the parents, the child and the teacher. Then the child was asked questions about who is depicted in the photographs. After each question, the child was given time to process the information and answer. If there was no answer, then we answered instead of the child, in conjunction with him pointing to the photo card, after which the card was given to the child in his hands to attach it to the visual schedule.

In the process of conducting classes aimed at developing self-service skills and social and household orientation, visual and physical hints at three levels were used as specific means of correction. We will describe these tools in more detail.

As a visual hint, a visual schedule with PECS cards and a visual timer were used. Visual stimuli were used at each change of activity (the card of the performed action was changed and the chips were removed / attached in the visual timer). So, in each lesson, in a place that was visible to the child, we put a visual schedule (to the left of the child) and a visual timer (to the right of the child). Cards with certain types of activities were attached to the visual schedule (for example, in lesson 1 these are cards "occupation", "game", "rest", "washing hands", "remembering occupation"). At the end of the game, we suggested that the child remove the "game" card, put it in a folder and draw the attention of the child to the next card "rest", and proceed to this action. Thus, the child always knew what activity would be next and did not experience anxiety.

It is very important that the visual schedule is always in a place accessible to the child, and the cards are easily removed from the folder and attached, as this is not only a schedule, but also a specific means of communication by which the child can “tell” us that he wants at the moment.

The visual timer was used to teach children to observe such an important rule of behavior as anticipation. We describe the work of this tool on the example of the didactic game "Train", aimed at developing orientation skills by day of the week. We put a visual timer with three chips to the right of the child, a visual schedule to the left and a touch mat in the center. We drew the attention of the child to the fact that there are 3 chips on the timer. Then we laid out in front of the child all the details necessary for the game from felt, explained the instructions and showed what to do. After that, we removed one chip from the timer and drew the attention of the child to the fact that 2 chips remained until the end of the game, and suggested that the child continue the game. When the picture was made, we removed one chip from the timer and drew the attention of the child to the fact that 1 chip remained before the end of the game. Then we had a conversation about the days of the week, pointing to each carriage and calling it. When the lesson was over, we removed the last chip from the timer and drew the attention of the child to the fact that there were no chips left on the timer, which means the end of the game and the transition to another action according to the visual schedule.

In the process of implementing this program, it was found that the visual schedule reduces anxiety, makes the daily routine and the environment more specific and understandable. It was also noted that the use of a visual timer positively affects the overall behavior of children in the classroom, and teaches to wait and observe the regimen.

For the category of children we are studying, a direct way of teaching the task is using physical help.

The physical hint was applied at three levels: at the wrist level (the teacher takes the child's wrist in his hand and performs the action with the child's wrist); at the level of the elbow (the teacher holds the elbow of the child and directs his hand in the right direction); at shoulder level (the teacher touches the child's shoulder and encourages him to act).

If the child carried out independently only the first two steps, respectively, after being presented with the instructions, the child was allowed to independently carry out the task. If the child does not have the opportunity to complete the task independently, a full physical hint was used (guiding the child with his hands throughout all the remaining steps of the task). At first, a prompt was used at the wrist level, later reaching the shoulder level in 1 child (in two it was possible to reach the level of the elbow).

If the child demonstrated the correct completion of the step three times in a row, the next time the child completed the task, they were transferred to a less intense hint at this step. For example, during the game “Catch the ball”, the child catches the balls from the water with a strainer using the full physical prompting from the teacher. Then the game resumes and the child is given the opportunity to complete the first two steps: take a strainer and lower it into a basin of water and balls.

However, at the third step of the task (catching the ball), the child was assisted by applying a physical hint at the wrist level. Then, within 4-7 steps, the task was performed with the child, fully guiding the child's hands (using a complete physical hint). As soon as the child completes the third step with a prompt at the wrist level three consecutive times, a transition to the physical prompt at the elbow level was carried out during this step. In all subsequent steps, a complete physical prompt was performed at the wrist level.

As soon as the child achieved independence in the third step of the task, there was a decrease in the degree of intensity of the clue in the fourth step and the child was allowed to independently carry out the first 3 steps of the task. Accordingly, before the child started learning the fourth step, he already repeated the task several times. At the end of the lesson, there was an expression of praise for the child's work in the form of verbal approval and physical encouragement — a child's favorite treat, which is not accessible to him.

The implementation time of the program during the formative experiment was three months. At the control stage of the study, we used the same diagnostics of the level of development of social and household skills of 6-year-old children with early childhood autism, as in the case of ascertaining.

Based on the results obtained at the control stage of the study, we can conclude that the developed correction program is effective. The change in indicators of the level of development of social and household skills at the control stage compared to the ascertaining stage is not large, which is due to the complexity of the defect, as well as to the limited time for the implementation of the correctional program, but in the process of implementing the correctional development program, the first child became more successful in many areas: there was a passive mood in the classes, but without manifestations of auto-aggression (while this correction of behavior was often observed before corrective work); with a little help from an adult, the girl learned to soap her hands with soap and use a towel on her own; under the control of an adult, she herself can now use a plate (move closer, hold and tilt if necessary); she began to navigate better indoors (she knows the playroom and bedroom); differentiates the seasons and can find herself in the photograph.

The second child, when interacting with the teacher, ceased to show negativism, relations with parents became warmer, obedience appeared; behavior in the lesson improved (behavioral disorders occurred rarely and only in the absence of interest in the activity or fatigue from it); with a little help from an adult, the girl learned to open/close the tap, use a napkin after eating and fasten the button; according to verbal instructions, she learned to perform such important operations as dressing and undressing.

The third child also showed positive dynamics: in the absence of interest in the lesson, the child did not engage, but did not try to leave (as before corrective measures) and behaved calmly (did not leave because of chips on the visual timer); with a little help from an adult, the girl learned to rinse her hands under a stream of water; under the control of an adult, she herself can use a plate (move closer, hold and tilt if necessary); with a little help from an adult, he can fasten the button; she began to navigate better indoors (she knows the kitchen) and can find herself in the photograph.

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小说是教育的有机组成部分（以国外最新文学为例）  
**FICTION AS AN INTEGRATIVE ELEMENT OF EDUCATION  
(UP-TO-DATE FOREIGN LITERATURE AS AN EXAMPLE)**

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**摘要。**研究的目的是最新的外国文献，这些文献可以帮助人们涉入社会文化领域，拓宽未来专家的视野。在外国小说中有几种策略。主要关注于20世纪文学中生动描述的以下方面：自我实现，自我发展，自我发现，“另一个”作为当前文化的主要主体的表现，人-家庭，人-社会，人-人。

结论是，介入小说世界构成了一个具有较高文化底蕴的公民，它有助于发展启发式思维，审美趣味和理想，拓宽工程范围，并为适应高等院校毕业生提供最佳适应条件。经济和市场关系的条件。

不仅小说的整体感知能力，而且日常的特殊性在教育过程中都提供了小说的综合功能。总体而言，小说形成了学生对自我实现，自我断言的需求，而自我断言是该文化的个人创作主体，是一种确定的个性。

关键词：小说文本，一般文化范围，人道主义和艺术知识，人类创造力，日常生活。

**Summary.** *The objective of the research is up-to-date foreign literature which helps one be involved socio cultural field, widen a future specialist's outlook. There are several strategies represented in foreign fiction. The main attention is paid to the following aspects vividly described in the 20th century literature: the problem of self-realization, self-development, self-discovery, presentation of "another" as the principle body of the current culture, person-family, person-society, person-person.*

*The conclusion is made, that the involvement into the world of fiction forms a Citizen, a Person of a high culture, helps develop heuristic thinking, esthetic taste and ideals, widens engineering range, and provides an optimal adaptation of a higher educational institution graduate in the conditions of economics and market relations.*

*Not only fiction entire perception, but also everyday peculiarities provide an integrated function of fiction within the process of education. As a whole, fiction forms students needs of self-realization, self-assertion as an individual creative subject of the culture, as a definite personality.*

**Keywords:** *fiction texts, general culture range, humanitarian and artistic knowledge, human creativity, everyday world.*

New requirements are imposed to the specialists of engineering fields by the society today developing rapidly. They are: initiative, creative approach to technical tasks salvation, the ability to get over stereotypes on the ground of the changing and growing demands of economical reality. The preparation of the specialists in a technical higher educational institution tends to the integration of engineering and humanitarian fiction knowledge. It sets special tasks to prepare specialists in a technical higher educational institution. Its important component is the integration engineering and humanitarian fiction knowledge. A future engineer should have a wide general cultural range, be able to divide the real culture from its surrogates, understand the importance of keeping, extending, increasing of cultural wealth. Such result can be reached due to the humanitarisation of the educational process.

Through the artistic creativity, literature, in particular, the harmonic unity of techniques and arts is reached. Fiction lets integrate teaching and breeding organically, form the outlook, needs of creation of a spiritually rich, socially mobile person with the sense of self-dignity, ready for self-implementation in both the field of technical and humanitarian branches. Through fiction there is understanding of dynamic socio-cultural processes of both past and present, as well as the opportunity to look into the future.

Due to literature (fiction) a person's creative nature is revealed which is formed at the macro and micro levels of the culture. At macro level – in the process of civil society foundation, regulation of international relationships based on the principals of equality and tolerance, set of new ethics based on the well-known principals of “Reverence for life”, suggested by A. Shvejcer [1]. At micro level – in family, actions, the level of morality, filling the immortal strong values. The main function of fiction can be defined as a person's creativity due to which the person's formation is bred as an active subject, a creator able to save and reconstruct the environment and himself.

