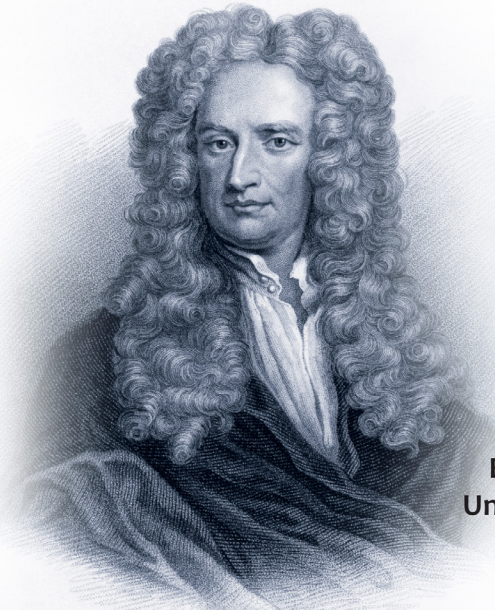
INTERNATIONAL CONFERENCE

PROCESS MANAGEMENT AND SCIENTIFIC DEVELOPMENTS



Birmingham
United Kingdom

International Conference "Process Management and Scientific Developments"

Birmingham, United Kingdom
(Novotel Birmingham Centre, November 14, 2019)

Materials of the International Conference
"Process Management and Scientific Developments"
(Birmingham, United Kingdom, November 14, 2019)

M67

ISBN 978-5-905695-67-4

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.

Authors are responsible for the accuracy of cited publications, facts, figures, quotations, statistics, proper names and other information.

UDC 330

ISBN 978-5-905695-67-4

CONTENTS

ECONOMICS

Financial strategy: directions and stages of implementation
Gainutdinov Bulat Anvarovich, Rasumovskaya Elena Alexandrovna....9

Influence of macroeconomic factors to the financial resources of houses
Rasumovskiy Denis Yurievich....16

Does the financial system structure influence to the socio-economic development of the Russian economy?
Lebedev Alexey Vitalievich, Rasumovskaya Elena Alexandrovna....29

Automation of accounting: Competition and Development
Kurandina Sofya Alexandrovna, Frolova Anastasia Andreevna,
Shindyalova Tatyana Nikolaevna....37

Coopetition phenomenon in multinational corporations logistics
Gviliya Natalia Alekseevna, Mikhailova Ksenia Olegovna....44

PEDAGOGICAL SCIENCES

Systems of nonlinear equations in school and University
Aslanyan Irina Vladimirovna....53

Communicative peculiarities of teaching the monological speech competence in the process of training speaking skills of students, studying english as a foreighn language
Larionov Viktor Aleksandrovich....63

Scientific and methodological support of young teachers in the interaction of the university and school
Abramovskyh Natalya Viktorovna....70

Social partnership of educational organizations and the university in the preparation of the future teacher
Araslanova Anastasia Alexandrovna....76

Peculiarities of vocational training of future primary school teachers in the conditions of interactive learning in the University
Sinebryukhova Vera Leonidovna....84

The importance of the Russian folk tales in the education of the basics of speech etiquette in children of middle preschool age
Filippova Aksana Ravilevna, Shleeva Anna Viktorovna....92

Features of life drawing lesson planning in elementary school
Rotova Natalya Aleksandrovna....102

Features of SMM - promotion of student projects on Instagram
Alekseeva Olga Vladimirovna....111

PHILOLOGY

National and cultural identity of English and Russian proverbs with the meaning «speech, word»: comparative analysis
Orlova Tatiana Gennadyevna....120

Phraseological Semantic Field "Character" (Based on English Phraseological Units with the Phytonym Component)
Yakunina Tatiana Igorevna....128

POLITICAL SCIENCES

Turkey's Energy Policy in the Context of Russian-Turkish Relations
Khlopov Oleg Anatolyevich....138

ART HISTORY

Training drawing and composition. Interconnection of subjects in modern Academic school
Kudrevatyi Mikhail Georgievich....146

MEDICAL SCIENCES

Lymphadenopathy in infectious diseases in children - importance in differential diagnosis
Makhmutov Ravil Fatkulislyamovich, Bobrovitskaya Antonina Ivanovna, Makhmutova Asiya Ravilevna, Zakharova Lyubov Alekseevna....155

Quantum-digital technologies in Oncology: local laser hyperthermia
Titova Vera Alekseevna, Panshin Georgy Alexandrovich, Shevchenko Lyudmila Nikolaevna....165

BIOLOGY

The problem of "dry eye" syndrome in schoolchildren of the Aral Sea region
Karabalaeva Aiman Beisembaevna, Ibadullaeva Saltanat Zharylkasynovna....173

Chemical indicators of soils of the Kazaly district
Ibadullayeva S. Zh., Tapalova A. S., Azhmoldayeva K. B., Baihozhayeva G. M....180

GEOGRAPHICAL SCIENCES

The rural population of the south of Tyumen region: marriage and divorce status at the beginning of XXI century
Solodovnikov Alexander Yurievich, Solodovnikov Dimitriy Alexandrovich.....190

GEOLOGICAL AND MINERALOGICAL SCIENCES

Kurums of South Ural
Smirnov Alexander Ilyich.....205

TECHNICAL SCIENCES

About the hardware design of the CDU as a function of raw materials
Khabibrakhmanova Oksana Valerievna, Popov Sergey Vasilyevich,
Bukhantsova Svetlana Aleksandrovna.....215

Electromechanical dispersants. Theory and technological capabilities
Bezzubtseva Marina Mikhailovna, Volkov Vladimir Sergeevich,
Kolosovsky Vladislav Vladimirovich.....220

FINANCIAL STRATEGY: DIRECTIONS AND STAGES OF IMPLEMENTATION

Gainutdinov Bulat Anvarovich
CEO
Joint Stock Company "Ural Instrument-Making factory"
Ekaterinburg, Russian Federation
Rasumovskaya Elena Alexandrovna
Doctor of Economic Sciences, Associate Professor, Full Professor,
Institute of economics and management,
Ural Federal University
named after the First President of Russia B. N. Yeltsin
Ekaterinburg, Russian Federation

Abstract. Aspects of financial management come to the fore in the face of the need to generate internal sources of quality growth and socio-economic development of the national economy. The most important place in this aspect is taken by the corporate financial strategy, as a set of decisions on the operational, investment and financial activities of the company. An attempt to justify and develop a theoretical platform for a financial strategy can become a universal mechanism for the formation of tools for managing financial flows of companies, regardless on sectoral affiliation.

Keywords: Financial strategy, socio-economic development, financial management.

The variety of views on the definition and content of the concept of "financial strategy" comes down to a set of measures of a financial nature regarding the financial management of an economic entity or, at the macro level, the state. The author believes that in this vein, financial strategy is fundamentally no different from financial planning, whereas in theory, and in methodology, and in practice, financial strategy is something more fundamental on which financial policy is formed.

And, the point is not in the planning horizon and in the measures themselves, through which financial management is implemented. It is important to distinguish between areas of financial management (if we are talking about a corporate entity) which are included (Figure 1): operational, investment and financial activities.

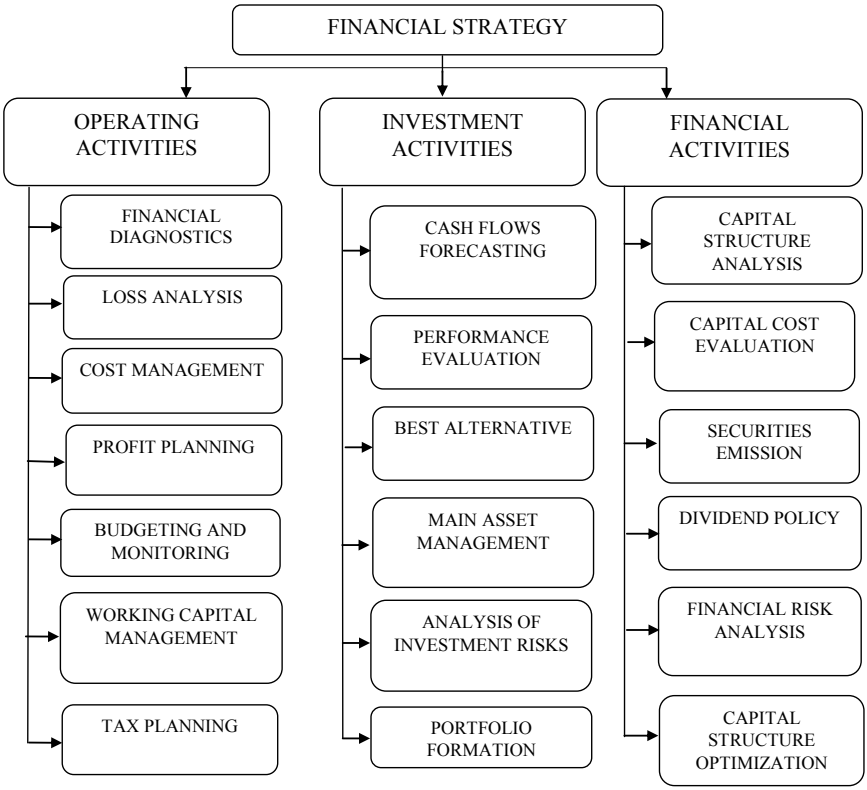


Figure 1. - Directions of corporate financial strategy

A financial strategy is a multifactor model of a company's actions to provide financial resources for its development in these areas of activity. Decisions made within the framework of the financial strategy are decisions on financing operational and investment activities from the perspective of corporate capital sources. Organization of the process of financing the ac-

tivities of the company is based on compliance with the parameters of its financial condition. Among these parameters it is customary to include the state of balance, credit load, indicators characterizing the structure of working capital, dividend policy. The author insists that the value of sources of capital is important for the prospects of the company - in financial science it is called the weighted average cost of capital of the company.

The formation of a financial strategy according to the specified parameters is the subject of corporate financial policy, determining the long-term prospects for the development of the company.

Implementation of the financial strategy is based on financial plans developed for all functional areas of the company. Coordination of strategies and plans ensures the ongoing development of the business entity, preventing the onset of many risks associated with these activities. Of course, there are risks for which proactive measures cannot be developed: tax, outwardly opportunistic - for which it is customary to develop scenario forecasts as part of strategic financial planning [1].

Given the high volatility of the situation for domestic conditions, when forming a financial strategy in a scenario format, it makes sense to adhere to some continuity between plans for different horizons. Thus, we can talk about ensuring long-term structural equilibrium and predictability of the financial policy of the corporate entity for various external conditions, traditionally dressed in pessimistic, optimistic and realistic scenarios [3].

The components that make up the essence of the financial strategy (Figure 1) are:

1. Operational activity, which involves the analysis of the spectrum of products from the position of production volumes and the identification of flagship categories; pricing based on an analysis of the cost structure of production and sales; analysis of financial performance indicators (liquidity, financial independence, solvency, structure and dynamics of current assets, condition of assets and liabilities); conducting marketing monitoring and conducting internal audit of the company; The policy of using profit in the following areas is important: reinvestment, formation of reserve funds, current use.

2. Investment activity based on assessments of the company's current capabilities; analysis of its activities based on the policy of managing fixed assets; analysis of investment risks associated with the formation of an investment portfolio taking into account the external environment; search for optimality parameters of investment decisions based on the assessment of available alternatives.

3. Financial activities based on an analysis of the capital structure (using the weighted average cost of company capital); comparing the result with the market conditions for raising capital (at cost, terms, conditions of collateral, etc.) to make, ultimately, decisions regarding:

- optimization of capital structure;
- conditions for the issue of securities (by categories of funds raised);
- dividend policy of the company.

A financial strategy is developed in the functional areas of each of the listed components. So, in the framework of operational activities, substrategies are created for:

- production of goods;
- marketing;
- logistics;
- staffing and personnel management, etc.

Strategic planning is based on general principles:

1. Necessity.
2. Unity and continuity.
3. Flexibility and accuracy.
4. Consistency and complexity.
5. Optimality and efficiency.
6. Science and focus.
7. Priority.
8. Balance.
9. Directivity and specificity.
10. Objectivity.
11. Dynamism.
12. Risk Management.

These principles make it possible to form a viable financial strategy, the implementation of which will not cause dissonance in coordinating policy efforts and methods for its implementation [2].

Traditionally, in the theory of financial planning, methods of algorithmizing the processes of creating and implementing plans of different horizons and scales are used. In relation to the financial strategy of the company, the author proposes the following algorithm (Figure 2).

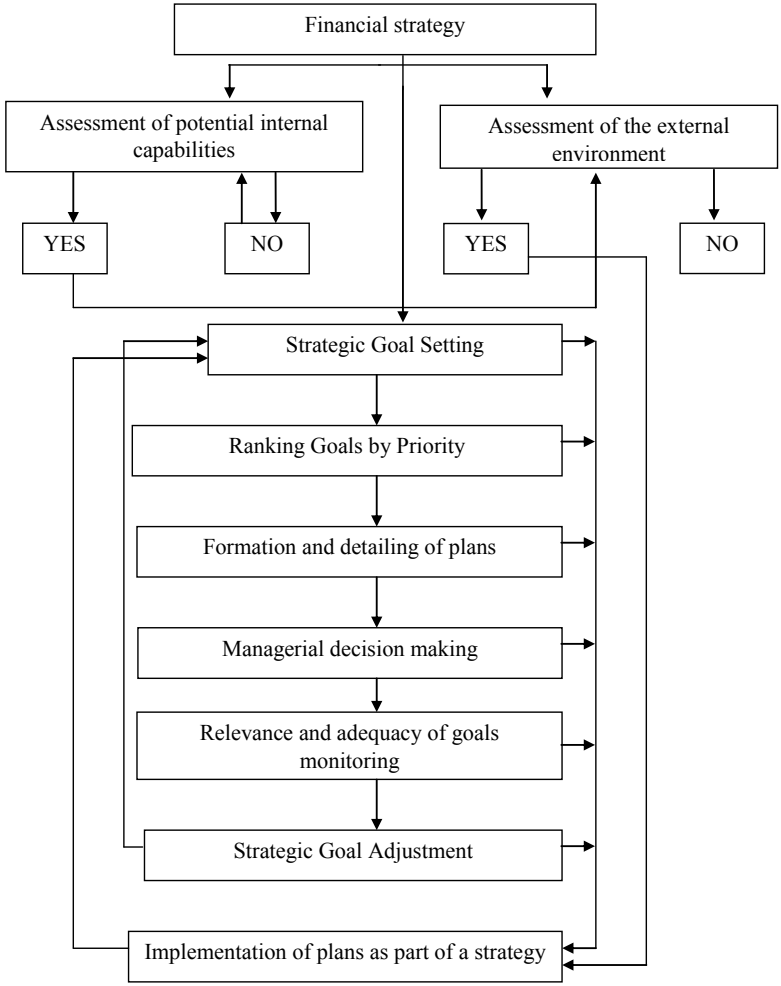


Figure 2. – The algorithm for the formation and implementation of corporate financial strategy

The presented algorithm for implementing the financial strategy is based on management logic and is interfaced with the scientific basis in the field of corporate finance. The algorithm involves phased actions of financial top management on the practical implementation of those decisions that make up the essence of strategic financial planning. The authors consider the initial capital structure and the ultimate goal of creating a corporate financial strategy to be the capital structure of the company, which, as a result of operating and financial activities, needs to be restructured to optimal parameters, in accordance with the concept of F. Modigliani and M. Miller, known as the weighted average cost of capital of a company:

$$WACC = \Sigma w_i \times k_i,$$

where: w_i – share in the company's corporate capital;
k_i – component cost of funds from an appropriate source.

The financial strategy is primarily based on assessments of internal potentialities and external conditions in assessments of "yes" or "no", that is, "yes"–means the presence of assessed opportunities or satisfactory environmental conditions. When assessing "no", – on the contrary, there are no internal opportunities for implementing the strategy, which makes it impossible to implement it until they are formed; similarly – for external conditions, "no" means that they are not satisfactory, then there are basically two solutions:

1) change the strategy in accordance with the possibility of its implementation in existing conditions;

2) to postpone the implementation of the strategy until the conditions change in the desired direction.

The overall result of the creation and implementation of a corporate financial strategy are plans for the development of the subject in the external environment based on its internal capabilities: such plans are formed not only for different horizons, but also for individual types of activities, for structural units that ensure the company's work. The combination of joint plans allows achieving a balance of functional strategy and strategic goals.