Literature, being the means of ties between people due to its “forecasting” ability foretells “approaching future”, accentuates on the actual realia still waiting for their scientific research. Especially it is about such genres which have an emphasized socialization of human-study fiction, person presentation within the definite economical, social, everyday ties due to which a protagonist receives concrete social and psychological features. It is definite that the value of literature is not limited only by the social parameters as it is not just a combination if instruments which help direct the already received social values but also participates in the anthropological evolution.

Some fiction texts of the up-to-date literature are the subject of the article research as a great number of foreign writers (both European and Eastern) let the students leave the boundaries of their Motherland cultural field, realize multi vectors and commonness of the actual problems appearing with no dependence upon the region and nationality. The term “Literature Field” was suggested by P. Burdier in 1982 which means the “field of powers influencing differently on everyone entering the field, depending on the position they take. At the same time literature is the field of a competitive struggle aiming to preserve or transform the field of powers” [2]. Thus “Field” is the definition which can be suitable to any social space: economical, intellectual and literal. It is the integrative feature of fiction helps realize it as an important part in the process of any subject taught in a higher educational institution according to the demands referring to a profession. The research does not study the methods of fiction to be included into the structure of classes but some stories of foreign fiction suitable for students are actualized.

The contemporary foreign fiction addresses mainly to the everyday world and much less to the socially political aspects because, it is everyday life, more than any other sphere accumulates the person’s potential of creativity, development and self-determination. A lot of writers whose names became known not long ago to Russian reads due to the translations into Russian language, write about the ways to find the sense of life, place in its rapid flows, the ways to get over a great number of everyday and social obstacles. Nowadays Russian readers have the opportunity to know a lot of brilliant names presenting problematic vectors common for most countries. The analyses of up-to-date foreign texts allowed to emphasize the main thematic and problematic vectors actualized in most stories of foreign fiction: the ways of the contemporary youths’ self-implementation, search the life sense the place in the complicated and changing world; identification of “another”; relations in families; person’s formation, development or demolition, etc.

Teacher’s work organized methodically correctly will let fiction stories integrate into the context of the professional classes to acquaint students to the rich experience of verbal creativity which helps widen the knowledge range of both profession and culture as a whole.

The problem of a person’s self-implementation, self-development, self-discovery is one of the dominant problems in a great number of stories of the contemporary foreign fiction. The pages of many books show the new youth’s generation, non-compromised, daring, purposeful, who in spite of any predicament become strong, self-sufficient, relying only on themselves.

The roman “Swagger” by Donna Tart [3] which inspired to shoot a film that was released recently can be a vivid evidence of that. The story is an example of the nowadays American youth. The plot is a rather complicated life of Teo Decker whose life seemed to be happy. However all his life changed within a few minutes

during his and his mother visit of a museum which was exploded. Left by his father, having no loved and dearest soul he knocks about the states, houses and families up to Amsterdam hotel rooms, he meets several people. Due to his entrepreneur and analytical thinking he gets over the most unpredictable and curious situations. The story describes the peculiarities of the life of the American youth, their hobbies, mistakes, betrays, hostility, friendship, readiness to help. There is a gallery of images, human types: from a New York rich patron and a talented cabinetmaker to a dangerous criminal with no moral and limits. The writer brings the message about the unlimited human abilities, as well as the power of arts that can change the entire life, shows as the highest and bright instincts, as the darkest ones.

Different in tone, intermingling of souls, plot, the French writer and journalist's trilogy by Kathrin Pankol "Yellow Eyed Crocodiles", "Turtle Waltz", "Squirrels Are Sad in the Central Park on Mondays" [4] are combined with the heroes and the plot that shows the dynamics of growing up and the main heroine's self-formation. One of them, whimsical and full of demands Gortenzia is an example of a hard way to the profession of a designer. The lady is pragmatical, tough, purposeful, and cynic as others see her. The writer artistically and multi facetedly shows the image of the up-to-date business woman who can reach the target due to the constant and patient work on her professional level. The image of an uncontrollable whimsical lady as she is seemed, describes the type of an up-to-date maximalist who is unsentimental obtaining a pre-set target paying no attention to any temptations, able to defend not only her own interests, but ready to give a hand to the one who needs it [5].

Presentation of "Another" as the most important body of the contemporary culture containing all the complications and contradictions is one of the prevailing themes of the last few years. A thorough excursion to the problem of "another", about the attitude to him in the society and fiction is conducted by a famous culturologist Shapinskaya E.N. [6]. She makes the conclusion that the type of "another" depends neither upon the time, nor the space, and is met in the texts of culture throughout the epochs and peoples and does not depend on the historical and cultural context being not only a human nature.

In the socio-cultural field "another" identifies himself as by nationality, gender, sub-cultural sign as by his relation to another subject (collective), and also by his own choice as strengthening his own status of a subject. English writer John Fauls's roman "Collector" [7] strikes with the cynicism and cruelty of the hero. In the center of the roman there is a self-satisfied, complexed mediocrity presuming himself as the master of other's destinies. The antihero has even no name. The outer tidiness (starched white shirts, collars, the cleanest shoes...) push aside the inner animal nature. The difference of the main hero is the willingness to differ from the crowd, to become higher over it, to realize himself as the master. Col-



lecting exotic butterflies and extraordinary ladies is just at the same level for the primitive and ambitious subject, crushing the beauty, intellect, good desires. The book, very violently, opens the psychology of the person's empty soul ready for the most abnormal actions.

The opposition to that are the heroes Aliche and Mattia of another roman of an Italian writer Paolo Jordano "The Solitude of Primes" [8]. It describes a sad story of two "outcasts" who are aliens in the society. Aliche and Mattia had to overcome everything: tortures of classmates, tricks... and had to limit themselves from the others. Being a great, extraordinary and perspective scientist Mattia had never got over all the complexes and humiliations suffered when being a child couldn't find the power even to win in love. This is a drama of broken hearts, the ones who failed to fit into the "serial" flow of the majority. It's a fascinating and penetrating book about solitude and love.

Very close by the theme to the roman by P. Jordano is the story by J.K. Rowling "Random Vacancy" [9], known by her books about Harry Potter. The theme of "another" is described by Rowling more closely, truly, sharply and presented in several aspects: social, ethnic, family. The problem of scandalous indifference including teenagers who become aliens in the families, schools, society, they live in their isolated from the adults' world. No one is interested in them or tries to understand including their parents. Not only the teenagers but social and political problems are also very important in the roman. The small provincial town is far from being ideal as it is seemed from the first sight. There is a constant cruel war of the rich against the poor, teenagers against parents, wives against husbands, teachers against students.

The theme of "another" on gender sign is not new in fiction and is actualized in many stories of native and foreign writers. A brilliant example of it is the roman of a great Australian writer Peter Keri "Far from Home" [10]. The main heroine, Iren Bobs, is fond of fast drive decides to take part in a racing through the whole continent on the dangerous Australian roads. Her purposefulness, will, enterprise, skills (she mends her car by herself) assurance in the possibility to reach the target lead her to the winning. However, nobody remembers her while making conclusions about the deeds of the fragile but brave woman having risked with her life for the sake of her children. All the "laurels" are received by men. The roman reminds about constant equity to women, thinking about the success price which often has nothing but emptiness, false; about the truth and lies in the up-to-date world of senseless and unjustified speeds.

A lot of writers of fiction try to solve the problem if reconciliation of the own subject with the world where the range of reality building the life on its own laws are different from the subjective "I" is possible. An American writer Daniel Kiz in his roman "Flowers for Elgeron" [11] is a type of "anotherness".

Charly Gordon, mentally disabled is the object of constant everybody's tricks. Famous scientists having operated a mouse, Elgeron by name, successfully decided to make the risky experimental operation on a human being. The narration is made by the main hero and it is Charlie's reports showing the dynamics of the behavior and his relation to the world. In the result of his IQ rapid growth complicated processes of realization of himself as a complete personality he even gets high results in science. However, some time later, his intellect became decreasing as fast as it had grown. Finally it returned into its original condition. The wish to become like everyone failed. Throughout the narration the writer sets a range of questions. Another – who is he? What is his position in the society? Does a scientist have the right to set experiments over people even if they are not like the majority? The reader's task is to find the answers to the questions set by the American writer.

The stories by K. Isiguro, H. Hoseini, De Sizhi, Min Jin Lee, Lisa Si, Ohara Pamuka and others, published lately let the readers dive into the world of the East almost unknown to the majority. "Snow Flower and Treasured Fan" by Lisa Si [12] who is a historian, journalist, writer of the Chinese origin is a very nice and fine work. The roman brings the reader to a colorful and fancy world of the 19<sup>th</sup> century Chinese culture describing the destinies of two Chinese friends of different social positions. The main heroine Lilia gives a scrupulous historically correct narration of the Eastern culture. The veil of secrecy of a Chinese woman special, isolated world is opened through the prism of her senses. There are cruel and painful ritual ceremonies of each stage of the girl's, lady's, woman's growth and development, sometimes frightening with the cruelty and inflexibility are described.

A different plot and tone are characterized in the roman "Balzac and the Chinese Dressmaker" [13] by a French writer of the Chinese origin De Sizhi (Dai Si-dse) who suffered all the horrors of the exile in the time of the cultural revolution. The writer describes one of the dark sides of the Chinese history and plunges into the dramatic period of the Chinese culture of the 70s of the 20<sup>th</sup> century, its everyday life, customs, traditions. There are events in the life of two heroes – young Beijing "intellectualists" who had been sent to a poor mountain village for rebreeding. There is a severe reality of "the Great Helmsman" the leader Mao: the public enemies' children to the labor rebreeding from where no one returns, as a rule, hard and torturing work in the rice fields and mines, forbiddance to read books. The friends, sophisticatedly, got a Balzac's book and presented it to an ignorant Chinese dressmaker who they met being exiled hoping she would be reborn. The story events by De Sizhi are described as an adventure, with a soft humor, joke manner of laugh through tears, decreasing dramatism and filling with optimistic notes.

A deeper, in terms of content and problematically sharper trilogy of an American writer of the Afghan origin Haleda Hossejini – “Running after the Wind” “A Thousand Shining Stars”, “Echo Flies over the Mountains” [14]. There is a sensitive story about a war, love, hostility, violence, kindness, devotedness. The reader sees the horrors of the Civil War of Talibs’ violent regime of the 70ss of the 20<sup>th</sup> century. A blooming beautiful and developing city Kabul was ruined. A wide picture of life in the Middle East is presented, their traditions and customs, a far and mysterious world of an Afghan woman is described. In spite of the writer living in another country for long, Haleda’s main theme is still Afghan destiny and its people. The heroes of autobiographic roman “Book Club at the End of Life” by an American journalist and writer Will Shvalbe highly appreciate it [15]. The base of the roman is two heroes thoughts and argues, a mother and a sun, experts of literature about the books they had read together. This is the activity of the two members of the book club, erudites, help distract from the mothers malady and fill her last days with sense. The book shows the “human side of Afghan people” [15, P.46]. In one of the dialogues they quote a fair thought of an English dramatist, writer, actor Allan Benet that “a book is not to just spend time, but for life” [15, P123].

Thinking of foreign fiction role promoting the educational process integration in the professional specialist’s preparation, it would be logical to analyze the story where life values, customs, everyday life of the Eastern Asia are accumulated. It is a huge family saga “A Thousand Li Road” written by an American of the Korean origin Min Jin Lee [16]. There is a touching story of several generations (more than half a century) which took place in the 20<sup>th</sup> century on a small island, near Korean port town Pusan. The history of complicated Japanese and Korean relations is described, it is told about the ones who was born and lived in Korea to those who was born and lived in Japan. It also tells about the necessity to balance between the two national cultures and the change of values while the generations and the place of living are changing is seen. There is an opportunity to look at the events from different viewpoints. Tolerance and intolerance related to people, nations, peoples is one of the main themes of the epic, the thing that makes Min Jin Lee’s roman and Hossejini’s works closer. Identity is also one of the leading themes of the family saga. The theme of a “person with no Motherland”, “Dzainich” (ethnic Koreans in Japan) – their place is in an occupied by the Japanese territory.

Not only an entire perception of a fiction text but also footnotes which sometimes contain some important information may also promote the integrative function of a fiction text. The names of famous scientists, philosophers, politicians, writers, musicians, artists, story titles theaters, magazines etc are given by the writers in a great number of footnotes. Following a teacher’s tasks prepared beforehand the students may obtain plenty of new and interesting, discovering new names, place and their role in the history. The use of detective genre in the process

of education is not very common and it is not very often used. In terms of meeting foreign culture Alan Bradley's detectives are worth mentioning [17]. It's a temporary Canadian writer whose works were translated into Russian not very long ago and they have an immense success among the readers. Information of the cultural life of England, such as: science, education, arts, peculiarities of everyday life, a prudish Englishman furniture, his manners, habits, range of reading and other sides of the culture not breaking the main line of the fascinating detective plot is organically instilled into Alan Bradley fiction texts. The up-to-date educational tendencies lead to the emotional sphere impoverishment. Fiction texts integration into the educational process not depending upon the chosen profession will let, in some extent, minimize this important omission, but also they will demand some work of both students as and teachers.

Fiction in its best images has always brought important functions of human creativity. A book will hardly become "the faculty of unused things" in our computerized informative time period. Fiction will still feed hearts and minds for a long time. The relationships between texts, writers and readers are based on the same motives as the ones between businessmen and politicians (ambitions, greed, vanity). Social agents of fiction compete with each other forming a net of permanent relations, a kind of rules of the game. As humanitarian, as technical classes with a professional use of fiction texts conducted by methodically competent teachers will help students understand "the bright mixture of thoughts". The plunge into the world of fiction images (image=education) in an engineering institution is seen quite productive as such syntheses solves the task of the person formation most optimally which is an important strategic task of the society. Due to the humanitarian content there is a natural joint, cooperative identification of two roots – spiritual and materialistic ones. The plunge into the world of fiction forms a Citizen, provides heuristic thinking, esthetic taste and ideals, widen the range of engineering creativity and provide an optimal graduate's adaptation of a higher education institution in terms of economic and market relations. As a whole, fiction provides the students' formation of the necessity in self-development and self-affirmation as a separate creative subject of the culture, of a definite person type.

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慢性应激患者可以选择使用高通量治疗策略  
**HORMESIS AS AN OPTION OF MANAGEMENT TACTICS  
FOR PATIENTS IN CHRONIC STRESS**

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抽象。 现代的生活节奏通常决定着人体的状态，并因此决定了在慢性压力下发现人体的可能性。 在这种状态下，人体可能未准备好满足其他要求，这是一些美容医学的方法。 优化慢性应激患者的管理方法对于预测结果并最大程度地减少开始修复性再生过程的不良事件是必要的。

关键词：美容医学，压力，兴奋剂，抗压力疗法。

**Abstract.** *The modern rhythm of life often determines the state of the human body and, accordingly, the possibility of finding it in chronic stress. In this state, the human body may not be ready for additional requirements, which are some methods of aesthetic medicine. Optimization of management approaches for patients in chronic stress is necessary to predict the outcome and minimize adverse events after procedures that start the process of reparative regeneration.*

**Keywords:** *aesthetic medicine, stress, hormesis, anti-stress therapy.*

The modern rhythm of life dictates its conditions to us. The human body is constantly under the influence of certain stressors. Some methods (procedures) of aesthetic medicine impose additional requirements on the body (starting the process of reparative regeneration). This article analyzes and suggests tactics for optimizing the management of patients in chronic stress in the context of aesthetic correction.

What is stress? Back in 1936, the prominent Canadian scientist Hans Selye formulated the concept of stress (general adaptation syndrome). Here is how he wrote about the causes of stress: "Everything pleasant and unpleasant, which accelerates the rhythm of life, can lead to stress. A painful blow and a passionate kiss can equally be its cause" [3,4].

In fact, stress is a cascade of interrelated chemical reactions that occur in the human body under the influence of various stressors. The outcomes of stress are:

- Eustress (the successful overcoming of the action of the stressor, stabilization and increase in body resources) - adaptation.
- Distress (dysfunctional overcoming of the stressor, depletion of body resources) - maladaptation.

The outcome depends on the presence or absence of reserve capabilities of the human body, as well as on the ratio of activation of stress-realizing and stress-limiting systems (listed in table № 1)

**Table 1**  
*Stress-realizing and stress-limiting systems*

<b>Stress-realizing mechanisms</b>	<b>Stress-limiting mechanisms</b>
Activation of the hypothalamic-pituitary-adrenal system (increased secretion of glucocorticoids and catecholamines)	GABA-ergic system Endogenous Opiate System
Increased tone of the sympathetic nervous system	Parasympathetic nervous system Antioxidant system Prostaglandins

The complex process of the body's response to the stressor begins with the activation of the stress-implementing system and the result is an increased release of glucocorticoids and catecholamines, which help mobilize the functions of the organs and tissues responsible for adaptation and provide an increase in their energy supply - this is the first stage of development of Stress by G. Selye. (G. Selye singled out three stages in the development of “stress”: anxiety, resistance, and exhaustion).

Under the action of a strong or prolonged stressor (for example, prolonged sleep disturbance, psychoemotional or physical overload), which cannot be released, stress-implementing mechanisms of neurohumoral regulation are in a state of prolonged and severe excitement. In humoral environments of the body, a high level of catecholamines, glucocorticoids, and other biologically active substances is maintained. To prevent their pathological effect on the body (the formation of maladaptation), stress-limiting systems are activated (described by Meerson F.Z., 1986) and adaptation to the action of a stressor (eustress). [2,3,4]

If the damage outweighs the adaptation mechanisms, then this leads to a functional decline and the so-called “distress”.

In aesthetic medicine, assessing the state of stress tolerance (the body's ability to compensate for stress) is a necessary point of reference for patients. The procedures that start the process of reparative regeneration impose additional requirements on the body.

**Examples of procedures that start the process of reparative regeneration:**

1. Peelings (accompanied by damage to the living layers of the epidermis and basement membrane)
2. Injection techniques
3. Thermo-destructive hardware technologies (temperature formed in target tissues exceeds 60° C):
  - Laser ablative and non-ablative methods
  - Radio frequency techniques (fractional)
  - HIFU technology

Unaccounted stress in the case of such procedures introduces the "uncertainty factor" in the regeneration process, and, consequently, in the result! While the ultimate goal of the procedures that start the process of reparative regeneration: to get beautiful, younger (biologically) skin, and not just close the wound defect!