References

1. Blank I.A. Financial management. – M.: Omega-L, 2013. – 768 P.

2. Podkosova P. D. Formation and development of a long-term financial strategy of the organization // Scientific and methodological electronic journal "Concept". – 2016. – V. 6. – P. 186–190. – URL: http://e-koncept.ru/2016/56073.htm.

3. Medvedev D.A. Russia-2024: Strategy for Socio-Economic Development // Economic Issues No 10, 2018. P. 5 – 28.

INFLUENCE OF MACROECONOMIC FACTORS TO THE FINANCIAL RESOURCES OF HOUSEHOLDS

Rasumovskiy Denis Yurievich
Department Assistant
Ural State University of Economics
Ekaterinburg, Russian Federation

Abstract. Questions of the level and quality of life of socially vulnerable segments of the population are gaining more attention in world financial science - researches on poverty has been awarded the Nobel Committee in 2019. The source of wealth is the financial resources of the population - their dynamics, composition and structure. The article shows the trends in macroeconomic indicators of the Russian economy and the structure of financial resources of retirees households as the most sensitive category of the population to the volatility of macroeconomic dynamics.

Keywords: Financial resources, inflation, unemployment, GDP, population incomes.

Research related to the financial resources of households inevitably turns out to be associated with the socio-economic conditions in which the population is located. In turn, these conditions are determined by factors characterizing the state of the national economy: traditionally, these include inflation, unemployment, gross domestic product (GDP) and GDP per capita, population income structure, and some demographic indicators.

When analyzing these indicators, it is necessary to disclose them from the position of influence on the financial resources of the population. So, speaking of inflation, it should be noted that its pace has

accelerated somewhat compared to the previous year. The drivers of price growth were food and automotive fuel, while the overall inflation rate remains moderate. In 2019, inflation accelerated compared to the previous year and amounted to 4.4% - price increases slightly exceeded the upper limit of the forecast of the Central Bank (range 3.9 - 4.2%). Acceleration of inflation occurred in the second half of the year; as the main reasons, experts note macroeconomic factors, the situation on the market of certain goods and services. The former include the depreciation of the ruble and the ongoing outflow of capital. The second group of factors is related to the situation in a number of "local" markets. A decrease in the 2019 crop and an epizootic situation led to an increase in prices for agricultural products. As a result, the increase in prices for chicken meat amounted to 20.7%, sugar - 28.3%, eggs - 25.9%. Automotive fuel prices rose 15%. Figure 1 shows the dynamics of inflation.

The main contribution to accelerating inflation in the second half of 2019 was made by food prices - in the summer, the seasonal decline in prices for agricultural products was not as significant as in 2018, and in the fall it was replaced by a significant increase (Figure 2).

Closely related to inflation macroeconomic indicator is unemployment - in accordance with the Philips law, zero inflation can be achieved with a 2.5% share of the unemployed population. In practice, not a single country in the world has reached that rate of either unemployment or inflation, but the essence of the concept is clear, therefore, it makes sense to trace the correlation between inflation and unemployment in the countries of the world (table 1).

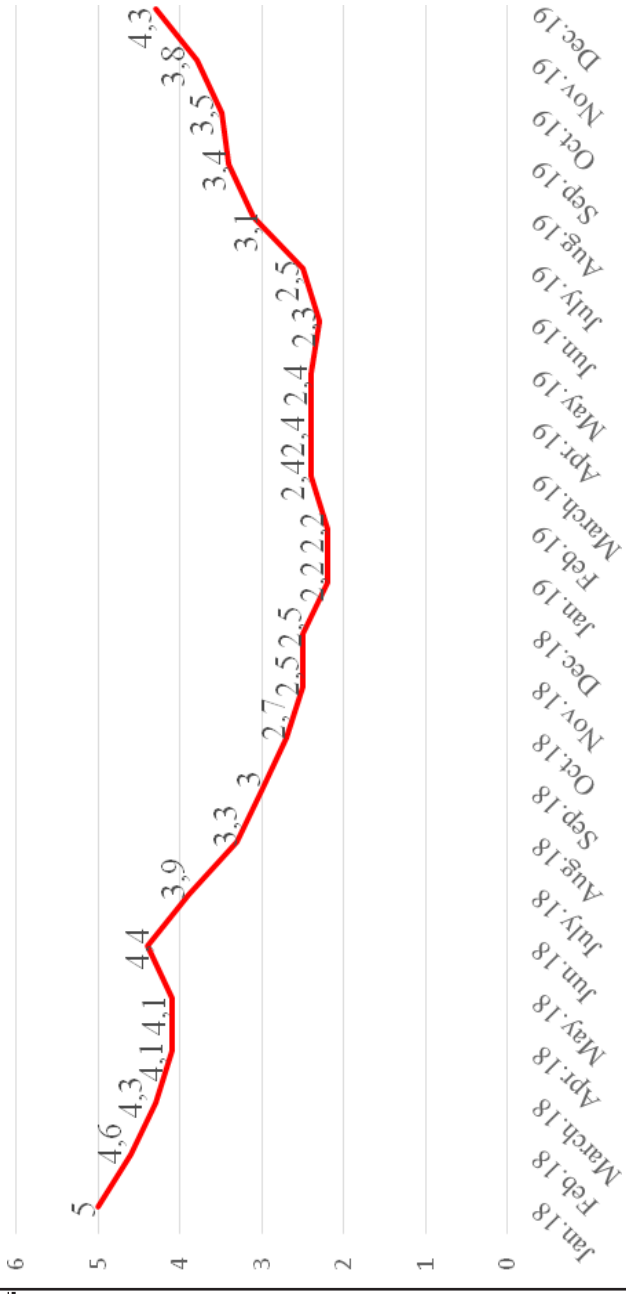


Figure 1. Dynamics of inflation to the corresponding month of the previous year,% [1, 2]

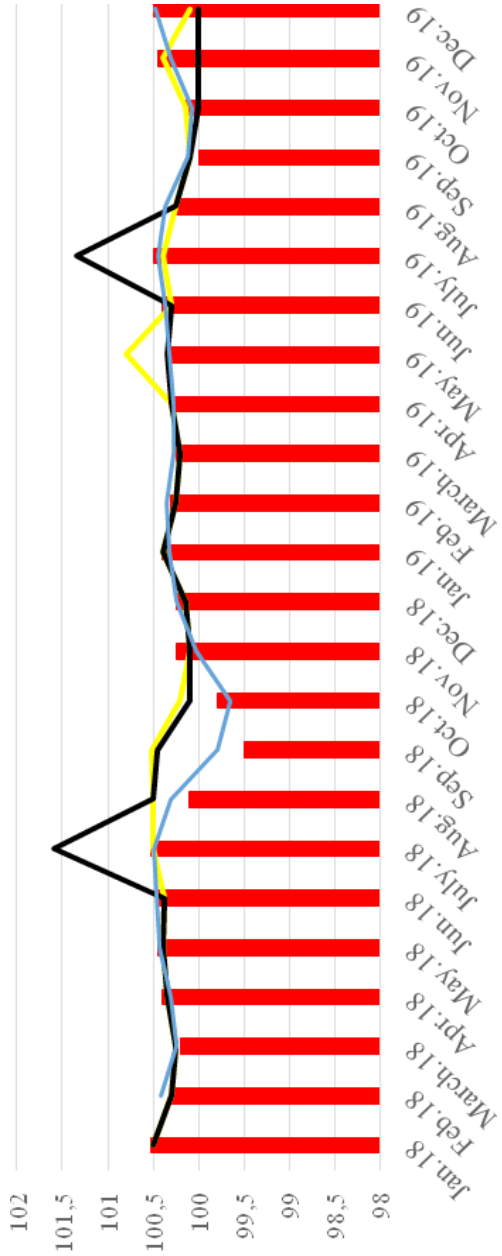


Figure 2. Dynamics of prices for groups of goods and services, to the previous month,% [1, 2]

Table 1. Inflation and unemployment in some countries of the world in 2019,% [1, 2]

Countries	Inflation, %	Unemployment, %
Greece	0,6	19,6
Poland	1,1	3,8
Spain	1,2	15,3
Germany	1,8	3,4
China	1,9	3,8
France	2,0	9,1
USA	2,0	3,9
United Kingdom	2,3	4,1
India	2,7	5,0
Brazil	3,7	12,3
Russia	4,4	4,8
Mexico	4,8	7,3
South Africa	4,9	27,2
Kazakhstan	5,3	5,1
Belarus	5,6	15,3
Ukraine	9,8	9,1
Turkey	20,3	11,2
Argentina	47,6	9,2

As can be seen from table 1, there is no obvious pronounced correlation between inflation values and unemployment, possibly due to insufficient time sampling.

However, unemployment is an extremely important macroeconomic indicator, so it makes sense to analyze the size of the workforce. The general trend is known: the number of working-age Russians is declining, and the forecast for the period until 2035 is not comforting. The situation is aggravated by a decrease in migration growth, since after the devaluation surge in 2014 and the subsequent increase in VAT, excise taxes and electricity tariffs, Russia has ceased to be attractive for labor migrants from the CIS countries.

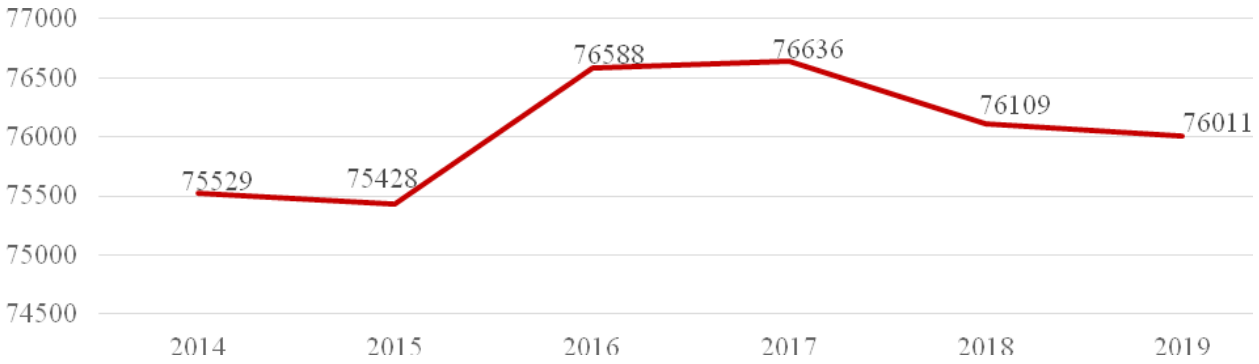


Figure 3. The dynamics of the number of labor force, million people. [12]

Despite the fact that the unemployment rate in Russia remains at a low level, relative to some other countries (table 1) it is still not the most favorable value. According to the methodology of the International Labor Organization (ILO), in 2019 unemployment will continue to decline and may reach the minimum value in recent years - 4.4%. The adaptation of the Russian economy to the shocks of recent years is hindered by a reduction in labor supply due to a decrease in the number of labor, while demand for labor has stabilized or even increases slightly, which contributes to the normalization of the labor market.

In addition to official unemployment, an indicator such as underemployment is also important. The Russian labor market is responding significantly to changes in the economic situation, which reflects underemployment and an actual reduction in wages. Official statistics can not always accurately measure the extent of underemployment, according to the forecast of the Federal State Statistics Service (FSSS), in 2019 its indicators will take the lowest values in recent years (Figure 4).

Such macroeconomic indicators as inflation and unemployment are quite favorable, but the economy is not growing, as evidenced by the standard of living of Russians, which has been declining over the past few years. In 2019, the rate of decline in real incomes slowed down compared to previous periods (Figure 5).

The dynamics of population incomes in 2019 was significantly different from the forecasts of the Russian government, according to which real incomes should grow by 3.4%.

The next important indicator that affects household finances is the per capita GDP, it is calculated, traditionally, in other countries, and in the Russian Federation there is an indicator "real per capita income", but it is also suitable for comparing the level of welfare of various countries.

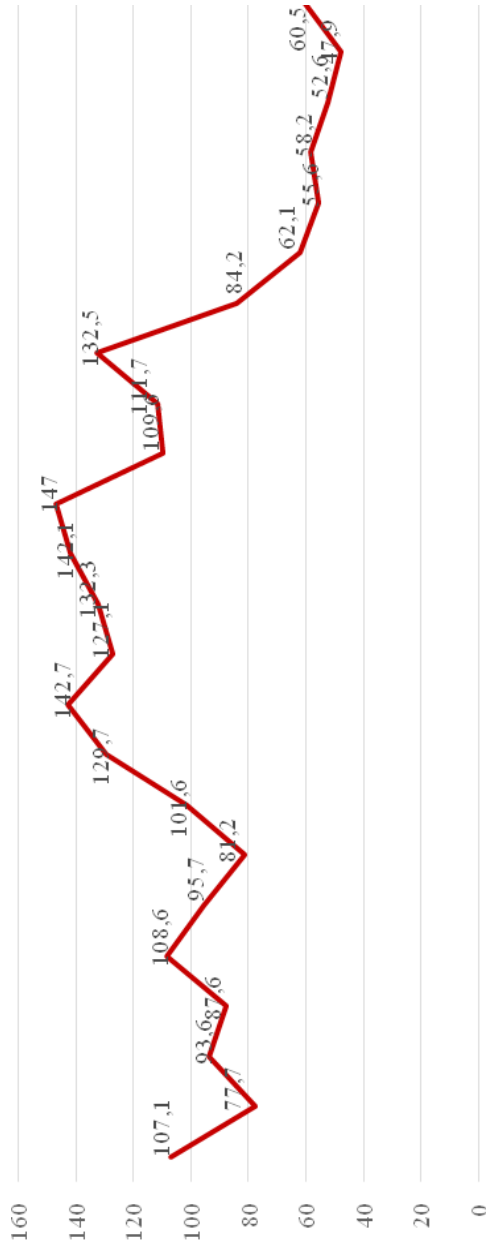


Figure 4. Dynamics of the number of part-time workers at the initiative of the employer, thousand people [12]

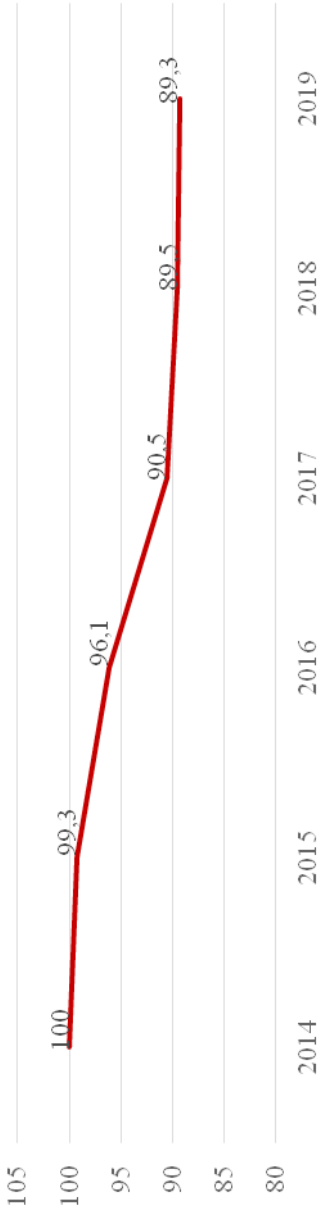


Figure 5. Dynamics of real incomes of the population, 2014 = 100% [1, 2]

Table 2. GDP and population of some countries in 2019 [1, 2]

Country	GDP per capita, thousand US dollars	GDP, billion US dollars	Population, million people
USA	62,61	20 490	327,4
Germany	48,26	4 000	82,9
France	42,88	2 780	64,7
United Kingdom	42,56	2 830	66,5
Spain	30,7	1 430	46,5
Greece	20,41	219	10,7
Poland	15,43	586	37,9
Argentina	11,63	518	44,6
Russia	11,33	1 630	143,9
Mexico	9,81	1 220	124,7
China	9,61	13 410	1 400
Turkey	9,35	766	82,0
Kazakhstan	9,24	171	18,5
Brazil	8,97	1 870	208
South Africa	6,38	368	57,7
Belarus	6,31	60	9,5
Ukraine	2,96	125	42,1

Table 2 and Figure 6 show the indicators of GDP and population, demonstrating some correlation between them.

However, the total population, of course, cannot be the parameter that is an indicator of the potential of socio-economic development. The reason for this is not only unemployment, but also the number of pensioners, some of whom, traditionally, work, but sometimes in the unobserved sector. Pensioners make up about a third of the population of the Russian Federation, and pensioners receiving an old-age pension, about a quarter. In recent years, the number of pensioners has steadily increased, but the pension reform of 2018 has changed the trend, significantly increasing the retirement age. Forced to work, retirees, overcome the consequences of the economic crisis, which negatively affected the standard of living. The

increase in prices, and with it the increase in the cost of living of pensioners, outstripped the increase in pensions. The ratio of the average pension to the subsistence minimum was 165.4% in 2013, and by 2015 it had dropped to 150.5%; However, in 2016 - 2018 there was a slight improvement in the situation.

At the beginning of 2019, almost a quarter of old-age pensioners continue to work, which is lower than in 2016 (40% of pensioners who received an old-age pension worked). However, the government's decision to stop indexing pensions for working retirees has led to a decrease in the number of employed retirees.

Summing up some results, let us look at the structure of the financial resources of households of retirees: pensions are the main, but not the only source of their income. Selective observations made by the FSGS in 2019 in the households of retirees, pensions and other social benefits accounted for 51.8% of income (Figure 8); an important role is also played by income from labor activity - 39.3%, while the assistance of relatives is practically insignificant.

So, the analysis of macroeconomic indicators shows that they affect the financial resources of households. A detailed study of retirement households revealed that the dominant part of financial resources is pensions, followed by the salaries of working pensioners.

References

1. O The official website of the NAFI Agency // Electronic resource. Access on 31.10.2019: https://nafi.ru/analytics/sotsialno-ekonomicheskoe-polozhenie-rossiyan-obzor-statistiki/

2. The official website of the FSGS // Electronic resource. Access on 31.10.2019: http://www.rosstat.gov.ru/wps/wcm/connect/rosstat_main/rosstat/ru/statistics/population/level/

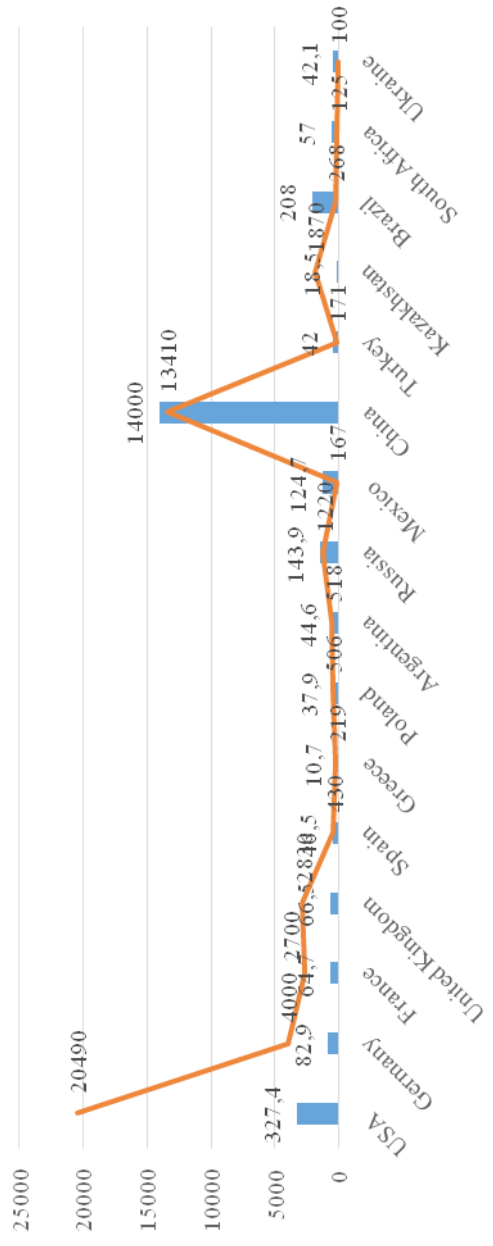


Figure 6. The ratio of population to GDP in a number of countries [1, 2]

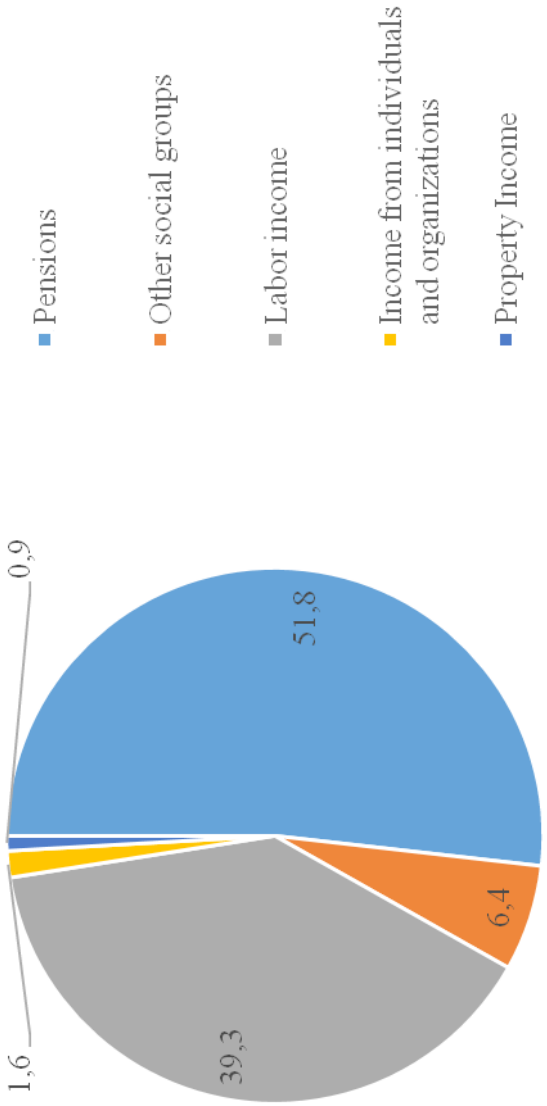


Figure 10. The income structure of the population, consisting of pensioners in 2019,% [1, 2]

DOES THE FINANCIAL SYSTEM STRUCTURE INFLUENCE TO THE SOCIO-ECONOMIC DEVELOPMENT OF THE RUSSIAN ECONOMY?

Lebedev Alexey Vitalievich
President of Forensic Experts Association "Sum of Opinions"
Ekaterinburg, Russian Federation
Rasumovskaya Elena Alexandrovna
Doctor of Economic Sciences, Full Professor
Institute of economics and management,
Ural Federal University
named after the First President of Russia B. N. Yeltsin
Ekaterinburg, Russian Federation

Abstract. The authors attempted to study the sources of socio-economic development of the national Russian economy based on the financial structure. The concepts of financial development of the world economy in economic science on the contribution of individual factors and sectors to gross national production are shown; parameters reflecting the structure of the financial system are presented; the author's opinion on the influence of the structure of the financial system on economic growth is justified; arguments in favor of such an opinion are presented.

Keywords: The structure of the financial system, socio-economic development, financial development, economic growth.

Traditionally, the search for sources of economic growth is focused on the real sector of the economy - these are factor concepts whose authority was unshakable in the twentieth century. The current stage of development of the productive forces implies the need to seek a fundamentally different, collaborative approach to the formation of a platform for economic growth that generates a synergistic effect in the national economy.

We are talking about the financial sector as a source of stimulating economic growth by transforming the structure of its financial parameters. The authors include the following indicators to such parameters:

1. structure of the financial sector - shares of banking, financial, non-financial, micro-financial and other organizations;
2. the total assets of commercial banks and per 1 commercial bank;
3. The structure of the international reserves of the central bank;
4. volumes of cashless payments;
5. structure of financial resources - money multiplier (ratio of monetary aggregates);
6. coefficient of financial structure;
7. coefficient of gap financial structure;
8. the state's share in the financial system through participation in financial institutions.
9. the state of the budget and the ratio of its deficit to GDP;
10. degree of financialization of the economy;

Let us dwell on the most significant, according to the authors, of the listed indicators, this is the degree of development of the financial system - "financialization" of the economy, which increases the range of opportunities and directions of socio-economic development, while the implementation of such opportunities depends on the qualitative parameters of the financial system: efficiency and stability of the financial market, as well as the availability of financial resources for entities of the real sector [2].

Another financial indicator that affects the pace of socio-economic development is the state of the budget. Many developed countries are actively using the budget deficit as a mechanism for economic growth - an increase in spending is inevitable when financing subsequent development. During 1975 - 2019, many leading countries: the United States, Great Britain, and Japan - had budget deficits that financed high-tech industries as priority budget expenditures and, at the same time, pursued a policy of containing the tax burden. A deficit of this nature had a positive impact on all parameters of the economy: production, consumption, employment and a number of others.

Adhering to the positive impact of the state budget deficit on the economy, the surplus can be characterized as the withdrawal of funds from the economy, which, obviously, will lead to the opposite effect - slowdown the of socio-economic development. The surplus of the state budget in Russia for 2019 and the planning period 2020 - 2021 is seen as achieving balance, however, it can definitely become a factor in slowing economic growth.

According to the authors, in the formation of the budget deficit, the sources of its financing are of primary importance: for example, in the United States and Japan, it is Central Banks who buy government securities issued by the Ministries of Finance while issuing national currencies. Such an issue does not cause inflation, since it is targeted – in fact, it finances specific projects and programs: mortgage, small business, regional development, and much more. Many experts and analysts note that in the United States and Japan, national government bonds account for 85 - 95% of the total issue of the national currency, and this is a parameter of the monetary base participating in the money multiplier. Moreover, these are long and extra-long securities with a term of up to 30-40 years, which allow financing long-term projects - this is the mechanism of the monetary and industrial policy (mondustrial policy) - as a result of which new development priorities enter the market.

Of fundamental importance are two areas of such widespread use of national government securities:

1) as a tool to attract targeted financing;

2) as an opportunity to place them on the secondary market among investors.

The Russian regulator allows both of these directions, but the Central Bank acts as the most important participant in this mechanism, which the Russian financial system has not considered at all. In this work, the authors omit the reasons for this, but note the main thing: the described method allows financing budget tasks, increasing the liquidity level of individual industries in the economy. If private companies buy government securities, then the money spent will be really invested for budget purposes, then companies will not be able to spend it on other types of current activities (loans, etc.). As a result of this mechanism, funds are transferred

from the private sector to the budget (crowding out), without providing a stimulating effect. Therefore, the Central Bank's participation in these operations as a source of liquidity is extremely important because it prevents a decrease in liquidity in individual sectors, thereby creating conditions for more uniform growth of all economic entities [7].

The situation in Russia is such that national government securities account for less than 5% of the money issue - this approach has been used since the 1990s, when most of the money supply was formed on the basis of foreign exchange inflows from foreign trade and from attracting foreign loans. Such a situation is fraught with the fact that in the event of a deterioration in the global financial and economic situation (a drop in the cost of hydrocarbons and other raw materials, complications of the geopolitical situation and others), this money channel can be significantly complicated by making the national financial system completely dependent on the state of foreign markets.

If this situation is relatively tolerant in normal relations between countries, then in conditions of sanctions, trade wars and other global risks, this dependence is critically dangerous. That is why the authors are convinced that the use of the considered mechanism will create competitive conditions for the sustainable development of the national Russian economy, essentially making the domestic financial system sovereign and ensuring sustainable economic growth even under external risks [3].

For a full study of the sources of socio-economic development of the Russian economy, it is necessary to analyze the trends in structural changes in the global economy. Typical factors causing sectoral structural shifts in recent decades in developed countries, when using the value added indicator at current prices, indicate a reduction in the contribution of agriculture and manufacturing while a marked increase in the share of the services sector. However, these same data at constant prices neutralize this trend: the shares of the manufacturing industry and the agricultural sector have been quite stable since the early 1970s, and the share of the services sector has grown since the early 1970s from 60 to 70% of GDP. This indicates the stability of prices for agricultural products and manufacturing products, which has a beneficial effect on the general pace of socio-economic development of the national economies of developed countries.

Changes in the sectoral structure of developing countries are generally similar to that observed in developed, but at the same time, the group of these countries is very heterogeneous: in many developing countries, the contribution of manufacturing to GDP is less than before the start of the stage of modern globalization, regardless of the calculation at current or constant prices. The peak of the share of value added in manufacturing industries (and those employed in them) occurred in the 1930s and 1980s. A special place in the category of developing countries is occupied by China, in which there has been an increase in the share of manufacturing in GDP since the 1980s at different rates. The phenomenon when the manufacturing industry is replaced by low-productive service sectors (often with a large share of informal employment, as, for example, in the countries of the African continent), has been called premature de-industrialization [2]. In economic science, premature de-industrialization is usually distinguished from natural (mature deindustrialization); the latter is characterized by the replacement of the manufacturing industry with high-tech dynamic service sectors with high labor productivity. This trend is called the "serviceization" of the global economy, which caused an increase in the contribution of the services sector to GDP, which takes place against the background of a decrease in the share of agriculture and a relatively stable share of manufacturing sectors. According to the authors, these tendencies are able to explain the causes of re-industrialization and re-shoring in the global economy, which are under the influence of scientific and technological progress and characteristic of developed and most competitive developing countries [7].

Another trend in the structural shifts of the world economy is associated with "stylized" factors of change that contribute to the autonomous economic acceleration of individual countries. Researchers note that in the process of economic growth there is a simultaneous change in a number of variables - this is the improvement of technology, the accumulation of human capital and investment in fixed assets, and a change in financial structure. Depending on the initial structure of the national economy and the financial system, the laws of the structural-

ist methodology can be interpreted in different ways. Thus, the accumulation of human capital due to significant external effects and the connection with the development of technology undoubtedly acts as the most important prerequisite for economic growth for developed countries and countries of the first wave of new industrialization (China, South Korea). At the same time, this accumulation is the result of an increase in knowledge and skills arising from industrial development and the accumulation of production experience and the spread of education with an increase in its availability due to additional expenses of the state budget [4].

These trends are based on the post-Keynesian law of Kaldor-Verdoorn, which proceeds from the fact that the increase in labor productivity is often the result of dynamic economic growth, and not its prerequisite. The same can be said for investments, which are usually interpreted as a prerequisite for accelerating economic growth, however, in some cases, investment growth is a consequence of accelerating socio-economic development. Moreover, empirical studies of the dynamics of economic growth of a number of countries in recent decades show that, as a rule, investments do not in themselves accelerate it, and can entail slow down development and unexpected collapse.

Another important factor that is of research interest as a driver of the socio-economic development of some countries is export. The issue of export-oriented growth has long been considered in structuralist concepts. According to the first researchers of the role of export in economic growth [5, 8], the export specialization in commodities inherent in poor economies is detrimental to economic development, because, firstly, primary goods generate weak incentives for the development of all other types of economic activity, and secondly, world prices (relative to products with high added value) fall in the long run, with the exception of bursts associated with geopolitical events. Therefore, industrialization and export of manufacturing products are more often regarded as the main source of accelerating technological progress and improving living standards in national economies.

More recent studies in this direction suggest that export orientation can stimulate increased labor productivity and the development of new comparative advantages, while compensating for the limited domestic demand, which is necessary for the growth of economies of scale. The advantages of specialization in manufacturing products of manufacturing industries with high added value are associated, to a greater extent, with the complexity of such industries than with other factors, therefore, the growth rate of per capita GDP is primarily influenced by the technical and technological complexity of exported goods [1].

One of the fundamental theoreticians of industrialization, N. Kaldor, believed that external demand (that is, export) is necessary for the development of the manufacturing industry without its dependence on the dynamics of domestic demand. This situation contributes to the structural transfer of labor from relatively low productive sectors (agriculture) to highly productive, as well as an increase in the dynamic effects of economies of scale [6].

The conditions of accelerating globalization indicate the growing importance of imports for sustainable socio-economic development. Structuralist concepts, however, unreasonably, according to the authors, focus on the balance of payments, the structure of production and exports. Serious scientific research is needed to assess the impact of the financial system and its structure on the pace and quality of socio-economic development.

References

1. Danilov Yu.A. Imbalances in the Russian financial system and the possibilities of overcoming them // Economic development of Russia, No 4, 2017. – P. 58 – 68.

2. Danilov Yu.A., Pivovarov D.A. The financial structure in Russia: conclusions for public policy // Economic Issues, No 3, 2018. – P. 30 – 47.

3. Lebedev A.V., Razumovskaya E.A. Financial regulation of reproduction and investment processes in the national economy of Russia in the initial period of market reforms // Economics and Management Systems Management No 3, 2019. – P. 68 – 76.

4. Mironov V.V., Konovalova L.D. On the relationship of structural changes and economic growth in the world economy and Russia // Issues of Economics No 1, 2019. – P. 54 – 78.