The main signs of chronic stress during examination and medical history (shown in table № 2):

**Table 2**  
*The main signs of chronic stress during examination and history taking*

<b>Local</b>	<b>General</b>
<ul style="list-style-type: none"><li>- Dull skin color</li><li>- Epidermal dehydration</li><li>- "Pointed" facial features</li><li>- (exaggerated nasolacrimal, nasolabial, nasal, labial folds)</li></ul>	<ul style="list-style-type: none"><li>- Sleep disorders</li><li>- Unstable emotional background</li><li>- Frequently occurring signs of decreased immunity (colds, exacerbation of viral processes)</li></ul>

At the history collection stage, a state of "stress tolerance" can be assumed (since obvious signs of chronic stress do not always have a place).

After analyzing neuropsychological tests and scales edited by E.M. Kashina; the "Forecast" methodology developed at the St. Petersburg Military Medical Academy, aimed at diagnosing neuropsychic resistance, the risk of maladaptation in stress and stress resistance; methods for determining stress tolerance and social adaptation of Holmes and Rague; "Modern" rhythm of human life - the author has identified those points that help suggest a decrease in resistance to additional stressors:

- Compliance with sleep and wakefulness
- Frequency of change of time zones per month (week)



- The degree of responsibility in the position (profession)
- Normalized work schedule
- Mode and quality of physical activity (moderate, intense)
- Time spent at the “right hours” in the sun
- Caring for a sick relative (it is possible that this question will be correct only for patients with a “credit of trust” to this doctor)
- Surgery or injury previous 2-3 months
- Chronic pain (neuralgia)
- Constant tension, inability to relax
- Children (age)

Taking stress tolerance into account is of great practical importance, since chronic uncompensated stress results in both general (at the level of the organism as a whole) and local (organ) disorders. In particular, the changes occurring in the skin and microvasculature (shown in table № 3):

**Table 3**

*Changes in the skin and microvasculature during chronic stress*

<b>In the skin</b>	<b>In the microvasculature</b>
<ul style="list-style-type: none"> <li>- Non-specific inflammation</li> <li>- Increased rate of division of basal keratinocytes</li> <li>- Stimulation of melanocytes</li> <li>- Collagenase activation</li> <li>- Activation of the synthesis of components of the intercellular substance of the dermis</li> <li>- Activation of heat shock protein synthesis</li> </ul>	<ul style="list-style-type: none"> <li>- Catecholamines with chronic stress enter the bloodstream in a small amount, which does not violate central hemodynamics,</li> <li>- but causes a spasm of the precapillary sphincter. Plasma flow and metabolism are preserved, but not a single red blood cell can pass through the narrowed precapillary. Long-term tissue hypoxia develops..</li> </ul>

[1,5]

give reason to believe the possible insolvency of the process of reparative regeneration. While the aesthetic result directly depends on the quality process of tissue repair after damage.

One of the proposed tactics for managing patients in a state of chronic stress is hormesis.

Hormesis is a stimulating (favorable) effect of moderate stress, it allows the body as a whole and tissues in particular to cope with the subsequent more severe stress.

An example of local hormesis is an increase in the stress resistance of fibroblasts in response to the effects of hormetic temperatures (up to 40 ° C) is given in table № 4

**Table 4**

*Increased stress resistance of fibroblasts in response to the effects of hormetic temperatures (up to 40°C)*

Characteristic	Hormesis effect	Reference
Cell size	Lowered hypertrophy	Rattan, 1998
Cell structure	Reduced heterogeneity	
Glycation process	50-80% reduction	Verbeke et al., 2002
Lipoid pigment level	6-29% reduction	
Glutathione Recovery Level	3 times increase	
Oxidized glutathione level	2 times reduction	Beedholm et al., 2004
Survival after exposure to UVA	5-17% increase	
Hsp 70 Level	20% increase	

At the end of the 50s, the domestic pharmacologist N.V. Lazarev published an article in the journal “Pathological Physiology and Experimental Therapy” about the existence of a special state of the body — SNSIR (state of non-specifically increased resistance). In this article N.V. Lazarev wrote: “A similar state of high resistance of the body to very many adverse factors can be achieved in two ways” (shown in table № 5):

**Table 5**

*Ways to achieve SNSIR*

By more or less prolonged accustoming of an organism to the action of harmful agents, including chemical ones.	Much faster - by introducing certain pharmacological agents into the body. Agents capable of leading the body to SNSIR, was called "adaptogens" by N.V. Lazarev.
EXAMPLE OF GENERAL HORMESIS	

[6]

The advantage of hormetic therapy is the possibility of using it in the initial stages of working with a patient in chronic stress.

**Stages of working with a patient whose body is experiencing chronic stress:**

1. The initial stage:

- Survey
- Local anti-stress treatments
- Hormetic procedures of local action

2. Assessment of results, systematic approach:

- Hormetic procedures of systemic action
- Adaptogens,

- Systemic anti-stress therapy
- 3. Planning the procedures that start the process of reparative regeneration.  
Local anti-stress and hormetic procedures include:
  - Procedures aimed at the correction of microcirculation (LLLT, microcurrent, mechanical vacuum therapy, non-thermal modes of high-energy optical and radio frequency techniques)
    - Hardware technologies with a gormetic effect (near-infrared lasers whose wavelengths are in the “optical transparency window” of biological tissue; radio frequency techniques (multipolar, bipolar), infrared broadband range of IPL systems)
    - Injection techniques aimed at filling the deficiencies of extracellular matrix.
  - Methods of systemic effects on the body with gormetic, adaptogenic and anti-stress effects: peptide bioregulators, magnesium, vitamin D, ozone therapy, plant adaptogens, moderate physical activity, carboxytherapy, tissue placental therapy
- Conclusions:
  - The human body in a state of chronic stress is often not ready for procedures that impose additional requirements on them
  - Hormesis - as the principle of treatment of such patients - makes it possible, both at the local and systemic level, to minimize adverse events after procedures that start the process of reparative regeneration.

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硬件技术与生物组织相互作用的二元性  
**DUALISM OF INTERACTION OF HARDWARE TECHNOLOGIES  
WITH BIOLOGICAL TISSUE**

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抽象。射频技术(双极,多极),IPL系统的红外宽带范围,近红外激光(其波长位于“生物组织的光学透明性窗口”中),例如0.94微米,1.06微米; 1.32微米在美容医学中使用的)在与生物组织的相互作用方面具有双重性,因此有可能扩大其使用适应症。

关键词:美容医学,射频技术,IPL系统的红外宽带范围,近红外激光。

**Abstract.** *Radio-frequency technologies (bipolar, multipolar), infrared broadband range of IPL systems, near-infrared lasers (wavelengths of which are located in the "window of optical transparency of biological tissue", for example, 0.94 microns, 1.06 microns; 1.32 microns) used in aesthetic medicine are dual in relation to interaction with biological tissue, therefore, it is possible to expand the indications for their use.*

**Keywords:** *aesthetic medicine, radio frequency technologies, infrared broadband range of IPL systems, near-infrared lasers.*

The hardware technologies used in aesthetic medicine are constantly being improved. Of particular interest is the possible multidirectional effect on biological tissues (integumentary tissues of the human body) of certain types of hardware technologies and, accordingly, the expansion of indications for their use. In the context of this article, technologies based on electromagnetic radiation will be considered.

In this article, I combined technologies that have some common effects on biological tissue, namely: the possibility of "volumetric" exposure (penetration depth, lack of fractionation of the supplied energy).

Of interest is the possibility of expanding the indications for these technologies. For example, in non-thermal mode, the listed hardware technologies can be used to improve microcirculation, trophism, anti-inflammatory effect, and increase regenerative potential. Changing the parameters and switching to thermal conditions, the effects obtained in the tissues: antioxidant (activation of the endogenous antioxidant system), antiglycation, anti-stress, coagulation - give reason to use the same technologies for other relevant purposes. In general, the same equipment can be used with a wider range of indications, which, on the one hand, opens up new possibilities for implementing these technologies, and on the other hand, is more economical.

Hardware technologies with dualism<sup>1</sup> of interaction with biological tissue include:

- radio frequency technologies (bipolar, multipolar),
- infrared broadband IPL systems,
- near-infrared lasers (whose wavelengths are in the “window of optical transparency of biological tissue”, for example, 0.94  $\mu\text{m}$ , 1.06  $\mu\text{m}$ ; 1.32  $\mu\text{m}$ ).

The essence of the manifestation of dualism is the ability to create using the same technology both thermal and non-thermal effects in tissues.

The thermal effect manifests itself in the form:

- hormetic (adaptive) action. Some kind of synonym is better, since it turns out that the effect manifests itself in the form of an effect - when the temperature in the tissue reaches under 42°C
- coagulation - formed at a time when the temperature in the tissue exceeds 60°C

The formation of thermal effect in tissue:

When radiation is absorbed by biological tissue, light energy is converted into heat. The outcome of the heat exposure depends on the duration of the physical factor on the biological tissue and the radiation power density.

- Hormetic action. Hormesis is a stimulating (favorable) effect of moderate stress. Weak types of stress, which include, in particular, the energy of light and heat of a certain range, stimulate cell cultures to survive and, accordingly, increase the adaptive potential of the tissue:

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<sup>1</sup>According to one of the definitions: dualism (duality) - the existence of two varieties of something.