5. Hirschman A.O. The Strategy of Economic Development // New Haven: Yale Univ. Press, vol. 10, 1958. – P. 238 – 252.

6. Kaldor N. A new model of economic growth // Review of Economic Studies, No 3 (29), 1978. – P. 112 – 121.

7. Lebedev A.V., Rasumovskaya E.A. Financial Regulation in the Initial Phase of Market Reforms in Russia and Its Impact on Subsequent Economic Development // Advances in Social Science, Education and Humanities Research. – Changsha, China, vol. 298t, 2019. – P. 559 – 564.

8. Prebisch R. The economic development of Latin America and its principal problems, Economic Survey of Latin America // Santiago, Chile, ECLAC. Also published in ECLAC, vol. 1, 1948. – P. 171 – 192.

AUTOMATION OF ACCOUNTING: COMPETITION AND DEVELOPMENT

Kurandina Sofya Alexandrovna
Student of the Faculty of Economics
specialty "Economic and legal support of economic security"
Russian Academy of National Economy and Public Administration
under the President of the Russian Federation
the Volgograd Institute of Management
Frolova Anastasia Andreevna
Student of the Faculty of Economics
specialty "Economic and legal support of economic security"
Russian Academy of National Economy and Public Administration
under the President of the Russian Federation
the Volgograd Institute of Management
Shindyalova Tatyana Nikolaevna
Candidate of Economic Sciences
Associate Professor of Accounting, Analysis and Audit
Russian Academy of National Economy and Public Administration
under the President of the Russian Federation
the Volgograd Institute of Management

Abstract. The article considers the relevance of accounting automation processes for the efficient management of any enterprise. The basic automated accounting programs used by Russian enterprises are described. The positive aspects of accounting automation are grounded.

Keywords: accounting, automation of accounting, automated accounting systems, automated accounting programs, information technology.

Accounting is one of the key links in the activities of any organization. The financial well-being of a business largely depends on the correctness and accuracy of accounting.

A modern enterprise involves a huge number of financial flows, which are reflected in the corresponding information flows. Accounting includes many routine operations, repeated repetition of the same computational actions, as well as the preparation of many reporting and payment documents. In this regard, traditional accounting requires a complex and painstaking work of accountants, requiring considerable effort and knowledge.

The modern development of information technologies and their widespread use in economic practice allow us to solve this problem by automating accounting.

Automation of accounting involves the installation of a special software product on a computer and the subsequent transfer of all accounting to a computer.

Advantages of automatic bookkeeping:

· quick and error-free filling of details (in invoices, invoices, waybills, expense orders, payment orders);

· operational processing of the information array;

· visualization of analytics (charts, graphs, tables);

· the formation of a variety of registers (payroll, cash book, books of sales and purchases);

· reduction in the number of securities;

· instant exchange of information between departments, between the head and subordinates;

· elimination of arithmetic errors;

· communication via the Internet with regulatory government bodies, banks;

· transparency and accountability of financial and economic activities;

· quick response to changes in legislation.

The implementation of information systems and technologies in the work of accounting allows you to save time and effort by automating routine operations, as well as assess the current financial situation of the enterprise and its prospects.

Today the number of companies involved in the development of automated systems for accounting is huge: 1C (1C: Accounting series), PARUS-Enterprise 7 (Parus companies), Galaxy-ERP (Galaxy Corporation), Turbo9

Accounting (DITs), BEST-5 (BEST), Info - Accountant 10 (Info - Accountant) and many others. Let's consider automated accounting systems in more detail.

"1C". The most common accounting automation system in Russia and the CIS countries is the 1C series of programs that automates the maintenance of all sections of accounting. The 1C system provides accounting in various areas: wholesale and retail trade, production, construction, etc. The system allows you to:

- accounting of banking and cash transactions;
- accounting for settlements with counterparties;
- accounting of fixed assets and intangible assets;
- accounting of trading operations, including in retail and commission trading;
- accounting of the main and auxiliary production, accounting of semi-finished products;
- payroll, personnel and personified accounting;
- automatic execution of the final operations of the month;
- preparation of regulated reporting;
- generation of standard accounting reports with wide options for customizing them and a mechanism for deciphering indicators.

The "1C: Accounting" system allows you to interact with other configurations such as "1C: Salary and Human Resource Management 8" and "1C: Trade Management 8", "1C: Warehouse" through a data exchange mechanism.

Sail. The Parus-Enterprise 7 system of the Parus company is designed for small and medium-sized self-supporting enterprises of various industry sectors. The system is used to prepare and record documentation of the financial and economic activities of an enterprise, to accumulate information about business transactions in accounting accounts, and to generate external and internal reporting. The system is delivered in different configurations in accordance with the need to keep records of transactions in foreign currency, advanced analytical accounting, and accounting of trading operations. The main features of this system in the field of accounting for fixed assets and materials are:

· accounting of receipts, movements and disposals of fixed assets and materials;

· formation of business documents, including invoices, sales receipts;

· Obtaining a turnover sheet by accounts, materially responsible persons and items of material values in value and quantity terms;

· the creation of statements and magazine orders in the field of disposal and movement;

· printing inventory records;

· formation of certificates of availability and movement of material assets;

· accounting of financial and settlement operations, including the preparation of payment banking and cash documents; accounting of operations on settlement, currency and other accounts; accounting of cash desk operations;

· accounting for all types of mutual settlements.

Galaxy. Accounting automation is provided as part of the Galaxy ERP system. Accounting automation is performed by the accounting module. The Galaxy ERP system provides:

· the ability to customize analytical accounting "for yourself", according to the elements of data tables (organizations, units, material values, fixed assets, etc.),

· parallel accounting for several charts of accounts, which allows you to separate accounting in national and international standards, as well as separate tax accounting from accounting;

· electronic format of financial statements - this format is fully consistent with by-laws and accounting standards, and all legislative changes regarding accounting are promptly made to system updates;

· automation of fixed assets accounting, which includes: accounting for complex objects, depreciation calculation, forecast of depreciation deductions, etc .;

· the possibility of electronic payments through the system.

BEST. Programs of the BEST series are used by enterprises of trade, industry, and organization management. Automation is provided as part of the BEST-5 - Enterprise Management Information System integrated

system. The system provides developed and flexible means of recording the facts of economic activity in the online mode - with their simultaneous reflection in accounting, tax and management accounting. Most of the business processes of the enterprise are automated and their adequate presentation in the form of a set of interrelated documents is ensured. There are opportunities for direct data recording in each individual type of accounting. In addition to the standard charts of accounts included in the delivery of the system, you can create and customize your own charts of accounts.

Info - Accountant. The program "Info-Accountant 10 - Accounting and tax accounting" of the company "Info-Accountant" is written using the latest developments in the field of accounting programs. The program is designed to automate accounting and tax accounting, while the program automatically generates all reporting documents developed in strict accordance with the requirements of the Federal Tax Service.

Turbo Accountant. The program is used by trading, manufacturing, financial, audit, insurance, budget companies. It includes a system of standard postings and the organization of accounting principles, both from the posting and from the primary document.

The program is able to perform several functions: quickly and efficiently restore accounting, automatically recalculate balances when changes are made retroactively, divide accounting into accounting areas, and maintain several accounting departments. It also controls correspondence of accounts in the presence of mandatory analytical features. The following operations are ensured: banking and cash, for fixed assets and intangible assets, products, cost accounting and warehouse accounting; settlements with contractors, payroll. With the help of the program, paperwork is performed, multidimensional and multi-level analytical accounting is carried out, a financial analysis of the company's activities is carried out.

Turbo Accountant has powerful and almost unlimited customization tools, offering several versions: basic, professional and network.

The current trends in accounting automation include the possibility of bookkeeping via the Internet (Internet bookkeeping, online bookkeeping, electronic bookkeeping, mobile bookkeeping).

The main advantage of working in Internet accounting is accounting without installing software on a computer (mobile device). Work can be carried out from any device (computer, tablet, smartphone, etc.) connected to the network. Data transfer security is ensured using the https protocol, which supports data encryption, as well as an authorization system (password protection). Possible risks from hardware and software failures, unauthorized access are assumed by the service company. Note that large developers have such risks are minimal.

BuchsoftOnline. The online module "Accounting" of this service provides automation of accounting and tax accounting for organizations and individual entrepreneurs. Keeping a bank, cash desk, shopping, sales. Automatically generate postings and automatically fill out the income and expense book. Based on the entered credentials, it is possible to automatically generate all reporting required by law.

Contour.Accounting. Simple accounting for companies on the USN, UTII and LLC on the OSNO. Accounting entries are automatically created based on the primary documents that you take into account. All features of the service comply with the law. Opportunities Contour.Accounting:

- Accounting for several current accounts
- Balance sheet and reconciliation statements
- Accounting for fixed assets
- Track payments and shipments
- Import bank statement
- Export of payment orders
- USN tax payment
- Payment of insurance premiums
- Accounting policies

My business. The online service "My business is" has everything you need to work with accounting: reference, accounting systems, sending reports via the Internet and expert advice. The program helps to keep records, calculate taxes (contributions) and pay them on time, as well as submit electronic reports. All the possibilities of modern accounting in one service:

· system of related questions and answers

· autocomplete of standardized and non-standard forms of documents with examples and tips

· current base of regulatory documents with the ability to track changes

· formation and delivery of electronic reporting

· professional expert advice

AUBI Center. AUBI Internet accounting allows enterprises and entrepreneurs with any taxation system to keep records and submit reports via the Internet. Service features:

· Use of various tax systems

· Conducting bookkeeping, warehouse accounting, trade, production and personnel accounting

· Electronic document management with contractors, banks and within the enterprise

· Electronic reporting in the Federal Tax Service, PFR, FSS, Rosstat, RAR

In any online accounting, access is provided through a browser using a login and password. Information security is ensured by the use of electronic signatures. Forms of documents are updated automatically - this is provided by the company that provides the online service. Access to services is possible from anywhere in the world at any time. The technical and software risks are assumed by the development company. Also, these companies should provide real-time advice and technical support.

The authors of the article believe that now and in the future, the leading automated system will remain 1C. It is the simplest and most understandable to use, it also has many subsections, so that the company can choose what it needs and what not. But it is also possible that more advanced and multifunctional automated systems will appear on the market that are already pushed into the background. Progress does not stand still, and with it automation of accounting!

COOPETITION PHENOMENON IN MULTINATIONAL CORPORATIONS LOGISTICS

Gviliya Natalia Alekseevna
Candidate of Economic Sciences, Associate Propfessor
St. Petersburg State University of Economics, Russia
Mikhailova Ksenia Olegovna
Candidate of Economic Sciences, Senior Lecturer
St. Petersburg State University of Economics, Russia

Abstract. Current scientific research on multinational corporations relations start examine coopetition phenomenon in logistics and supply chain management, the simultaneous relations as competitors but with cooperative context. In the article this question is considered from the point of view of logistics. Especially it examines real multinational corporations coopetition cases of in logistics functional areas worldwide.

Keywords. Competition, cooperation, coopetition in logistics, corporation logistics, logistics functional areas, multinational corporation.

Studies on relationships among companies emphasize that the trade-off between cooperation and competition is a means of achieving effective economic performance between participants in long-term relationships. This is relevant for the relationship between buyer and seller, but the issue that is researched in the article concerns the trade-off between cooperation and competition in the relationship among MNCs competitors from the same industry. In spite of obvious similarities, vertical and horizontal integration are fundamentally different types of economic relationships. It is obvious that the compromise between cooperation and competition in vertical and horizontal relationships have different contexts and accordingly management approaches must be different [4, 14].

It should be mentioned that in logistics vertical integration or relations is an arrangement in which the supply chain of a company is managed by one corporation (relations between supply chain object). Horizontal integration or relations is agreement between companies or producers of the same economics field. In this article we consider coopetition phenomenon in horizontal relations only [6].

Existing theoretical aspects and researchers on corporation relations focuses either on cooperation or competitive relations and it is argued that one MNC as rival can harm the other participant. But recent researches have considered that two firms can be involved in and benefit from both cooperation and competition simultaneously. Now this trend has been changed more complex and more advantageous relationship between corporations. It is «coopetition» (acronym of cooperation and competition) when two MNSs from the same industry both compete and cooperate with each other and these are long-term relations [2, 11].

Today coopetition is a common business practice and it's appeared because several factors: intense competition, globalization, open innovations and now it is one of MNC characteristics. However the main economic factor of coopetition relations involvement is resource optimization. Because of the crisis, corporations could not use usual financial sources, they did not have enough resources for new activities, the common methods of resource optimization stopped to make a profit. Companies had to look for new approaches and views on the optimization of their resources. So coopetition became one of new approaches.

This type of relations in science officially appeared in 1990. Many different definitions are employed, and differences still exist regarding the scope of the definition and, accordingly, the perceived nature of the phenomenon [1]. Coopetition is either broadly defined as a value-net comprising a firm's suppliers, customers, competitors, and complementors or narrowed down to cooperation between two directly competing firms. Other definitions have also been employed that are modifications of the originals. For example, coopetition has been defined as a triad in which collaboration between some firms occurs and affects competition among other firms. Moreover, coopetition has also been defined as an occurrence between different supply chains [8].

Earlier corporation coopetition has been studied within different organizational settings. On one hand, relationships between competitors are largely examined within the field of strategic alliances, in which the focus is mostly on formal agreements as alliances are commonly based on a written contract stipulating, for example, the extent of the cooperation, dividing the outcome, and controlling ownership – cartel example and other monopolistic forms. But in fact corporations from different industries are involved in a wide range of cooperative activities, from R&D to production and distribution. A business network is constantly in transition, which means that roles and positions vary over time. So, joint venture may be considered as coopetition, but in fact it is just a form of market entering with combining capitals. Marketing collaboration also may be considered as coopetition, but in fact it is short-term brand cooperation. So, main purposes of coopetition are: saving money on shared costs while remaining fiercely competitive in other areas, process optimization, achieving bigger goals, law observance. Monopolization and market or price control are not coopetition purpose.

Research on coopetition phenomenon between MNCs involved in horizontal relations has been reviewed within different theoretical fields of economics. In works that use a network approach, horizontal relationships are seen as a result of competitors' relationships with customers, suppliers, etc. Interactions between competitors, on the contrary, are considered with a focus on structure, not relationships. Competition is described as a direct rivalry that develops between firms in order to develop a market share. It is believed that the most beneficial interaction is intense competition between many corporations, and cooperation prevents effective competitive interaction. In some cases, this is expressly prohibited by law for the purpose of promoting perfect competition. Finally, in literature on business alliances there is a opposite point of view and relationships are studied, but not the structure. They are seen as result of vertical integrated corporations relationship. To sum up usual approaches of corporation coopetition are: enterprise management, business structure, organization form of partnering, legal, clustering, intellectual property.

In struggle for customers and market share, introduction of innovative technologies and know-how companies continue to direct their resources to market leadership, while in the field of logistics and supply chain management, competing corporations often choose the position of joint operation. Analyzing cooperation in logistics it seems appropriate to examine coopetition from the functional logistics point of view. We summarize the results of corporate interaction theory and practice in the table 1 [3].

R&D and procurement area. One of the main tasks of corporation procurement is optimization of expenses on material resources of production and storage. In these relationships, competitors cooperate rather «far from» the customers in supply chain and compete in functions «close» to the customer [8]. In fact it is a breeding ground for cooperation, because customers will still associate companies as competitors and choose the supplier by product quality and service. So they compete in: procurement cost reduction (choose more effective method of procurement), quality of the procurement, method of supplier selection, reducing the cost of equipment maintenance, researches. They cooperate in: using R&D centers and laboratories, procurement infrastructure [7, 9].

The MNC business practice is case of Skega Ltd. and Trellex Ltd. producers of lining. Companies compete intensively with each other for individual installations of linings both in Sweden and abroad. If the customer installed a lining manufactured by one competitor, the other would offer to install their own linings in half of the factory to give the customer the opportunity of judging for itself the quality of the competing companies' products. They fought with each other for almost every order, as they worked in the same market with the same customers. The cooperative aspect of relations has developed on the basis of interests to own innovation development. Thus, they began to use each other's laboratories to carry out joint development projects in order to reduce R&D costs and benefit from combining the unique competencies of each company. Skega Ltd. and Trellex Ltd. are constantly in the same information field and keep each other informed about their individual development processes. They have a very good atmosphere of cooperation in the technical sphere [1, 13]. Competition exists only on the side of the market and the customer. They are involved in financing development and R&D projects. They present joint results in international journals.

Another example is coopetition in the Finnish dairy industry, where all key industry players have implemented a joint system for transporting containers for dairy raw materials. The Finnish dairy industry consists of several entities, most of which are owned by farmers (milk suppliers). Finnish giant Valio and the largest foreign competitor Arla, Sweden's largest dairy company are the main competing representatives of the industry. These companies have created a pool to share the shipping containers needed to deliver to their suppliers.

Manufacturing. Coopetition in manufacturing is the most typical and frequent coopetition. It usually meet in FMCG industry and food industry because of volume of production and brand portfolio. In this industry coopetition in R&D is also typical. So, they compete in: technology, know-how patented formula, equipment. They cooperate in: production line rent, buying technologies. Now contract manufacturing is usual and common form of coopetition than corporation want to enter new country but don't want (for economic and other reasons) create its own production line or build a plant. But it is considered that local manufacturing or packing is cheaper then import. It's oopetition purposes are: cost savings, advanced skills, focus on other production spheres, quality, adaptation to the new law or conflict solution. The corporation case study is Valio example - manufacturer of dairy products. Before Russian sanctions on the EU share of Russian turnover was 20%. 90% of sale in Russia was import (10% was produced at the factory in Moscow region). After Russia imposed sanctions on the EU Vario cooperate with Russian dairy producers: Galaktika in Leningrad region, Velikie Luki dairy factory, Ehrmann in Moscow by contract manufacturing. Despite their products are competitors.

Coopetition in distribution. The main MNC's distribution task is the convergence of the customer and the manufacturer even in situation than there are a lot of intermediates in distribution channel. In this functional area competition is more intense by reason of sales volume. Sales volume is the main indicator of distribution. Corporations compete in: struggle for clients, representation in the outlet (shelf share or displays or pos-materials representation). But despite this factors they cooperate in all levels of distribution channel as: sales in a competitor's distribution channel. Com-

petitors may have contract with same multibrand distributor. And if it is not an exclusive dealer, they will distribute with same intermediates. Also they cooperate with same wholesale intermediaries: cooperation with resellers and sales force. Main purposes are: distribution cost reduction, achieving the required level of distribution logistics services [5].

The practical example is Ferrero & Danone coopetition in Russia. Ferrero is manufacturer of chocolate and confectionery products. Danone is dairy manufacturer. Ferrero has contract with Danone Sales Division for distribution and representation in retail of short shelf life products (they have special requirements for transportation and storage in contrast to confectionery). So Ferrero reduces distribution costs shifting the responsibility to Danone despite struggle for shelf share and merchandising.

In the developed countries it is common business practices to cooperate in reverse flow management (under government or law pressure especially). Manufacturers co-finance the collection of containers and packaging and combine their waste processing capacity. They compete in: creating perfect environmental and social policy, avoiding fines. They cooperate in: consumer waste collection, consumer waste utilization, Industrial waste using.

Leaders in reverse flow management and also in coopetition are Scandinavian companies. The brewery industry is one of the most consumer-oriented industries (as brewery industry all over the world). The Swedish brewers Association plays a key role in the cooperative relationship between competitors in terms of reverse logistics. Almost all MNCs who enter the Swedish market should became a member of the Association. The Swedish brewers Association plays a vital role in the aforementioned collaboration between Breweries as it coordinates and controls the flow of consumer waste (empty bottles). None of the competitors participate in distribution cooperation because beer distribution is «too close» to the consumer and also because an important competitive tool (due to aggressive marketing). Due to the pressure of law and government, returning empty bottles is not important in direct interaction with customers. Thus, it became possible to develop a cooperative relationship between Breweries regarding the return of empty bottles. Competitors have de-

veloped a common packaging system (standards and types of packaging) that facilitates cooperation n in returning bottles. Competitors are very positive about the cooperation, as they can achieve a more rational and cost-effective way to solve the problem of nationwide collection of empty bottles.

Intra-corporate coopetition. Central to the operation of multinational corporations is coopetition, defined as the simultaneous pursuit of competitive and cooperative activities across their geographically dispersed subsidiaries. For the successful functioning of the MNC, subsidiaries must work together to achieve shared goals and parent objectives. At the same time, competitive behavior between subsidiaries flows from struggles for a share of limited resources and attention from their parent. Despite corporate general strategy and overall KPI separate divisions compete with each other because of: brands struggle for customers, regional/functional departments try to be more successful in KPI than others. Despite one MNC coordination they compete in: getting investment and reaching KPI. At the same time they cooperate in: performing common tasks, creation of multi-functional team for getting better logistic service [10, 12].

The coopetition case study is Procter&Gamble (and also others MNC) in Russia. The example of coopetition is interaction of separate geographical intra-corporate units of the Eurasian Customs Union. Units compete for productivity indicators (ranking of countries in the Corporation) to be more attractive for investment. They cooperate in logistics and trade service. Importing of goods, customs clearance, certification, quality control, trade and marketing services are provided by one country (in most cases – Russia).

To sum up the coopetition processes in MNSs we should mention benefits of corporations cooperation. They are: fair competition and market relations development, quality client service, solution to a problem of resources lack, technological transfer, legality, entering new market. At the same time during cooperation projects corporation may face risks: high trust role, risk of information leak, risk of unfair partner, financial losses because of ineffective partners activity.

References

1. Bengtsson M., Kock S. Cooperation in business networks: To cooperate and complete simultaneously. Industrial Marketing Management. 2000. No 29(5). P. 411-426.

2. Brandenburger A., Nalebuff B. Co-opetition: Revolutionary Mindset that Redefines Competition and Cooperation: The Game Theory Strategy that's Changing the Game of Business. New York: Doubleday, 1997, - 304 p.

3. Gviliya N.A., Mikhailova K.O. Coopetition in functional areas of corporations logistics. Izvestia Sankt-Peterburgskogo gosudarstvennogo ekonomicheskogo universiteta. 2018. No 6 (114). P. 114-116

4. Gviliya N.A., Mikhailova K.O. Corporate logistic systems development in conditions of digitalization. Development of science and scientific and educational logistics transfer. SPbSEU, 2019. – p. 144

5. Gviliya N.A., Mikhailova K.O. Corporate logistics. SPbSEU, 2019. – p. 52

6. Gviliya N.A., Mikhailova K.O. Logistics of transnational corporations in modern economic situation. Vestnik of Astrakhan State Technical Universi ty. Series Economics.. 2016. No 1 (march). P. 100-106.

7. Gviliya N.A., Mikhailova K.O. Logistics services in corporate distribution channels. «Innovation Activity». 2016. No4 (39). P. 15-19

8. Huang, K. F., & Yu, C. M. J. (2011). The effect of competitive and non-competitive R&D collaboration on firm innovation. Journal of Technology Transfer, 36(4), 383–403.

9. Huxham, C., Vangen, S. (2005). Managing to Collaborate. Routledge, London.

10. Quintana-García, C., & Benavides-Velasco, C. A. (2004). Cooperation, competition, and innovative capability: A panel data of European dedicated biotechnology firms. Technovation, 24(12), p. 927–938.

11. Scott, P. S., & Gibbons, P. T. (2009). How subsidiaries are battling to survive and grow. Strategy & Leadership, 37(4), p. 43–47.

12. Sturgeon, T., Florida, R. (2004). Globalization, deverticalization, and employment in the motor vehicle industry. In: Sturgeon, T., Florida, R., Kenney, M., Kogut, B. (Eds.), Globalization, Deverticalization and Employment in the Motor Vehicle Industry: Creating Global Advantage. Stanford University Press, Stanford, CA, p. 52–81.

13. Tippman E., Scott P.S., Reilly M., O'Brein O. Subsidiary coopetition competence: Navigating subsidiary evolution in the multinational corporation. Journal of World Business. 2018. No 53. P. 540-554.

14. Zhang, H. S., Shu, C. L., Jiang, X., & Malter, A. J. (2010). Managing knowledge for innovation: The role of cooperation, competition, and alliance nationality. Journal of International Marketing, 18(4), p. 74–94.

SYSTEMS OF NONLINEAR EQUATIONS IN SCHOOL AND UNIVERSITY

Aslanyan Irina Vladimirovna
Candidate of Pedagogic Sciences, Associate Professor
Stavropol State Pedagogical Institute in Budennovsk

Abstract. To be able to solve systems of equations is important both in school and university mathematics, and in various applied mathematical disciplines. At the same time, in a school course of mathematics, systems of equations begin to be studied from the 7th grade until the end of school. Having entered any technical or physical-mathematical university, the school graduate again encounters systems of equations, but more complex and cumbersome, so it is very important to learn as many methods of solving them as possible at school. Since the methods of solving systems of linear equations in the course of mathematics of the basic school and in the course of higher mathematics are studied most fully, this article will focus only on some, in the opinion of the author, the most interesting and quite rare in the public mathematical literature, methods and techniques.

Keywords: school mathematics, university mathematical disciplines, systems of nonlinear equations.

The ability to solve systems of equations is important not only for school and university mathematics, but also for its various applications. They are used in the study of various mathematical operations, functions, and identity transformations. The graphical solution of systems of equations helps to better understand the methods of analytic geometry, as well as the relationship between a geometric figure on the one hand and a number or variable on the other. Despite the fact that in the school course of mathematics systems of equations are found, starting from the 7th grade and until the end of high school, in general, students solve them quite poorly.

Continuing education at any technical or physical-mathematical university, a school graduate is again faced with the solution of systems of equations, but in a more complex form. Thus, the solution of systems of equations is a regular, increasingly complex process, both in high school and in any university related to mathematics. Moreover, as statistics show, no more than 25% of graduates cope with the solution of systems of equations [1]. In addition, each year the systems of equations that are given in the second part of the USE, where a detailed answer is required (for example, in the economic problem), become more complicated.

Methods for solving systems of linear equations in the course of mathematics of the basic school, and in the course of higher mathematics are studied most fully [2, 3]. The situation is more complicated with systems in which, in addition to linear ones, nonlinear equations are present. The least methodically developed systems are those consisting solely of nonlinear equations, by which are meant equations of the second and higher degrees, as well as fractional rational equations [4].

It is rather difficult to systematize methods for solving nonlinear systems of equations, since completely different equations can be connected in systems. This determines the **relevance** of the topic of this article. Since it is impossible to cover all the methods within the framework of one article, therefore we will focus only on some, in our opinion, the most interesting and fairly rare in the mathematical literature, methods and techniques for solving such systems.

Without claiming to derive new methods for solving systems of equations, we show only all sorts of combinations of known methods (such as substitutions, additions, substitutions, Cramer, etc.). In addition, we point out other possible solutions to the same systems, because it is better to solve one problem by several methods than several tasks by the same one.

Example 1. $\begin{cases} x + y = 3, \\ x^5 + y^5 = 33. \end{cases}$

The application of the standard substitution method will lead to an equation of the fifth degree, which is rather difficult for both pupils and students to solve, therefore, it is necessary to find an easier way to solve it. To do this, use the Pascal triangle to derive the formula for the sum of fifth degrees.

1
1 1
1 2 1
1 3 3 1
1 4 6 4 1
1 5 10 10 5 1
1 6 15 20 15 6 1
1 7 21 35 35 21 7 1 and so on

This "arithmetic triangle" is used to raise the binomial (*a+c*) to any power, since it contains binomial coefficients. For example, the sixth row of a triangle allows you to write a formula for raising a binome to the fifth power:

$$(a+в)^5=a^5+5a^4в+10a^3в^2+10a^2в^3+5aв^4+в^5.$$

From the last equality we express the sum of the fifth degree:

$$a^5+в^5=(a+в)^5-(5a^4в+10a^3в^2+10a^2в^3+5aв^4).$$

Group the terms:

$$a^5+в^5=(a+в)^5-5aв(a^3+в^3)-10a^2в^2\,(a+в).$$

Apply the formula for the sum of cubes:

$$a^5+в^5=(a+в)^5-5aв(a+в)(a^2-aв+в^2)-10a^2в^2\,(a+в).$$

Now let's use the sum of squares formula:

$$a^5+в^5=(a+в)^5-5aв(a+в)((a+в)^2-3aв)-10a^2в^2\,(a+в).$$

As a result, the system will take the form:

$$\begin{cases} x+y=3, \\ (x+y)^5-5xy(x+y)((x+y)^2-3xy)-10x^2y^2(x+y)=33. \end{cases}$$

We substitute the number 3 in the second equation instead of (x+y) and solve the resulting equation separately:

$$243-15xy(9-3xy)-30x^2y^2=33.$$

Let's replace: $xy=t$, after which the equation will take the form:

$243-15t(9-3t)-30t^2=33,\ 15t^2-135t+210=0,\ t^2-9t+14=0,\ t=2$ or $t=7$.

Returning to the variables x and y, we obtain two systems of equations.

$$\begin{cases} x+y=3, \\ xy=2. \end{cases} \quad \text{or} \quad \begin{cases} x+y=3, \\ xy=7. \end{cases}$$

The solution to the first system are pairs (2; 1) and (1; 2). The second system has no real roots.

Answer: (2; 1), (1; 2).

As a second way to solve example 1, you can apply the modified formula for the sum of the fifth degrees, namely: $a^5+в^5=(a^2+в^2)(a^3+в^3)–a^2в^2(a+в)$.

Example 2. $$\begin{cases} 2x^2 - xy - y^2 - 10x - 8y - 12 = 0, \\ 2x^2 + 3xy + y^2 + x - y - 6 = 0. \end{cases}$$

To get rid of the free terms in the equations, we multiply the second equation by 2 and subtract the first from the second equation. As a result, we get:

$$2x^2+7xy+3y^2+12x+6y=0.$$

The grouping of terms will allow us to consider this equation as quadratic with respect to x, in which y plays the role of a parameter:

$$2x^2+x(7y+12)+(3y^2+6y)=0.$$

We solve it using the discriminant.

$$D=49y^2+168y+144–24y^2–48y=25y^2+120y+144=(5y+12)^2,$$

$$x = \frac{-7y - 12 \pm (5y + 12)}{4},$$ therefore x=-0,5y or x=-3y–6.

Substitute $x=-0,5y$ into the second equation of the original system:

$$0,5y^2–1,5y^2+y^2–0,5y–y–6=0.$$

From the last equation $y=-4$, therefore, $x=2$.

Now we substitute $x=-3y–6$ into the same equation and get:

$2(9y^2+36y+36)–9y^2–18y+y^2–3y–6–y–6=0$, $y^2+5y+6=0$, $y=-2$ or $y=-3$.

Respectively $x=0$ or $x=3$.

Answer: (2; -4), (0; -2), (3; -3).

Another possible way to solve this system is to extract full squares or a good selection of coefficients that allows you to get rid of some of the terms when adding equations.

Example 3. $\begin{cases} \frac{x^3}{y} - 2xy = 16, \\ \frac{y^3}{2x} + 3xy = 25. \end{cases}$

Convert the system to:

$$\begin{cases} \frac{x^3}{y} = 16 + 2xy, \\ \frac{y^3}{2x} = 25 - 3xy. \end{cases}$$

After multiplying the corresponding parts of both equations, we obtain:

$$\frac{x^3 y^3}{2xy} = (16 + 2xy)(25 - 3xy) \text{ or } 0{,}5x^2 y^2 = (16 + 2xy)(25 - 3xy).$$

After replacing $t=xy$ the following equivalent transformations can be performed:

$$0{,}5t^2=(16+2t)(25-3t),$$

$$0{,}5t^2=400+50t-48t-6t^2, \text{ multiply both sides by 2,}$$

$$t^2=800+100t-96t-12t^2,\ 13t^2-4t-800=0,$$

$$D_1=2^2+13*800=4+10400=10404,$$

$$t=\frac{2\pm102}{13},\ t=8 \text{ or } t=-\frac{100}{13}.$$

If $xy=8$, then by substituting this value in the first equation of the system we get $x^4=256$, so $x=\pm 4$ and correspondingly, $y=\pm 2$.

If $xy=-100/13$, then the equation $x^4=-800/169$, is obtained, which has no real roots.

Answer: (-4; -2), (4; 2).

Another solution to the system from Example 3 is to multiply both parts of the first equation by y and the second by 2x. After that, two equations are obtained $x^3-2xy^2=16y$ and $y^3+6x^2y=50x$, which, by dividing the first by the second and replacing y/x=t are reduced to a biquadratic equation.