<p>At the cellular level, hormesis is manifested by increased expression of stress proteins - heat shock proteins - HSPs, which:</p> <ul style="list-style-type: none"> <li>• help to acquire the necessary conformation of newly synthesized proteins, “protect” them from the action of proteases</li> <li>• restore partially disturbed protein structure</li> <li>• accompany irreversibly denatured proteins into lysosomes (perform the function of protection and accompaniment for other proteins - chaperone function)</li> </ul> <p>HSP synthesis is the universal nonspecific response of cells to stress.</p>	<p>At the tissue (skin) level, hormesis (due to the described hardware technologies) is manifested by the following effects:</p> <ul style="list-style-type: none"> <li>• Antioxidant (activation of the endogenous antioxidant system)</li> <li>• Against glycation</li> <li>• Increased stress resistance of cells (fibroblasts)</li> <li>• Improving microcirculation</li> </ul>
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- Coagulation. (from lat. coagulatio). In the process of coagulation, damage to the structures of biological tissue occurs and aseptic inflammation is triggered.

- In the formation of a non-thermal effect (biostimulating), the specific principle of the interaction of a physical factor with biological tissue prevails:

- under the influence of the radio-frequency range of waves in the tissue, an oscillatory effect occurs;

- under the influence of the optical range - the photochemical effect occurs.

The result of non-thermal effects on the tissue is to improve microcirculation, trophism, anti-inflammatory effect, increase regenerative potential.

Summarized data on changes in tissues that occur during exposure to thermal and non-thermal conditions of hardware technologies (based on data: *Angewandte Lasermedizin Lehr-und Handbuch für Praxis und Klinik*, 1989) are shown in Table 1.

**Table 1**  
*Generalized data on changes in tissues occurring during exposure to thermal and non-thermal modes of hardware technologies*

T, °C	Effect on biological tissue
Non-thermal mode	absorption of energy in the optical or radio frequency range and its conversion into other types of energy, initiating the launch of physico-chemical processes
40°C	activation of enzymes, the formation of edema, changes in cell membranes, possible cell death (depending on the duration of exposure)
60°C	protein denaturation, onset of coagulation and necrosis
80°C	collagen denaturation, membrane defects

It is important that, going into non-thermal or hormetic temperature modes ( $\leq 40\text{ }^{\circ}\text{C}$ ), the application points of the apparatus become more universal with respect to:

- Indications (aging of integumentary tissues, anti-stress therapy, preparation and rehabilitation after procedures that start the process of reparative regeneration (damaging))
- Morphotype of facial aging (relevant in the management of any morphotype).
- Stage of work with the patient (applicable at any stage).

A summary of the application points of thermal and non-thermal modes of the impact of hardware technologies on biological tissues (integumentary tissues of the human body) is given in table 2.

**Table 2**  
*Summarizing the application points of thermal and non-thermal modes of the impact of hardware technologies on biological tissues*

<b>Mode</b>	<b>Application points</b>
Non-thermal (biostimulating)	<ul style="list-style-type: none"> <li>- Preparation and rehabilitation after procedures causing reparative regeneration</li> <li>- Use in the form of “basic” therapy in patients under chronic stress</li> <li>- Use in patient management protocols with any morphotype of facial aging.</li> <li>- In protocols of correction of cicatricial deformities</li> </ul>
Hormetic temperatures (thermal mode)	<ul style="list-style-type: none"> <li>- Adaptation (preparation) of tissue to procedures that start the process of reparative regeneration</li> <li>- The protocols for the management of patients under chronic stress.</li> <li>- Use in patient management protocols with any morphotype of skin aging.</li> </ul>
Coagulation temperature (thermal mode)	<ul style="list-style-type: none"> <li>- Tissue remodeling through the launch of reparative regeneration processes</li> <li>- Selective thermal destruction of biological structures absorbing laser radiation of a certain wavelength (or broadband radiation of a certain wavelength range) - selective photothermolysis</li> <li>- In protocols of correction of cicatricial deformities</li> </ul>

To understand the processes occurring in tissues under the influence of thermal and non-thermal conditions, we can distinguish methods for determining the temperature effect of electromagnetic radiation on a biological tissue (table 3).

**Table 3**

*Methods for determining the temperature effect on the biological tissue of electromagnetic radiation*

Radio frequency range	Optical range
<p>Using the appropriate energy density (by reducing or increasing the energy density, you can change the temperature effect in the tissues from biostimulating to coagulation).</p> <p>Non-contact thermometer</p>	<p>Calculation of the power density of the supplied radiation.  <math>q = E/S \cdot T</math>                      Where:                      q- laser power density (W/cm<sup>2</sup>)                      E- pulse energy (J)                      S- irradiated surface area (cm)                      T- pulse duration (ms)</p> <p><b>Biostimulating effect occurs:</b></p> <ul style="list-style-type: none"> <li>- for radiation within the power density</li> <li>- <math>q = 0,1 - 100 \text{ mW/cm}^2</math>,</li> <li>- for pulsed radiation of nanosecond duration (radiation power density of up to <math>10 \text{ W/cm}^2</math>)</li> </ul> <p><b>Thermal effects in tissues occur:</b></p> <ul style="list-style-type: none"> <li>- for radiation within the power density range from 1 to <math>10 \text{ W/cm}^2</math> and duration from milliseconds to several seconds and minutes</li> </ul>

Thus, using the same technology within the same apparatus, it is possible to influence biological tissue both non-thermal and thermal methods, expanding the indications for the use of devices.

**Conclusion**

There is the possibility of using the apparatus of any of the technologies that have the duality of interaction with biological tissue in order to create both thermal and non-thermal effects in biological tissues, and, accordingly, at different stages of therapy (preparation, rehabilitation, launch of the process of reparative regeneration).



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城市医院计划住院的特点

**CHARACTERISTICS OF PLANNED HOSPITALIZATION OF A CITY HOSPITAL**

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抽象。本文介绍了萨马拉最大的城市医院计划的住院治疗。最近，医院中计划住院的人数和比例都有所增加。计划住院的最大份额是在妇科，神经外科和外科部门。计划住院的筹资主要以强制性医疗保险为代价。通常，附近的城市综合诊所的患者会被送往医院计划住院。

关键词：城市医院，计划住院

**Abstract.** *The article describes the planned hospitalization in the largest city hospital in Samara. There has been a recent increase in the number and proportion of planned hospital admissions in a hospital. The largest share of planned hospitalizations is noted in the departments of gynecological, neurosurgical and surgical profiles. Financing of planned hospitalization is carried out mainly at the expense of compulsory medical insurance. Mostly, the patients of nearby city polyclinics are sent for planned hospitalization in a hospital.*

**Keywords:** *city hospital, planned hospitalization*

An important component of the organization of the city hospital is the management of hospitalization. An important aspect in this case is the study of planned hospitalization, including its volume, distribution by department, funding sources, and medical organizations. Based on these provisions, the purpose of this study was to characterize the planned hospitalization of Samara City N.I., the largest hospital in Samara — the state budgetary healthcare institution. Pirogov Clinical Hospital №. 1 (SBHI SCCH № 1). Statistical and analytical research methods were used.

The total number of hospitalizations in N.I. Pirogov SBHI SCCH № 1 for the period from 2016 to 2019 decreased from 33830 hospitalizations to 31250, or by 7.6%. The total number of planned hospitalizations increased from 3294 in 2016 to 4206 in 2019, or by 27.7%. Thus, the share of planned hospitalization in the total number of hospitalizations in the hospital as a whole increased from 9.7% in 2016 to 13.5% in 2019.

Analyzing the proportion of planned hospitalizations in the departments with respect to the total number of planned hospitalizations in the hospital, we can conclude that in 2019 the largest share of planned hospitalizations is in the gynecological department № 14 (20.4%), the neurosurgical department № 5 (19.8%), surgical department № 7 (17.7%), surgical department № 6 (13.1%) and trauma department № 4 (12.6%). The smallest proportion of planned hospitalizations is observed in the burn department (1.1%), in the purulent gynecology department № 19 (0.8%), in the department of pregnancy pathology (0.6%) and in obstetric observational departments (0%) (Figure 1).

For the period from 2016 to 2019, the largest increase in the number of planned hospitalizations was observed in the purulent surgery department № 17 (by 300.0%, with a parallel increase in the number of emergency hospitalizations by 10.3%), in the surgical department № 6 (by 106.0% while maintaining the number of cases of emergency hospitalization), in the gynecological department № 14 (by 100.9%, due to a decrease in the number of emergency hospitalizations by 32.1%) and in the surgical department № 7 (by 86.9% while maintaining the number of emergency hospitalizations).

During 2016-2019, a moderate increase in the number of planned hospitalizations (by 63.1%) is noted in the cardiology department, with a parallel decrease in the number of emergency hospitalizations (by 12.4%). A similar picture is observed in the neurosurgical department № 5: an increase in cases of planned hospitalization (by 52.1%) due to a decrease in cases of emergency hospitalization (by 26.0%). In the department of purulent gynecology, there is an increase in the number of planned patients (by 45.5%) while maintaining the number of emergency patients.