Example 4. $\begin{cases} \dfrac{3xy}{x+y}=2, \\ \dfrac{4xz}{x+z}=3, \\ \dfrac{5yz}{y+z}=6. \end{cases}$

Express in each equation the fractions inverse to the data:

$$\begin{cases} \dfrac{x+y}{3xy}=\dfrac{1}{2}, \\ \dfrac{x+z}{4xz}=\dfrac{1}{3}, \\ \dfrac{y+z}{5yz}=\dfrac{1}{6}. \end{cases} \quad \text{or} \quad \begin{cases} \dfrac{x+y}{xy}=\dfrac{3}{2}, \\ \dfrac{x+z}{xz}=\dfrac{4}{3}, \\ \dfrac{y+z}{yz}=\dfrac{5}{6}. \end{cases}$$

Divide the numerator by the denominator on the left side of each equation:

$$\begin{cases} \dfrac{1}{y}+\dfrac{1}{x}=\dfrac{3}{2}, \\ \dfrac{1}{z}+\dfrac{1}{x}=\dfrac{4}{3}, \\ \dfrac{1}{z}+\dfrac{1}{y}=\dfrac{5}{6}. \end{cases}$$

Systems of this kind are solved by the addition method, and all three equations are added up, and each variable is doubled.

$2(\dfrac{1}{x}+\dfrac{1}{y}+\dfrac{1}{z})=\dfrac{22}{6}$ or $\dfrac{1}{x}+\dfrac{1}{y}+\dfrac{1}{z}=\dfrac{11}{6}$.

Comparing the obtained equation with each of the equations of the last system, we obtain the following system:

$$\begin{cases} \dfrac{3}{2}+\dfrac{1}{z}=\dfrac{11}{6}, \\ \dfrac{4}{3}+\dfrac{1}{y}=\dfrac{11}{6}, \\ \dfrac{5}{6}+\dfrac{1}{x}=\dfrac{11}{6}. \end{cases}$$

$$\begin{cases} 3xy = 2(x+y), \\ 4xz = 3(x+z), \\ 5yz = 6(y+z). \end{cases}$$

Now, dividing the first equation into the second, and then into the third and selecting fractions of the form x/z and y/z, we obtain a system of two equations with two variables, which can be easily solved by any of the known methods.

Example 5. $\begin{cases} 5x - 6y + 4z = -xy, \\ 3x - 5y + z = y^2, \\ x - 4y - 2z = yz. \end{cases}$

We use Cramer's formulas, which are used in the course of higher mathematics to solve systems of linear equations.

$$\Delta = \begin{vmatrix} 5 & -6 & 4 \\ 3 & -5 & 1 \\ 1 & -4 & -2 \end{vmatrix} = 50 - 48 - 6 + 20 + 20 - 36 = 0,$$

$$\Delta_x = \begin{vmatrix} -xy & -6 & 4 \\ y^2 & -5 & 1 \\ yz & -4 & -2 \end{vmatrix} = -10xy - 16y^2 - 6yz + 20yz - 4xy - 12y^2 = -14xy - 28y^2 + 14yz =$$

$$= -14y(x + 2y - z),$$

$$\Delta_y = \begin{vmatrix} 5 & -xy & 4 \\ 3 & y^2 & 1 \\ 1 & yz & -2 \end{vmatrix} = -10y^2 + 12yz - xy - 4y^2 - 5yz - 6xy = -14y^2 + 7yz - 7xy =$$

$$= -7y(2y - z + x),$$

$$\Delta_z = \begin{vmatrix} 5 & -6 & -xy \\ 3 & -5 & y^2 \\ 1 & -4 & yz \end{vmatrix} = -25yz + 12xy - 6y^2 - 5xy + 18yz + 20y^2 = 14y^2 - 7yz + 7xy =$$

$$= 7y(2y - z + x).$$

Since Δ=0, all other determinants must also be 0, otherwise the system will not be compatible. As a result, we obtain a new system of equations:

$$\begin{cases} -14y(x+2y-z)=0, \\ -7y(2y-z+x)=0, \\ 7y(2y-z+x)=0. \end{cases}$$

It is easy to notice that all three equations of the system are the same, therefore, $y=0$ or $x+2y-z=0$. Combining each of these equations with the original system, we obtain two systems of equations:

$$\begin{cases} y=0, \\ 5x-6y+4z=-xy, \\ 3x-5y+z=y^2, \\ x-4y-2z=yz. \end{cases} \text{ or } \begin{cases} z=x+2y, \\ 5x-6y+4z=-xy, \\ 3x-5y+z=y^2, \\ x-4y-2z=yz. \end{cases}$$

$$\begin{cases} y=0, \\ 5x+4z=0, \\ 3x+z=0, \\ x-2z=0. \end{cases} \quad \begin{cases} z=x+2y, \\ 5x-6y+4x+8y=-xy, \\ 3x-5y+x+2y=y^2, \\ x-4y-2x-4y=xy+2y^2. \end{cases}$$

The solution to the first system is a triple (0; 0; 0). The second system after transformations will take the form:

$$\begin{cases} z=x+2y, \\ 9x+2y=-xy, \\ 4x-3y=y^2, \\ -x-8y=xy+2y^2. \end{cases}$$

Divide the second equation into the third. Then we apply the main property of the fraction to the left side of the obtained equation and divide the numerator and denominator by y. As a result, we obtain the following chain of transformations:

$$\frac{9x+2y}{4x-3y}=\frac{-xy}{y^2}, \qquad \frac{9\frac{x}{y}+2}{4\frac{x}{y}-3}=\frac{-x}{y}.$$

Let's replace $\frac{x}{y} = t$ and get the next series of transformations:

$$\frac{9t+2}{4t-3} = -t, \qquad -4t^2 + 3t = 9t + 2, \qquad 4t^2 + 6t + 2 = 0, \qquad 2t^2 + 3t + 1 = 0.$$

The roots of the last equation are -1 and -0.5. Given that $\frac{x}{y} = t$, we get: $y=-x$ or $y=-2x$. If $y=-x$, then the solution to the system is a triple of numbers (7; -7; -7). For y=-2x we get the solution (2.5; -5; -7.5).

Answer: (0; 0; 0), (7; -7; -7), (2,5; -5; -7,5).

The last system could be solved by dividing each equation into another, isolating fractions of the form x/y and z/y or similar and solving the obtained equations by known methods.

The several examples discussed above clearly show that the methods used in higher mathematics help to solve "elegantly" tasks from school mathematics, which now, with the introduction of the Unified State Examination and the rigid selection of topics for tests, are clearly not enough for math lessons in basic school. After all, passing the core exam means further training at a university related to mathematical disciplines, and further systematic application and improvement of mathematical knowledge at a higher and professional level.

References

1. Statistics and analysis of the results of the USE in 2015-2017 [Electronic resource]: URL: 4ege.ru/analitika/4220-obschaya-statistika-po-vsem-predmetam.html. (Appeal date: 08.02.2019).

2. Methods for solving systems of equations. URL: https://www.yaklass.ru/p/algebra/9-klass/sistemy-uravnenii-9129/metody-resheniia-sistem-uravnenii-9131 (Appeal date: 04.03.2019).

3. Mordkovich A.G. Algebra. Grade 9. In 2 P, Part 1. Textbook for students of educational institutions / A.G. Mordkovich, P.V. Semenov. 12th ed. M.: 2010. 224 P.

4. Sedakova V.I., Rocheva I.G. Solution of nonlinear systems of equations in classes with in-depth study of mathematics // Modern problems of science and education. – 2007. – No 5.; URL: http://science-education.ru/ru/article/view?id=548 (Appeal date: 04.03.2019).

COMMUNICATIVE PECULIARITIES OF TEACHING THE MONOLOGICAL SPEECH COMPETENCE IN THE PROCESS OF TRAINING SPEAKING SKILLS OF STUDENTS, STUDYING ENGLISH AS A FOREIGHN LANGUAGE

Larionov Viktor Aleksandrovich
The teacher of the English, German, Spanish languages
at the Irkutsk school of foreign languages "Fine Apple"

Annotation. this article is devoted to the peculiarities of teaching the monological speech in the process of training speaking skills of students. It examines the definitions of the term "monologue" and describes the modern and cutting edge methods and ways of teaching it at lessons of English as a foreign language. The article emphasizes the importance and necessity of developing speaking skills among the students with the help of various types of exercises and authentic texts.

Keywords: monological speech, the English language, language skills, speaking skills, development, teaching methods, communication.

In the third Millenium international relations are expanding and English as the international means of communication becomes really demanded in all the spheres of our life and the importance of English as an educational subject has increased. Nowadays there are many drastic and modern methods of teaching all the necessary language skills (reading, writing, listening and speaking). Linguists claim, that speaking is the most complicated type of speech activity, the mastery of which is associated with many difficulties, so in the process of teaching this skill an important part makes the ability of students to use some supporting stuff (of meaningful and visual nature). One of the main forms of speech communication is dialogical speech. From the point of view of consistency in teaching oral speech, the preference should be given to dialogical speech. After all,

through dialogues some important individual speech patterns are worked out and remembered. But it is to underline, that teaching a dialogue starts from the first lessons in the process of natural communication between teachers and students. Teaching monological speech takes more efforts and time because of its specific intricacies. For this reason teaching a monologue demands special methods and technologies but also a strict-settled structure of lessons. Philologists consider, since monologue and dialogue have their own peculiarities, they are to be taught separately. Actually, by the term "monologue" is meant an extended and well-organized form of speech, addressed to the public or a person, presented by a single character to express their mental thoughts and emotions aloud, generated as a result of individual composition. The practical aim of teaching a monologue is to develop communicative competence, which is one of the most essential conditions by taking students` language skills from the full beginner level to the intermediate, upper-intermediate or advanced user of English. It comes about the skills of producing correct, logical, coherent, comprehensive and comparatively motivated monologues of different levels in accordance with the communicative situation.

The principle is to determine the nomenclature of monological skills, mentioned above. It is necessary to proceed from the fact that when learning foreign language speech activity, students face difficulties of three levels: for what purpose should they speak? What should they talk about? And how to do it? Consistent training in self-expression involves the resolution of these difficulties in the process of skill-formation.

In this case, we can talk about different levels of formation of monological speech, depending on the independence and creativity that students show.

Reproductive level of speech does not imply independence and creativity on the part of students in the choice of language means, and in determining the content of the statement, it is set from the outside.

Reproductive-productive level involves some elements of creativity and independence, which is manifested in the variation of the acquired language material, its use in a new situation, in changing the sequence and composition of the presentation.

Productive level of speech is characterized by complete independence of the selection and construction of statements, as well as a creative approach in its design, the presence of an assessment of what is happening on the part of the speaker.

Currently, the main task of teaching is related to developing untrained productive speech.

The formation of monological speech competence is supposed to include three main stages:

The first stage is referred to reproductive exercises, aimed at forming skills of producing a monologue on a sentence level to generate a sentence on a suggested topic. Students learn how to make up sentences in English and how to make statements. To develop their skills in making statements students are given sentence patterns to assimilate in connection with situations. The sentence pattern is to be filled with different words. Thus, students can express various thoughts in English, being still full beginners.

The second stage is referred to reproductive-productive exercises, aimed at the following: when several sentences are united into logically connected utterance with the help of visual and verbal aids.

The first two stages are constructed without any reliance on texts because at the initial stage of studying the language students do not know how to read and analyze texts properly, as for educational texts as reading exercises at the beginner level, they are unlikely to offer a serious substantive basis for the development of speaking skills. At this stage of training, first of all, it is preferable to pay attention to the formation of students` ability to overcome the psychological barrier of communicating in the foreign language, motivating them to form their own statements, express their own opinion or attitude. During the first two stages students come to monological speech in through conversations, using standard speech patterns and doing standard exercises, which are to include the following suggested activities: say by analogy, say the opposite, fill in the blanks, make up a sentence using key words, extend the sentence, combine the sentences, speak on the plan, use a logical-semantic scheme.

The third stage comprises of productive exercises, aimed at producing a discourse and text level to teach students to produce correct, logical and communicatively motivated topic or text-based monologue of different functional types.

At this stage of training, when the language and content level of knowledge on the topic or problem is high enough the proposed monologues may be based not so much on the material of one particular text, but on the basis of many texts read or listened to in their native and foreign languages. The importance of using texts is to be emphasized. Texts completely outline any speech situation and teachers do not need to come up with "recondite ways" to create such a situation in the class. In this case, it is being talked only about its use for the generation of speech statements made by students and a partial modification with the help of speech attitudes and exercises. Already at the pre-text stage, students make mini-monologues, anticipating the content of the text, commenting on its title, etc. Tasks after reading the text suggest longer statements and the establishment of logical and semantic connections of speech, analysis of the means of expression used, speech techniques, methods of argument, etc. Here are just some of the tasks that make up the content of the lesson: 1. Answer questions to understand the content and meaning of the text read. 2. Agree with the allegations or refute them. 3. Choose verbs, adjectives, idiomatic expressions, tropes by which the author expresses his attitude to people, events, nature, etc. 4. To prove that...5. Define the main idea of the text. 6. Briefly state the content of the text, make an annotation to the text, give a review of the text. 7. Tell the text on behalf of the main character (villain, observer, gossip, journalist, etc.). 8. Come up with another ending for the story.

Competently selected texts have a high degree of information content, and therefore determine the content value of speech statements of students, contribute to the implementation of educational goals of training. Authentic texts of various genres provide a good language and speech support, a role model, a basis for making your own speech statements on the model.

Working on colloquial topics with the help of texts in teaching monological speech makes top students speak fluently, and struggling students can use texts as a verbal support for the statement, as it is more difficult for them to establish and remember the associative connections of words. In this case teachers carry out an individual and communicative approach in teaching.

The communicative-oriented and individual approach emphasizes the importance of developing the ability of students and motivating their desire to use English for effective communication accurately and adequately. Communication technique contributes to the rapid acquisition of conversational skills. This goal is achieved through the assimilation of different types of monological speech, typical dialogues and forms of language modeling. The most important is a specific language model. The basic unit of the lesson and the whole strategy of teaching this technique is the act of speaking. Certainly, the modern teacher needs to know and practice more than one technology or method of teaching. But "the key" to a successful lesson is not only in the choice of technology, it is important to stimulate the interest of each student to the lesson, to prepare interesting tasks in which there would be a cognitive process, that is, to create a constant motivation of students. It depends entirely on the teacher, their experience and desire to teach. It is to be remarked, that teaching students the English language is not about the sum of the learned words and rules, but about studying and understanding the culture of English speaking countries. There are, definitely, certain difficulties in teaching oral speech. Oral speech and dialogues do not reveal any abstract problems, but exactly those, that concern all students. Learning any foreign language plays an important role. The world- outlook of a person who knows a foreign language is wider. For a novice teacher it is important to understand modern methods of teaching English to ensure mastery of the language as the means of communication and the means of cognition, to develop skills and understanding of colloquial English speech in a short period of time. All, mentioned above, accelerate the process of learning the language, contribute to a sharp interest in speaking English, improve the quality of education, and make the learning process more individual.

Thus, the student in the process of learning a monologue realizes that it has the following communicative functions: informative, the essence of which is the message of new information in the form of knowledge about the objects and phenomena of the surrounding reality, the description of events, actions, conditions; affecting, which involves convincing someone of the correctness of certain thoughts, views, beliefs, actions: prompting or preventing action; emotional evaluation involves the evaluation of events, objects, phenomena, actions.

As practical teaching experience shows, the most relevant is the informative function of monological speech. Each of the mentioned above functions of monological speech is characterized by its own linguistic means of expression and special psychological stimuli. Based on the basic communicative functions of monological speech, it is essential to distinguish its following functional types:

1. Monologue-description shows the way of presenting thoughts, suggesting the characteristics of the subject, the phenomenon in a static state, which is carried out by listing their qualities, characteristics, features. The structure of the descriptive monologue is represented by the following blocks: the beginning, the central part (the main body), the conclusion (ending).

2. Monologue-message (narrative) gives some information about developing actions and states. The structure of the monologue-narration is represented by the following sequence: the beginning, the main part, the conclusion (conclusion).

3. Monologue-reasoning is a type of speech, which is characterized by a special logical relationship between its constituent judgments, forming a conclusion. In structural terms a monologue-reasoning is the unity of the following parts: thesis, evidence and conclusion.

All these types mentioned above require the possession of complex monological ability to give ideas, facts and events coherently, manifested in particular in the possession of the connecting elements in sentences: adverbs of time (lately, then), transitions (thus,therefore), adverbs, expressing the sequence (firstly, secondly), and a combination of well-known speech samples in accordance with the purposes and conditions of communication, in particular, the choice of an appropriate word order in sentences, conjunctions etc.

Thus, we can come to important conclusions. First of all, for an effective development of skills of monological speech it is necessary to observe a strict sequence of all the necessary methodical actions sufficient for successful mastering of this type of speech activity. Taking into consideration psychological and pedagogical features of students allows to organize training sessions in such a way that the learning process contributed to the increase of their motivation and cognitive activity.

References

1. Gal`skova N.D., Mezhkulturnoye obuchenie: problema tseley i soderzhania obuchenia inostrannym yazykam.//IYSH, 2004, N.1.

2. Gal`skova N.D., Gez N.I. Teoriya obuchenia inostrannym yazikam. Lingvodidaktika i metodika. M.: Izdatel`skiy tsentr Akademiya, 2004.-336 s.

3. Ovcharenko I.S. Uprazhneniya na razvitie navyka monologicheskoj rechi. [Elektronnyj resurs] URL: http://xn--i1abbnckbmcl9fb.xn.

4. Kachalov N.A. Metodicheskaya organizaciya kompleksa uprazhnenij po razvitiyu umenij govoreniya i pis'mennoj rechi / N.A. Kachalov // Vestnik TomGPU. – 2013. – Vyp. 7 (135). – S. 143–145.

5. Jeremy Harmer. How to teach English. Pearson Education Limited, 2007. – 288 p.

SCIENTIFIC AND METHODOLOGICAL SUPPORT OF YOUNG TEACHERS IN THE INTERACTION OF THE UNIVERSITY AND SCHOOL

Abramovskyh Natalya Viktorovna
Doctor of Pedagogic Sciences, Associate Professor
Head of the Department of theories and methods
of preschool and primary education
Surgut State Pedagogical University

Abstract. The article discusses the problem of organizing interaction between the university staff and the school when organizing a support system for a young teacher. The importance of building a holistic system of assistance to a novice young teacher in determining the path of their own professional self-development is emphasized. The features of creating the project "Young teacher school" based on the experience of the Department of Theory and Methods of Preschool and Primary Education of Surgut State Pedagogical University are considered.

Keywords: young teacher, interaction between a university and a school, accompaniment, the path of professional development.

The modern system of professional pedagogical education is faced with the tasks of not only transferring of the necessary system of knowledge, skills to the future specialist, but also ensuring the individual path of advancement of the future teacher in his development, helping to establish his uniqueness as a professional [3]. That is why one of the most important problems of teacher education is the transition to personalized education, focused on the development of each person.

The federal project "Future Teacher" envisages the introduction of a national system of teacher growth. Including at least 70% of teachers under the age of 35 will be involved in various forms of support and accom-

paniment in the first three years of work [2]. The event within the project provides for the involvement in the support system of practitioners, as well as representatives of the faculty of universities, which will help to increase the level of professional skill and quality of teaching.

In the modern education system, on the one hand, a wide variety of forms of support and accompaniment for the activities of educators beginning their professional careers are being introduced. The problem is also solved by building an intra-school system of methodological assistance and by attracting external resources (advanced training courses, participation in events that promote the dissemination of advanced pedagogical experience, contests, etc.). At the same time, numerous studies conducted by both theoreticians and practitioners show the insufficient effectiveness of such separate disparate measures, which requires a rethinking of approaches to organizing a system of pedagogical support for young teachers [1]. We can give a number of examples of a fairly formal attitude to solving this problem. For example, continuing education courses that each teacher must take place every three years are often selected, not on the basis of their importance for the teacher's professional growth, but on the basis of their cost, the ability to go through online training, and the "simplicity" of passing the final test for learning and other factors that have no relation to the possibilities of teacher growth. It is not surprising that the materials of such courses do not bring real benefits to the teacher, except for imaginary material benefits.

The experience of the Surgut State Pedagogical University shows that building of a coherent system should begin even during the training of students at the university, primarily with the diagnosis of students 'individual fears regarding their future activities and their requests for a professional support system, as well as employers' requests for specific competencies necessary for the teacher in the modern education system. So, the conducted surveys of graduates show that, first of all, they need to support interaction with parents and legal representatives of children, to develop the necessary documentation as part of solving the problems of professional activity, to adapt to a new team, to improve the ability to plan the solution of professional problems. During the first

years of work, these requests are supplemented by the need to support the possibility of obtaining a category, designing one's own optimal methodological system of training and education of students. In this regard, the development of professional self-awareness of novice teachers and its support in the selection of ways and means of professional self-development becomes of paramount importance. To build a clear system of pedagogical support for teachers, it is important not only to choose its specific forms and their meaningful content, but to determine the goals and results of this support, the distribution of functions among all participants in the support and assistance system, including the faculty of partner universities of this system , substantiation of the stages and sequential steps of organizing this system with the choice of methodological and technological tools.

Therefore, it is necessary to create an integrated system of work with young teachers. Today, one of the main tasks facing the university is the education of the personality of a novice professional. The role of young teachers is especially important here, since they are closest to the students by age, by interests, by their mentality. New forms and methods of working with children and youth are expected from them. The question of young leaders who can introduce new technologies into the educational process and use new forms of educating students is very important. Young teachers are fluent in multimedia technology, skillfully apply information technology; Today it is very important that the latest educational equipment that educational organizations are equipped with is effectively used by them in educational activities, in the educational process.

All these tasks can only be done by a true professional. It is young teachers who should become the guides of new pedagogical science, new pedagogical technologies, which are the basis of modern education.

The implementation of postgraduate support for young specialists will contribute to the solution of these problems; active attention should be paid to the psychological and professional adaptation of young teachers. In higher education, the mentoring movement is reviving today. It is important to maintain the traditions of higher education. Some issues (for example, financial or the problem of the prestige of the teaching profession

in society) are not within the competence of the management of an educational institution, it is a matter of time and a matter of many educational reforms. But the problems of adaptation in the team, the creation of an emotionally favorable atmosphere, the issues of methodological training of a competent specialist, as well as the creation of conditions for his creative growth, can be completely solved within the walls of the educational institution. Here lies the relevance and social significance of this problem.

Effective professional formation of a young teacher can be achieved by providing a set of pedagogical conditions in an educational organization, including the development of the pedagogical environment in the direction of strengthening collective, mutually binding and mutually supportive relations; the formation of appropriate value orientations and positive motivation for pedagogical work; development of a management system for the professional development of a young teacher.

University graduates most often find jobs in various educational organizations in accordance with the need of an institution for certain personnel. But this year, five graduates of the orientation "Primary Education" came to work in one educational organization. Therefore, the scientific and methodological council of the Department of Theory and Methods of Preschool and Primary Education of the Surgut State Pedagogical University, together with the staff of MBEI PS "Perspective" decided to develop and implement the project "Young teacher school" in order to optimize the scientific and methodological support of the department and the primary tutors team schools with beginner specialists. Classes organized within the framework of this project help young professionals in the formation of an individual pedagogical style of work, in the development of independence, self-education, in the design of the educational process based on science and best practices. They bring discipline and a sense of responsibility. On this basis, in the classes of the "Young teacher school", various forms of work are used - questionnaires, self-diagnostics, micro-research, a round table, theoretical presentations, business games, psychological training, workshops with showing open classes (master class), etc.

The development strategy of the project "Young teacher school" consists of three stages:

1. Organizational: assembly of a creative team of young specialists and experienced teachers-mentors at the department and school.

2. Analytical: development of a system of scientific and methodological support for the work of the created team, aimed at supporting the professional growth of novice teachers.

3. Practical: implementation of the created system in the joint activity of the department and the school, monitoring of its quality and effectiveness, followed by the necessary correction.

The following areas can be distinguished in organizing the work of the School of Young Teacher project: adaptation work, psychological support, self-education motivation, and professional communication organization.

The project "Young teacher school" uses flexibility and the ability to choose the level of scientific and methodological support, consulting support, the advantage of activity-based forms of training. However, along with this, this program uses the principle of building a system for exchanging resources among the participants of the educational space at the faculty of psychology and pedagogy, as well as design and research forms of educational organization: the project move of a member of the creative team is a structure-forming element with respect to which "knowledge" support is built.

Another important setting is the formation of ideas about different approaches and technologies for building professional activities, giving the young specialist the right to act with the help of tools that (the situational approach, systematic approach, process method, quantitative methods, etc.) are preferable to him.

Thus, the main goal of the project "Young teacher school" is to ensure the gradual involvement of a young specialist in all areas of professional activity; and also the development of the need for continuous self-education, work on the formation of an individual style of creative pedagogical activity, based on the achievements of pedagogical experience. The system of scientific and methodological support of the department and the school, implemented within the framework of the project, should contribute to the professional growth of the young specialist, develop the prospects of his educational, scientific and research activities, the ability to analyze the formation of his own skills, and the ability to realize his own creative potential in pedagogical activity.

References

1. Lazarev V.S. Pedagogical innovation. - Moscow, 2006. 295 P.

2. The national project "Education" // approved by the Presidium of the Presidential Council for Strategic Development and National Projects (protocol dated December 24, 2018. No 16).

3. Yasvin, V.A. Educational environment: from modeling to design. – Moscow: Meaning. 2001. 365 P. URL: http://pedlib.ru/Books/6/0471/6_0471-1.shtml (appeal date15.10.2019).

SOCIAL PARTNERSHIP OF EDUCATIONAL ORGANIZATIONS AND THE UNIVERSITY IN THE PREPARATION OF THE FUTURE TEACHER

Araslanova Anastasia Alexandrovna
Candidate of Pedagogic Sciences
Associate Professor at the Department of theories and methods of primary and preschool education
Surgut State Pedagogical University

Abstract. The article presents the methodological foundations of network social partnership of educational institutions and the university in the preparation of the future teacher. The experience of organizing various formats of interaction between universities and the regional community is described.

Keywords: social partnership; teacher education; internship; teaching practice; cluster approach.

Modern requirements for a graduate of a pedagogical university, determine the obvious need for a new level of interaction between pedagogical universities and educational institutions. The most productive form of such cooperation can be the network interaction of pedagogical universities and educational institutions, designed to become mutually beneficial for all its participants [1]. Traditionally, partnership is understood as a process of cooperation, not fixed in the constituent documents, but supported in fact. The legal basis for joint activities should be an agreement that governs the rights and obligations of partners. Such a non-profit educational-production partnership can be created to strengthen "practical training of students and competency-based orientation of professional development of educators through educational, upbringing, methodological, practice-oriented research work and the organization of production, internship

activities of students" [10, p. 117]. On the basis of educational institutions, traditional pedagogical practice is not simply organized, and pedagogical universities, together with regional education administrations, create certified campuses for psychological and pedagogical internships that provide translation of best practices, internships and professional development of educators [4].

Social partnership is based on the mutual benefit of all its participants. Experienced teachers further enhance their competence in the process of practice-oriented training of future teachers, and are able to quickly receive scientific and methodological consultations of university teachers. The school has the opportunity to choose the most trained graduates of the university, and also, if necessary, use the research potential of the partner university. Pedagogical universities, in turn, create an atmosphere of methodological immersion for the teaching staff in solving the real problems of the educational process of general education organizations, initiate permanent professional development of teachers, which imperatively increases the realism and proximity to the modern practice of university teachers.

The network social partnership of educational institutions and the university in the preparation of the future teacher requires a deep and comprehensive theoretical and methodological reflection. As rightly noted by V.L. Lektorski and B.C. Shvyrev:"For the time being, activity can be carried out on the basis of the unconscious use of certain tools and techniques at a definite stage; however, when the activity becomes more complex, its implementation becomes impossible. Achieving the initial goals of the activity in this situation requires awareness and research of its tools and regulations "[7, p. 7].

Under the methodology, as a rule, they understand the doctrine of the principles of construction, forms and methods of scientific knowledge. E.G. Yudin, referring to the priority of research by V.A. Lektorski and V.S. Shvyrev, identified *four levels of methodology*:

Firstly, the *philosophical methodology* acts "as a system of prerequisites and landmarks of cognitive activity", its content is made up of the general principles of epistemology as a theory of knowledge, the dialectical method of cognition and the categorical structure of science as a whole.

Secondly, the *general scientific methodology* acts as the level of general scientific principles and forms of research, its content is composed of general scientific concepts affecting all or most of the scientific disciplines, and theories related to solving a wide range of methodological problems.

Thirdly, a *specific scientific methodology* is a set of research methods, principles, techniques and procedures used in a particular scientific discipline.

Fourth, the *methodology and technique of scientific research* as a set of procedures for obtaining empirical material and its primary processing [12, p. 60-69].

In accordance with the four-level model of the methodology, we outline the theoretical and methodological substantiation of the network social partnership of educational organizations and the university in the preparation of the future teacher.

In *philosophical literature*, the understanding of the category of development is given fairly great attention. Development is defined as a process of natural change, the transition from one state to another, more perfect; the transition from the old qualitative state to the new, moreover, not accidental, but objectively necessary, from simple to complex, from lower to higher [5, p. 507]. Development is interpreted as a change in matter and consciousness, their universal property. As a result of development, a new qualitative state of the object appears, the completeness of its composition, the interdependence of the structural relations of the components change, all this manifests itself in a change in the corresponding properties of the object [6]. In addition, development is understood as evolution, change, leading to a new state of the subject of development, an increase in its social value. In this definition, it is important for us that it emphasizes the subjective nature of the development of social actors, its identity with self-development, the connection of development processes with social values. Consequently, the humanistic idea of a holistic perception of a person as a subject of his own development determined the emergence of the *principle of completeness of education,* dictating a fundamentally different functional model of practice-oriented educational activity.

The systematic approach acts as the most general tool of the *general scientific methodology,* capturing the specifics of socio-pedagogical systems. In this case, of particular interest to us is the practical orientation of the system approach. I.V. Blauberg, even when defining a system, emphasizes the focus on the practice of designing systems and systemic vision of objects: "A system is a concept that serves to reproduce in knowledge an integral object using specific principles, certain conceptual and formal means; as a rule, this reproduction is carried out with a certain practical orientation (for example, in connection with management tasks) "[2, p. 160]. On this occasion, I.B. Novik noted: "Systemic knowledge is very practice-oriented; it always combines practical analysis with practical recommendation. The latter may not be the most optimal, but it is at least suboptimal today. This implements the idea of the unity of knowledge and practice "[8, p. 14]. The systematic approach involves the consideration of integrated education, combining both theoretical education and practical training of future teachers, as a complex socio-pedagogical system, the integrative quality of which arises from the interaction of its components. As you know, the complexity of the system must correspond to the method of studying it. Effective management of a complex system of higher education implies that the management process itself is designed and implemented as a system.

However, one should agree with A.I. Prigogine, noting some restrictions on the application of the system approach in managerial practice [9, p. 393-395]. So, in the case of designing and implementing integrated pedagogical education, including both theoretical and practice-oriented education, it is possible to determine a certain *limitation of the systematic approach* in terms of three systematic parameters:

1. Systemicity means certainty. At the same time, it must be recognized that in the real relations of the subjects of the educational process there is essentially an indefiniteness.

2. Systemicity means consistency. At the same time, it must be remembered that the value system of integrated education that is being designed and "generated" in the teaching staff, in particular, sometimes contradicts, to the point of incompatibility, the value system of individual participants in the educational process.

3. Systemicity means integrity, which at least assumes the completeness of the composition of components and the certainty of its structure. At the same time, it should be noted that the current level of development of pedagogy has led to some incomplete operational rationalization of the key components of teacher education and the links between them.

The level *of* the *specific scientific methodology* of the network social partnership of educational institutions and the university in the preparation of the future teacher can be represented by a set of principles for managing educational systems. Typically, principles are understood as basic guidelines that define requirements for the content, structure, and organization of a process. They constitute, as it were, the ideological basis of theory and practice and are used as fundamental axioms.

The activities of network social partnerships should be based on the following principles of interaction.

- Principle of advancing. At present, there is an understanding of the three main hypostases of the "advancing" phenomenon: as an adequate reflection of leading trends, which sometimes only arise in the socio-economic sphere; as timely elimination of existing and emerging problems; how to build a desired and predictable future. We proceed from the understanding that the modern training of future teachers requires the integration of the efforts of pedagogical and general education, the strengthening of the importance of additional education, expanding the horizon of professional and personal realization of man. As is known, the modern concept of lifelong education involves a change of paradigms from "education for life" to "education through life." We can safely say that in accordance with this concept, the dynamics of scientific-production and socio-economic processes, the demand for integration of general and vocational education, the importance of the system of additional vocational education will only grow over time [3].

- The principle of diversification of the content of the partnership and the mechanisms of interaction of its members. Universities can carry out various functions from transmitting new knowledge and skills through training of other participants in partnerships to testing or implementing ready-made methods, such as all kinds of social and pedagogical examinations, psychological rehabilitation, creating models of socialization and valueology programs.