However, over the past four years, we have noted a decrease in the number of planned hospitalizations in a number of hospital departments. So, the number of planned hospitalizations in the department of pregnancy pathology has significantly decreased (by 80.0%, with a slight decrease in the number of emergency patients by 6.1%), in the neurological department (by 54.9%, with a slight decrease in the number of emergency patients by 5, 0%). In the burn department, there is a decrease in the number of planned hospitalizations by 29.2% while maintaining the number of emergency hospitalizations. In the urology department, there is a gradual moderate decrease in the number of both planned and emergency hospitalizations (by 21.8% and 7.5%, respectively). In the trauma unit, the number of planned patients has not changed over the past four years, while the number of emergency hospitalizations is reduced by 16.1%.

Studying the structure of planned hospitalizations by funding sources in 2019, we determined that 65.0% of hospitalizations are funded from mandatory medical insurance funds (20% of which are paid for high-tech medical care), 26.4% - at the expense of citizens paid services, 4.3% - for voluntary medical insurance, 0.8% - under contracts with organizations (total for all paid services - 31.5%), and 3.5% of hospitalizations are financed from budgetary funds to pay for high-tech medical help (84.0% at the expense of the regional budget) and (16% at the expense of the federal budget).

Considering the dynamics of changes in the number of planned hospitalizations for various financing facilities for the period from 2016 to 2019, we recorded the largest increase in the provision of high-tech medical care: by means of compulsory medical insurance - by 603.8% (from 79 hospitalizations in 2016 to 556 hospitalizations in 2019) and at the expense of the budget - by 137.3% (from 59 hospitalizations in 2016 to 140 hospitalizations in 2019). The number of hospitalizations funded by compulsory health insurance (excluding high-tech medical care) increased by 86.2% (from 1,175 hospitalizations in 2016 to 2,188 hospitalizations in 2019).

The number of planned hospitalizations financed for paid services at the expense of citizens decreased by 37.9% during the reporting period (from 1,789 hospitalizations in 2016 to 1,111 hospitalizations in 2019). The number of hospitalizations for voluntary medical insurance increased slightly - by 8.9% (from 164 hospitalizations in 2016 to 179 hospitalizations in 2019) and under contracts with organizations - by 19.1% (from 28 hospitalizations in 2016 to 33 hospitalizations in 2019).

Next, we studied from which clinics patients are referred for planned hospitalization in N.I. Pirogov SBHI SCCH № 1, since the hospital does not have an attached population. According to the results of the analysis, 14 city polyclinics were established, which referred patients to N.I. Pirogov SBHI SCCH № 1 in 2019. The largest number of directions was issued by SBHI SO Samara City Polyclinic № 9 of the Oktyabrsky District - 28.3%; SBHI SO "Samara City Polyclinic № 13 of the Zhelezodorozhny District" - 22.0%; SBHI SO Samara City Polyclinic № 3 (Leninsky and Samara city districts) - 18.3% and SBHI SO Samara City Consultative and Diagnostic Polyclinic № 14 (October city district) - 9.4%. These outpatient medical organizations are geographically close to the city hospital.

A small number of referrals for planned hospitalizations, including, as a rule, surgical interventions, were issued by SBHI SO Samara City Polyclinic № 15 of the Industrial District - 4.2%; SBHI SO "Samara City Polyclinic № 1 of the Industrial Region" - 4.2%; SBHI SO "Samara City Polyclinic № 4 of the Kirov District" - 3.7%; SBHI SO Samara City Polyclinic № 10 of the Soviet District - 3.4%; SBHI SO "Samara City Polyclinic № 6 of the Industrial District" - 2.8%.

A number of patients for planned hospitalizations were referred from other settlements of the Samara Oblast: 3.3% of patients were referred from Togliatti clinics: SBHI SO Togliatti City Clinical Polyclinic № 3, SBHI SO Togliatti City Polyclinic № 1, SBHI SO Togliatti City Polyclinic № 2, SBHI SO Togliatti City Polyclinic № 4, 0.4% of patients were referred from SBHI SO Syzran City Polyclinic.

We studied the structure of referral diagnoses of patients hospitalized in a hospital in 2019. The most common diagnoses: "Inguinal hernia" (6.4% of all directive diagnoses), "Hernia of the anterior abdominal wall" (3.8%), "Umbilical hernia" (2.6%), "Other abdominal hernias" (1.2%). Patients with these diagnoses are hospitalized in surgical departments № 6 and № 7, they are most often referred from Samara city polyclinics in Samara № 3, № 9, № 13, № 14. The average length of stay of patients in a bed with an inguinal hernia was 7.2 days, with a hernia of the anterior abdominal wall - 12.1 days. with umbilical hernia - 8.3 days.

Patients diagnosed with "cholelithiasis" (4.6% of all referral diagnoses) and "Benign adipose tissue neoplasm" (1.3%) are also referred to surgical departments № 6 and № 7. Patients with a diagnosis of Atherosclerosis (2.1%) are referred to Surgical Department № 7, which includes a vascular profile. The average length of stay of patients in a bed with cholelithiasis was 8.5 days, with benign neoplasm of adipose tissue - 3.4 days, with atherosclerosis - 12.2 days.

Most often, patients with diagnoses of "Prostate Hyperplasia" (1.9% of all referral diagnoses) and "Urolithiasis" (0.8%) are referred to the urology department from Samara polyclinics (№ 3, № 9 and № 13). The average length of stay of patients in a bed with prostatic hyperplasia was 13.5 days, with urolithiasis - 9.1 days.

Patients with diagnoses of "Damage to the intervertebral discs of other sections" (2.6% of all directive diagnoses) and "Osteochondrosis of the spine" (1.4%) are referred to the neurosurgical department from Samara clinics (№ 1, № 4, № 10, № 14) The average length of stay of patients in a bed with damage to the intervertebral discs was 8.7 days, with osteochondrosis - 8.1 days.

Patients with diagnoses of "Intra-articular knee lesions" (3.0% of all referral diagnoses) and "Other types of subsequent orthopedic care" (2.9%) are referred to the trauma unit from polyclinics. The average length of stay of patients in a bed with intraarticular lesion of the knee was 6.0 days, with the removal of the plate after fusion of the fracture and other internal fixation device - 4.3 days.

In the gynecological department of the N.I. Pirogov SBHI SCCH № 1 most often receive patients with diagnoses: "Other non-inflammatory diseases of the uterus, with the exception of the cervix" (7.1% of all directive diagnoses), "Polyp of the female genital organs" (6.4%), "Uterine leiomyoma" (4.1%), "Benign ovarian neoplasm" (2.9%), "Medical abortion" (2.4%), "Cervical erosion and ectropion"

(1.2%). With these diagnoses, patients are referred from Samara city polyclinics № 1, № 3, № 4, № 9, № 13, № 14. The average length of stay of patients in a bed with a polyp of female genital organs was 7.0 days, with uterine leiomyoma - 8, 5 days, with endometriosis - 9.5 days, with erosion and ectropion of the cervix - 6.5 days, with incomplete medical abortion - 6.8 days, with complete medical abortion - 2.7 days.

Thus, there has been an increase in the number and proportion of planned hospital admissions in the hospital recently. The largest share of planned hospitalizations is noted in the departments of gynecological, neurosurgical and surgical profiles. Financing of planned hospitalization is carried out mainly at the expense of compulsory medical insurance. Mostly nearby city polyclinics refer for planned hospitalization in a hospital. Given the growth of planned hospitalization in a hospital, it is necessary to improve its organization aimed at managing its flow, creating algorithms for the rational movement of patients in a hospital, performance indicators, and improving interaction with polyclinics.

动态电神经刺激与微量物质光谱电泳相结合以改善人体外观和恢复人体适应性储备的原因

**THE REASONS OF COMBINATION OF DYNAMIC ELECTRIC NEUROSTIMULATION AND SPECTRAL PHOTOPHORESIS OF TRACE SUBSTANCES FOR IMPROVING THE APPEARANCE AND RESTORING ADAPTATIVE RESERVES OF THE BODY**

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抽象。 动态电子电刺激是个性化微电流疗法的一种变体，其基于在手术过程中根据皮肤表面阻抗的变化自动改变脉冲参数。 光谱光疗基于暴露于线性光谱源，该线性光谱源的辐射共振线是通过选择人体的源材料而预先设定的。 提出了将这两种医学技术合理结合以全面消除美容缺陷和恢复人体适应性储备的理论基础。

关键词：动态电神经刺激，光谱光疗，面部美容缺陷，身体适应性储备。

**Abstract.** *Dynamic electroneurostimulation is a variant of personalized microcurrent therapy based on the automatic change of pulse parameters in accordance with changes in the surface impedance of the skin during the procedure. Spectral phototherapy is based on exposure to a linear light spectrum source, the resonance line of radiation of which is pre-set by selecting the source material of the body. The theoretical rationale for the rational combination of these two medical technologies for the comprehensive elimination of cosmetic defects and the restoration of adaptive reserves of the body is presented.*

**Keywords:** *dynamic electric neurostimulation, spectral phototherapy, cosmetological defects of the face, adaptive reserves of the body.*

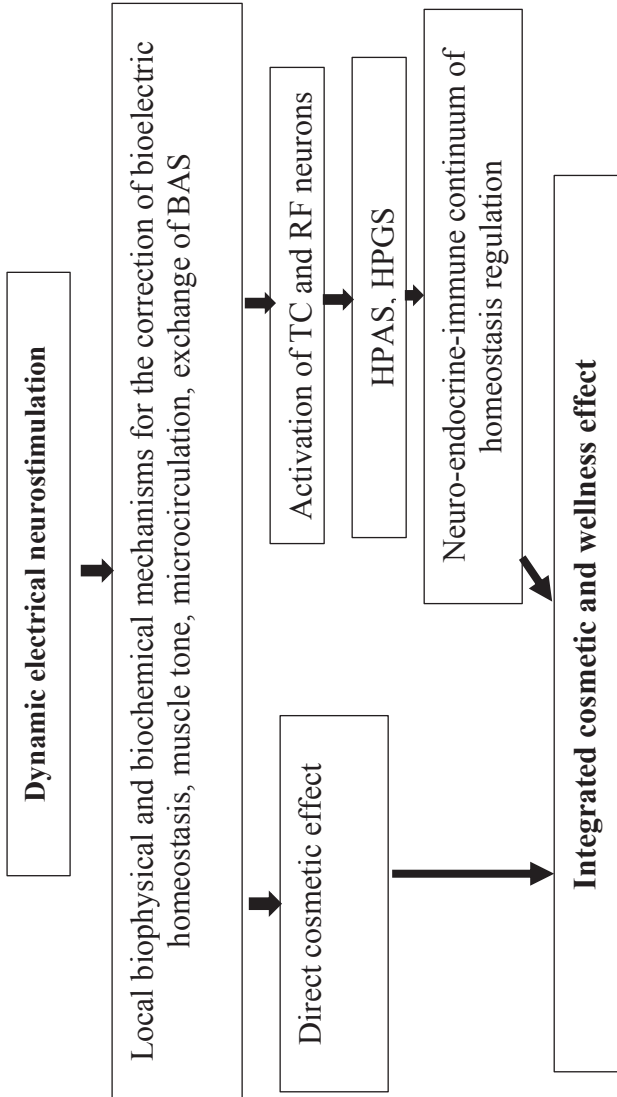
A new consensus statement was published at the 2017 XXI World Congress of the International Association of Gerontology and Geriatrics, signed by representatives of three leading global organizations in the field of dermatology and aging: the International League of Dermatological Societies (ILDS), the International Association of Gerontology and Geriatrics (IAGG) and the Global Coalition on Aging (GCOA). It confirms the critical importance of the skin for human health and pays attention not only to the elimination of skin defects, but also to the maintenance of the functional capabilities of the person [1]. This statement implies that antiaging medicine should combine the correction of cosmetic defects with a slowdown in the reduction and partial restoration of a person's adaptive capabilities, thus eliminating the previously established distinction between anti-aging and aesthetic medicine.

In modern practice, both anti-aging and medicine as a whole are dominated by the use of pharmaceuticals, most of which are characterized by local targeted action, not able to solve the complex problems of an aging body. According to the WHO, iatrogenicity occurs in 20% of patients and makes up 10% in the structure of hospital mortality. A significant proportion of iatrogenic pathology is made up of side effects of drug therapy, which are recorded in 10-20% of hospital patients [2]. An article [3], published in 2013, states that over the past 35 years, patients have suffered from a largely hidden epidemic of side effects from pharmacological drugs, which has led to an increase in the number of hospitalizations and deaths. Professor Donald Light claims that 85% of new drugs have a minimum of beneficial effect, if they have it at all [<http://healthandlife.ru/articles/571/>, <https://www.city-n.ru/view/155286.html>]. These circumstances determine the relevance of the wider use of physiotherapeutic methods, some of which are characterized by polypotent action [4, 5].

In ancient China, medical diagnosis of a person's face was called Xian Ming (face reading). Characteristics of the type of person were established, correlating with the Yin or Yang type of person, determining his predisposition to certain diseases. On the face there are many acupuncture (biologically active) points, the stimulation of which is effective to normalize the impaired functions of internal organs and increase the adaptive potential of a person. On the face there are 26 points belonging to 7 out of 14 ordinary acupuncture meridians [6]. Currently, classical acupuncture is gradually being replaced by non-invasive physiotherapeutic methods, in particular electrical and photostimulation. As of December 17, 2019, 27084 publications were found in the Pubmed database for search words "cosmetic skin", and only 165 for cosmetic skin physiotherapy.

**Dynamic Electroneurostimulation (DENS)** belongs to the class of microcurrent therapy, combining high efficiency, painlessness, comfort and a minimum of contraindications. DENS is one of the most effective microcurrent therapy options. It provides an automatic change in the parameters of the pulses in accordance with changes in the surface impedance of the skin, and therefore is a variant of a personalized activation therapy [8].





**Fig. 1.** The mechanism of action of DENS according to [7] with changes. Designations: BAS - biologically active substances, TC - trigeminal complex, RF - reticular formation, HPAS - hypothalamic-pituitary-adrenal system, HPGS - hypothalamic-pituitary-gonadal system

The high efficiency of DENS is indicated for a variety of diseases and pathological conditions. A wide range of indications for the use of DENS is due to its mobilizing effect on the adaptive reserves of the body, which was shown using the method of cardiointervalometry [9]. There is a positive experience with the use of DENS in aesthetic medicine [10, 11]. For cosmetic purposes, there is a DiaDENS-Cosmo apparatus, which is a mask, internally coated with a conductive layer, which is connected to a small-sized pulse generator. Under the electrode mask, three types of tissue masks, impregnated with conductive solutions, are applied to the face: nourishing, moisturizing or anti-age, differing in composition. Thus, two types of physiotherapeutic effects are realized: percutaneous electroneurostimulation and electrophoresis of physiologically active substances contained in a wet mask. The mask electrode does not allow selectively affecting local representations of parts of the body and internal organs on the face, which significantly reduces, and possibly excludes, the effectiveness of increasing adaptive reserves due to concomitant diseases. Therefore, the use of the DiaDENS-Cosmo apparatus is limited mainly to the elimination of cosmetic defects. To achieve the combined elimination of age-related or stress-related cosmetic defects of the face and the restoration of adaptive reserves of the body, it is advisable to use DENS devices equipped with built-in and remote electrodes that can be used for massage. Thus, three types of therapeutic and prophylactic effects are already realized: 1) percutaneous electroneurostimulation, 2) electrophoresis of physiologically active substances, 3) facial massage.

**Spectral Phototherapy (SPT).** Ensuring an adequate amount of irreplaceable inorganic chemical elements in the body is one of the indispensable conditions for its normal functioning. Replenishment of the deficiency of chemical elements in the body is usually solved by taking them *per os*, less often parenteral administration. At the same time, to achieve their effective concentration in target organs, large doses of drugs are required, which is fraught with the possibility of developing negative side effects.

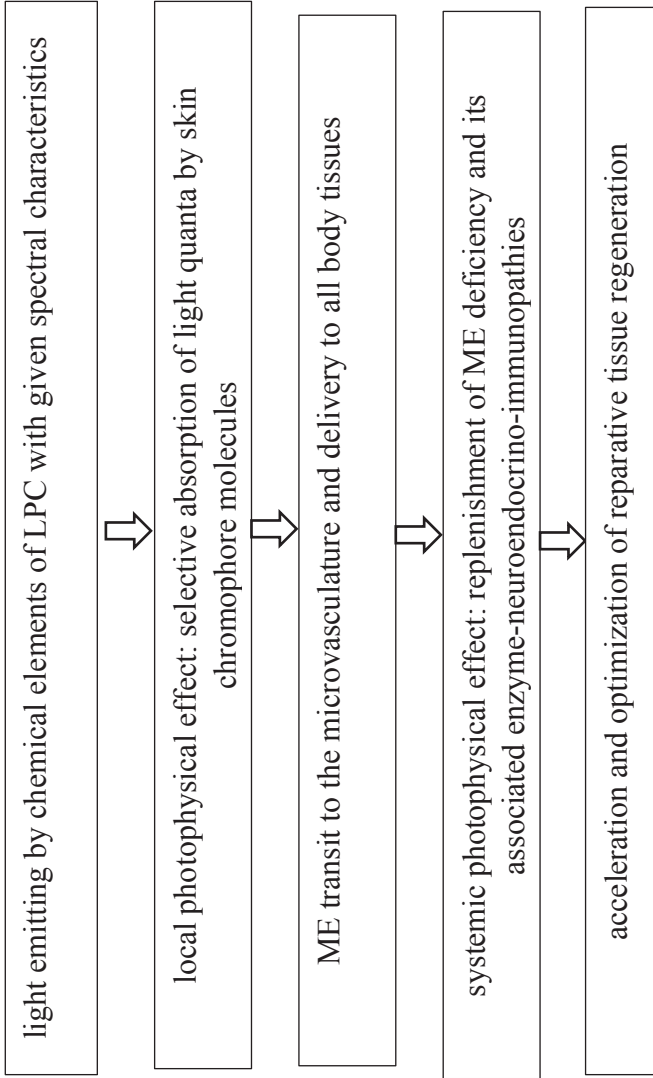
A complementary and sometimes alternative technology to these methods is SF. It is based on exposure to a linear light spectrum source by radiation, the resonant emission line of which is preliminarily set by choosing the source material of the body. Hollow cathode lamps with emission spectra of various chemical elements characterized by a discrete, strictly defined set of wavelengths of emitted light are used as a source of such radiation. The basis of the therapeutic, prophylactic and rehabilitative effects of SFT is its ability to correct the exchange of micro and macro elements, which, one way or another, are involved in all known vital processes. This leads to a wide range of indications for the use of SFT. The main components of SFT are protected by 14 patents of the Russian Federation.

The results of clinical studies have shown that SFT is more or less effective for the regulation of all major homeostatic systems, as a result of which it can be effectively used for the treatment and prevention of a variety of diseases, especially in cases where it is impossible to correct the imbalance of trace elements with the help of special diets or medication. The technology combines safety and high performance, allows you to achieve the desired result and save it for a long time [12].

There is reason to believe that monitoring and targeted correction of disturbances in the balance of macro- and microelements of elemental status can serve as one of the effective approaches to solving the problem of the comorbidity pandemic. Deficiency of essential trace elements is a common premorbid background of a wide range of diseases, accompanies all stages of their pathogenesis, and, therefore, underlies the occurrence of comorbidity. This is due to the pluripotent biological role of a number of essential trace elements, their involvement in the regulation of several vital processes at once. The widest spectra of pluripotent action are characterized by Zn, Cu, Mg and Fe. Comorbidity is due to common etiological factors and pathogenetic mechanisms of the development of its constituent diseases. These include violations of the chemical homeostasis of the body, especially in the form of a deficiency of essential trace elements.

In 2014, a hollow cathode lamp was patented specifically designed to solve the Spectro-Cosm cosmetology problems. The product is a mask internally coated with a conductive layer that connects to a small-sized pulse generator. It emits spectral lines in the range of 300-800 nm, characteristic of 11 chemical elements (K, Ca, Mg, Na, Mn, Cu, Zn, Fe, Si, Se, Pt), which are necessary for the normal condition of the skin and prevent its premature aging [14]. However, the patented device provides mainly the elimination of cosmetic defects. To achieve the complex effect of increasing adaptive capabilities and eliminating facial cosmetic defects, it is advisable to use DENS devices equipped with built-in and remote electrodes that can be used for massage. Thus, three types of therapeutic and prophylactic effects are already realized: 1) percutaneous electroneurostimulation, 2) electrophoresis of physiologically active substances, 3) facial massage.

As in the initial stages of the spread of Zhen - Tszyu therapy in all countries of the world, to this day, Chinese specialists remain leaders in the development of this field of medicine. Interesting data was shared by Chinese researchers who established a significantly increased content of Ca, Fe, Cu and Zn at acupuncture points compared with the surrounding skin [15]. A new conceptual engineering strategy has been developed, known as liquid metal electrobiology. Instead of commonly used hard electrodes, the use of room temperature liquid metal (RTLTM) has been proposed, which can ideally match the relief of the stimulated zone [16].



**Fig. 2.** *The hypothetical scheme of the preventive and therapeutic effects of SFT with comorbidity according to [13]*

Features of the innervation of the face allow you to attribute it to the most powerful reflexogenic zone. Despite significant differences in the number and localization of topographic representations of body parts and internal organs on the face, it is noted that their stimulation has a positive effect on both the appearance and the state of human health [17]. The results of preliminary studies [18] showed that the complex effect of DENS and SFT is advisable to apply both regularly to slow the aging of the body, and occasionally:

➤ in future or already completed stressful situations, for example, sports competitions, adverse weather conditions (meteopathies), desynchronization, interpersonal conflicts and various frustrating factors;

➤ to improve the appearance of upcoming public image, business negotiations, receptions or dates. At the same time, improving complexion, eliminating edema and fine wrinkles can be achieved as a result of even a single procedure. However, the achievement of more reliable and significant results should be expected from a 3-day express course during the procedures twice a day.

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体外血液净化对脓毒症细胞因子产生的影响  
**THE EFFECT OF EXTRACORPOREAL BLOOD PURIFICATION  
ON THE CYTOKINE PRODUCTION IN SEPSIS**

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抽象。 本文介绍了这项初步研究的初步结果，其中对革兰氏阴性脓毒症患者选择性内毒素吸附和血浆过滤联合吸附前后的血清促炎细胞因子和可溶性细胞因子受体水平以及新蝶呤浓度进行了评估。 没有发现显着差异。 这些可能是由于免疫系统的个体特征和炎症反应阶段所致。

关键词：体外血液净化，革兰氏阴性败血症，脂多糖，细胞因子，ne

**Abstract.** *The article presents preliminary results of the pilot study, in which serum proinflammatory cytokine and soluble cytokine receptor levels and neopterin concentration were evaluated before and after selective endotoxin adsorption and coupled plasma filtration adsorption in patients with gram-negative sepsis. No significant differences were revealed. These may be due to individual characteristics of immune system and the phase of inflammatory response.*

**Keywords:** *extracorporeal blood purification, gram-negative sepsis, lipopolysaccharide, cytokines, ne*

Despite all the achievements of modern medicine, sepsis is still an extremely urgent problem. According to the results of the European study EPISEPSIS (2003), the incidence of sepsis is 50-100 per 100,000 population. This is still one of the main causes of death in the intensive care unit and intensive care unit. According to the literature, mortality ranges from 40 to 70%, and with sepsis caused by gram-negative microflora, it is 2 p. above [1,2].

A key link in the pathogenesis of gram-negative sepsis is the release of a large amount of endotoxin - the lipopolysaccharide (LPS) of the bacterial wall. The main reservoir of endotoxin is the intestines. In conditions of hypoperfusion of the intestinal mucosa, infection, or abdominal surgery, endotoxin can penetrate the circulatory system simultaneously with the translocation of intestinal bacteria. The response to the penetration of endotoxin into the bloodstream is the production of pro-inflammatory cytokines (TNF- $\alpha$ , IL-1, IL-6). However, with the

failure of protective mechanisms, it becomes uncontrollable, resulting in a systemic inflammatory reaction, accompanied by impaired coagulation, increased endotoxemia, tissue damage and the development of multiple organ failure [1,5]

The pathogenetic chain of the development and progression of sepsis necessitates the development and implementation of new technologies, in particular methods of extracorporeal hemocorrection. The methods of hemocorrection can affect both the triggering mechanism of the development of sepsis at the earliest stage (removal of endotoxin), and its consequence - the removal of an excessive number of inflammatory mediators [2,4].

The choice of a specific method of detoxification and the moment for its implementation is still the subject of scientific discussion [7, 8, 10, 11]. One of the promising methods that have appeared in recent years is combined plasma filtration with precipitating adsorption (CPFA), which uses a hemofilter (polyphenylene membrane), a plasma filter (polyethersulfone membrane) and an adsorption column (macroporous styrene synthetic resin). It was found that the sorbent is able to bind a number of cytokines, in particular, IL-1, IL-8, IL-6, gamma IFN, TNF- $\alpha$ , as well as complement components C3a / C5a and endotoxin gram-negative bacteria [6, 9, 12]. Another promising method is the selective adsorption of LPS using a specially synthesized polypeptide with a powerful selective potential for LPS. There are first reports that the use of this method in the early stages of the development of endotoxemia helps to block the trigger signal and, accordingly, prevent the overproduction of cytokines and the development of multiple organ failure [2,3].

The aim of the work was to study the dynamics of the level of pro-inflammatory cytokines, soluble cytokine receptors, neopterin in patients with gram-negative sepsis before and after extracorporeal hemocorrection using CPFA procedures, selective lipopolysaccharide hemosorption using ALTECO LPS adsorber columns.

**Materials and methods:** The study included 14 patients (8 men, 6 women) with gram-negative sepsis aged 32 to 64 years. The source of infection in all cases was the intra-abdominal focus. The mean sepsis organ failure rate (SOFA) score was  $7.1 \pm 0.8$  points. Prior to admission to the intensive care unit, all patients underwent debridement of various degrees of complexity. Complex intensive care was carried out in accordance with the standards of treatment for sepsis. A microbiological study was performed on a suspected source of infection. All patients showed microbial associations in which gram-negative microflora prevailed. Patients were randomly divided into 2 groups of 7 people, CPFA was carried out in one group, and selective lipopolysaccharide hemosorption in the other. The number of procedures ranged from 1 to 3, depending on the severity of the patient's condition.



Levels of IL-1, IL-1 receptor antagonist (RA IL-1), IL-6, soluble IL-6 receptor (sIL-6R), IL-10, TNF- $\alpha$ , soluble TNF- $\alpha$  receptor (s TNF- $\alpha$  R) serum neopterin was determined by enzyme-linked immunosorbent assay using test systems from Bender MedSystems (Austria) and IBL (Austria). Blood was taken before and immediately after each procedure.

**Results:** Baseline serum cytokine levels were subject to significant individual fluctuations. In most cases (12 patients), the concentrations of IL-1, TNF- $\alpha$  corresponded to normal values or slightly exceeded them, which can be explained by the fact that studies were conducted in the late stages of sepsis. A significant (2-4 times) increase in the concentrations of serum IL-6 and IL-10, as well as RA IL-1, sIL-6, sTNF- $\alpha$ R. The level of neopterin many times (5-10 times) exceeded normal values.

There were no statistically significant differences in the concentrations of cytokines, soluble cytokine receptors and neopterin before and after extracorporeal detoxification procedures. A tendency towards a decrease in the level of neopterin and an increase in the concentration of sIL-6R was noted.

**Conclusion:** Extracorporeal detoxification methods ambiguously affect the production of pro-inflammatory cytokines, which may be associated with individual characteristics of the immune system and the phase of the systemic inflammatory response. To identify statistically significant trends, research is needed on larger samples and more homogeneous groups of patients.

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