- The principle of resource synergies and constructive consideration of the interests of partners. Partnership resources can be used in the form of financial resources (direct investment in vocational education); material and technical resources (provision of premises, laboratory facilities, technological equipment for training sessions, production practices, preparation of final qualification works); intellectual and human resources. Each of the partners should gain a concrete and quite tangible benefit: if the issuing department is given a guaranteed paid order for the training of specialists, then the customer receives highly qualified personnel who, in terms of level and profile, are most suited to his needs, including the goals of the organization's future development.

- The principle of ensuring the trust of partners, which involves the establishment, maintenance and development of trust between all participants in the partnership. Along with other drivers of the implementation of this principle, it should be noted that the size and structure of the partnership's income, as well as information on the size and composition of its property, expenses, number and composition of employees, their remuneration, and the use of gratuitous work of citizens in partnership activities cannot be subject of trade secrets and should be as transparent as possible for partnership members [10, p. 120-121; 11].

Over the past decade, invaluable experience has been gained in organizing various formats of interaction between universities and the regional community: the creation of joint structures to ensure the interests of the university and business (adult education system, technology transfer agencies, certification agencies for professional qualifications, monitoring services for the study of labor markets and educational services etc.); the formation of targeted funds for the development of the university; creation and joint management of corporate charitable foundations for the development of human capital in territories (other socially significant goals); the establishment of permanent grant programs in partnership with regional authorities, universities and business organizations; joint administration of regional fairs of educational projects (other events); the formation of resource centers on the basis of budgetary and extrabudgetary funding, in which exclusive resources are concentrated and their availability for the local population is ensured; development with the participation of partners of the service infrastructure in the university itself (business incubator, marketing service, career planning and placement center, graduate clubs, etc.).

Of course, the above list of forms of social partnership in higher education is not exhaustive. Moreover, we consider it promising to carry out design work in the following promising areas for the further development of social partnership in terms of taking into account the regional labor market:

- making the necessary changes to the organization of the educational process of the university (design and implementation of special courses and special workshops at the request of employers on the basis of educational organizations; target set of applicants);
- modernization of the organization and didactic and methodological support of production practices (scientific and methodological support, adjustment of instructive and reporting documentation, digitalization of the procedure and form of presentation of documentation);
- organization of new forms of cooperation between educational organizations and the university (master classes, internship sites, teaching residencies, school-based scientific and practical conferences, psychological and pedagogical support for the development of professional motivation, schools for mentors and tutors, webinars);
- development of an authentic methodological portfolio of a university graduate, agreed with the employer;
- formation of a package of demanded final qualification works at the request of employers;
- organization of intra-university and inter-university interaction of students of different levels of training (design and problem-research groups of students);
- conclusion of agreements on the implementation of specific information and methodological projects for educational organizations in the region.

Thus, educational and production partnerships can become an effective form of organizing activities to solve the problems of training and retraining teachers in the process of interaction between the main subjects of the social sphere of the state - government, business, non-profit organizations and educational institutions. Naturally, the main partners of pedagogical universities are educational organizations, on the basis of which there is a practice-oriented training of school teachers, preschool and continuing education teachers, social educators and many other categories of educational system workers.

References

1. Araslanova A.A. Integration of science, education and production: synergetic effect // Philosophy of Education. – 2011. – No 1 (34). – P.26-31

2. Blauberg I.V. Integrity problem and systematic approach. – M.: URSS editorial, 1997. – 450 P.

3. Vorovshchikov S.G. Network interaction of educational organizations: a resource for solving innovative problems // ASOU Conference: collection of scientific papers and materials of scientific and practical conferences. – 2015. – No 4. – P. 1222-1225

4. Vorovshchikov S.G. Network interaction of the school and the professional community as a resource for the effective solution of innovative problems // Pedagogical education and science. – 2014. – No 2. – P. 22-25

5. Kondakov N.I. Logical reference dictionary. – M.: Nauka, 1975. – 721 P.

6. Kraevsky V.V. General principles of pedagogy. – M.: Publishing Center "Academy", 2003. – 256 P.

7. Lektorski V.A., Shvyrev V.S. Methodological analysis of science // Philosophy, Methodology, Science. – M.: Science, 1962. – P. 7-44.

8. Novik I.B. Natural History Thinking Issues. – M.: Politizdat, 1975. –144 P.

9. Prigozhin A.I. Organization development methods. – M.: ICFER, 2003. – 864 P.

10. Tatyanchenko D.V., Vorovshchikov S.G. Educational-industrial partnership as a new form of organization of the main higher and additional professional education // Pedagogical education and science. – 2015. – No 5. – P. 115-122

11. Shaidullina A.R. Integration of vocational education, university and production in the regional system of vocational education: Rep. doc ped sciences: 13.00.01. – Kazan, 2010. – 28 P.

12. Yudin E.G. Methodology of science. Consistency. Activities. – M.: URSS Editorial, 1997. – 446 P.

PECULIARITIES OF VOCATIONAL TRAINING OF FUTURE PRIMARY SCHOOL TEACHERS IN THE CONDITIONS OF INTERACTIVE LEARNING IN THE UNIVERSITY

Sinebryukhova Vera Leonidovna
Candidate of Pedagogic Sciences, Associate Professor
Surgut State Pedagogical University

Abstract. The article is devoted to the consideration of some provisions of the use of interactive technologies in the educational process at the university. The experience of using interactive teaching technologies in the process of forming professional skills of future primary school teachers in the process of mastering professional-oriented educational disciplines is presented.

Keywords: professional skills, future primary school teachers, subject of activity, subjective position, interactive technologies, master class, design technology, case technology.

In the context of modernization of the higher education system, the introduction of the federal state educational standard of higher education in the field of training 03.44.01 Pedagogical education (undergraduate level), as well as taking into account the new provisions of the professional standard of the teacher, the preparation of future primary school teachers for professional activities requires a significant update. The organization of the educational process at the university is aimed at modern models of personality-oriented pedagogical activity. A future elementary school teacher must not only possess theoretical knowledge in the field of vocational disciplines, but also be capable of non-standard labor actions in a changing educational environment.

The practice of organizing the educational process at the university, which has developed over a number of decades, proves that the use of traditional educational and pedagogical technologies in the educational process does not ensure the full development of future teachers of primary grades of professional competencies. In this regard, in recent years, the problem of improving the educational process and the choice of educational technologies that would ensure the formation of the subjective position of the student in the educational process at the university has become urgent. A future primary school teacher will be able to meet the requirements of a teacher's professional standard if, during the process of studying at a university, he gains experience in subject-subject relations. All this is possible provided that interactive technologies are used in training sessions.

In her research K.A. Abulkhanova-Slavskaya reveals the mechanisms of the formation of personality in the process of activity and communication. The author notes that the formation of the personality by the subject of activity occurs in the process of mastering it by socio-historical forms of activity, as well as in the process of organizing one's activity. This provision is disclosed by the author in the statement: "the organization by an individual of his activity is reduced to its mobilization, coordination with the requirements of activity, conjugation with the activity of other people. These moments make up the most important characteristic of a person as a subject of activity. They reveal a personal way of regulating activities, psychological qualities necessary for its implementation" [1, p. 153].

Interactive teaching technologies make it possible to transfer the methods of organizing activities, to gain new experience of activities, their organization, communication, experiences. Interactive activity provides not only an increase in knowledge, skills, methods of activity and communication, but also the disclosure of new opportunities for students, is a prerequisite for the formation and improvement of competencies through the inclusion of participants in the educational process in a meaningful experience of individual and collective activities to accumulate experience, awareness and adoption of values [2, p.3].

Let us dwell on the most productive educational technologies that allow us to create a set of professional competencies provided for by the federal state educational standard of higher education and provide professional training for future primary school teachers.

One of the relevant interactive teaching technologies for future primary school teachers is a master class.

In the psychological, pedagogical and methodological literature, the master class is considered as a modern form of holding a training seminar, which is primarily of a training nature and is aimed at developing practical skills in various methods and technologies. The main goal of the master class is to form or improve the professional level and exchange of advanced pedagogical experience of participants. Also, the master class contributes to the expansion of students' horizons and familiarization with the latest areas of knowledge [3, p.4].

Summarizing the provisions discussed, it is important to note that the master class is characterized as a form of training and exchange of experience, while its main component is the integration of training and conference.

Since the topics of the master classes are determined on the basis of a review of current problems, it is advisable to include issues within the educational process that demonstrate modern aspects and methods of using such technologies and allow solving the problems of modern primary general education. It is important to note that this technology ensures the achievement of the desired result in the classroom by the methods of teaching subjects in primary school. So, when conducting training on the Methodology of teaching technology, the use of a master class is relevant when studying topics of a practical orientation: "Psychological, pedagogical and methodological foundations of a technology lesson in primary grades", "Work program on technology", "Basic technological operations in technology lessons in elementary grades "and others. Conducting master classes as part of the training allows future primary school teachers not only to master specific pedagogical experience, but also to focus on the main theoretical points through the prism of the teacher's practical activities.

An equally important interactive technology for the formation of the subjective position of a future primary school teacher is project-based, which is effective because it provides students with the basic set of competencies necessary for their success in professional activities. Design technology is characterized by the orientation of the educational and cognitive activities of students on the result that is obtained when solving a practical or theoretical, personally significant and socially determined problem. This technology includes a combination of research, search, problem methods, creative in nature [4, p.7].

Given the specificity of professional-oriented disciplines, the use of the project method is carried out taking into account the requirements identified in modern pedagogical research:

- the presence of a significant research and creative problem, requiring the integration of knowledge, the search for its solution;
- practical and educational significance for the participants of the project results;
- the possibility of independent activities of students, the availability of topics, content and means of project implementation;
- the possibility of putting forward different hypotheses, the existence of different opinions and points of view.

Carrying out work on the project, students improve the skills necessary in the professional activity of an elementary school teacher:

- the ability to critically evaluate the information obtained through the analysis of psychological, pedagogical, methodological and specialized literature;
- the ability to critically evaluate variable programs and textbooks for elementary school, taking into account modern requirements for primary general education;
- the ability to study, summarize and correctly use the experience of primary school teachers in practical activities;
- the ability to correctly select methods and diagnostic techniques to obtain reliable research results;
- the ability to gradually conduct an independent study of the problems of professional activity of a teacher;

- the ability to correctly and originally present the results of independent (group) activities;
- the ability to relatively objectively evaluate the results of their own activities;
- the ability to substantiate results, formulate conclusions and guidelines for any category of participants in the educational process (students, teachers, parents, administration, etc.).

Summarizing the foregoing, I would like to note that the use of project technology in the process of preparing a future specialist will allow us to prepare a functionally competent person who can independently think critically, solve problems, and be sociable. The project method is an indirect method of training, since it is not so much the result of the study, but the process of obtaining a specific result is of particular importance. In our opinion, the relations that a participant in this process enters into, as well as his attitude to the problem (interest, cognitive activity, independence, initiative, etc.) are important. In the course of the project, a student - future primary school teacher will have intellectual and special knowledge and skills; the initiative, independence, enterprise and professionally significant personal qualities are educated and, above all, purposefulness, perseverance, the ability to take into account the opinions of other people, etc.

In the framework of this article, we will dwell on the experience of the formation of professional skills using the case method in training sessions in professional disciplines at a university.

In modern research, V.S. Golovanova, L.D. Kozyreva, G.K.Selevko, O.G. Smolyaninova, N.S. Skuratova, C.F. Radaeva et al. discuss the characteristics of the case method (case study, case tasks). The authors note that the case is a description of a specific real situation prepared in a specific format and intended for teaching students to analyze different types of information, its generalization, skills to formulate the problem and develop possible solutions to it in accordance with established criteria. The basic concepts used in the case method are the concepts of "situation" and "analysis". The term "situation" contains several semantic contexts and can be understood as a certain state that contains certain contradictions and is characterized by a high degree of instability. The case study, according

to A.M. Matyushkina, is "a special kind of mental interaction between the subject and the object; it is characterized by such a mental state that occurs in the subject (student) when he performs a task that requires him to find (open or assimilate) new, previously unknown to the subject knowledge or methods of action.

Case situation – is a situation that puts a person in conditions that require him to make a choice, make decisions: "the beginning of thinking - is in a problem situation" (Ch.F. Radaeva) [5].

In her writings, O.G. Smolyaninova, notes that the case-method allows the successful formation of metacompetency:

- to master the skills and techniques of a comprehensive analysis of situations from the sphere of professional activity;
- make decisions promptly ("here and now");
- develop the ability to demand additional information necessary to clarify the initial situation, i.e. correctly formulate questions for development, for understanding;
- acquire verbalization skills, i.e. a clear and accurate presentation of their own point of view, either orally or in writing;
- develop skills to deliver a presentation, i.e. convincingly present, justify and defend your point of view;
- develop skills of constructive critical assessment of the point of view of others;
- develop the ability to make decisions independently based on a group analysis of the situation [6, p. 79].

In the case study method, the main character is the trainee. Participants in the lesson become involved in the discussion of the real situation and therefore take an active position, which generally affects the formation of professional skills

In the process of mastering the contents of the curriculum on the methodology of teaching mathematics, students are systematically offered case studies that are aimed at developing professional skills among bachelor students. So, for example, when studying the topic "Methods of Studying the Numbering of Non-Negative Integers", the final lesson offers case studies that are directly related to the professional activities of primary school teachers.

Summarizing, it can be stated that the use of interactive technologies in the teaching methods for teaching subjects in elementary schools contributes to the formation of the professional level of future primary school teachers, as well as ensures students are introduced to the latest areas of knowledge in a particular educational field, which generally contributes to their subjective position in professional activities, providing self-development and self-education.

So, on the basis of the presented experience of the formation of professional skills of students in training sessions using teaching methods in elementary grades, it can be concluded that the predominance of lecture forms of training cannot provide students of pedagogical universities with full-fledged mastery of professional competencies formulated in the federal state educational standard of higher education. Success in solving this problem can be achieved if future specialists of primary general education in the training sessions are included in activities aimed at developing in them, first of all, the ability to build an indicative basis for professional actions as the basis for the formation of the ability to be the subject of their professional self-development, which is ensured by the use of interactive technologies.

References

1. Abulkhanova-Slavskaya, K.A. Life Strategy / K.A. Abulkhanova-Slavskaya. – M. Thought, 1991. – P.158.

2. Gushchin, Yu.V. Interactive teaching methods in high school // Psychological journal. – 2012. – No 2. – P.1-18.

3. The master class as a modern form of certification in the context of the implementation of GEF. Algorithm of technology, models and examples, quality criteria / comp. N.V. Shirshina. – Volgograd: Teacher, 2014. – 277P.

4. New pedagogical and information technologies in the education system: Textbook. for students of ped.universities and systems of qual. increase. for ped. staff / E.S. Polat, M.Yu. Bukharkina, M.V. Moiseev, A.S. Petrov; under the ed. of E.S. Polat. – M.: Publishing Center "Academy", 1999. – P.67 – 69.

5. Radaev, Ch. F. The use of problem situations in the lesson as a way of forming the ULA [Electronic resource] / Ch.F. Radaev // Psychology, Sociology and Pedagogy. - 2013. - No 12. URL: http://psychology.snauka.ru/2012/12/1473.

6. Smolyaninova O. G. Didactic possibilities of the case-study method in student learning [Text] /O. G. Smolyaninova. – M.: collection "Innovations in Russian education", 2016 – P. 76-86.

THE IMPORTANCE OF THE RUSSIAN FOLK TALES IN THE EDUCATION OF THE BASICS OF SPEECH ETIQUETTE IN CHILDREN OF MIDDLE PRESCHOOL AGE

Filippova Aksana Ravilevna
Candidate of Pedagogic Sciences, Associate Professor
Shleeva Anna Viktorovna
Surgut State Pedagogical University

Abstract. The article reveals the potential of Russian folktales in teaching middle-school children etiquette forms of appeal, requests, apologies, etc. The author describes the methodological aspects of organizing educational activities, in particular, it offers conditions, forms and methods of educating children in the basics of speech etiquette in the process of acquaintance with Russian folk tales.

Keywords: speech etiquette, Russian folk tales, children of middle preschool age, conditions, forms and methods of education of speech etiquette.

The relevance of the study of the problem of the education of speech etiquette in children of middle preschool age is due to the current sociocultural situation, characterized by conflicts on the basis of the spiritual and moral crisis of society associated with the loss of cultural methods of regulating relations between subjects of communication, both at the interstate and interpersonal levels. That is why, one of the most important areas of educational activity of teachers of preschool educational organizations is the moral and ethical development and education of the personality of the child. This direction involves the organization of a purposeful process of introducing children to spiritual and moral values, to the norms and rules of behavior and relationships accepted in society, and to the development of speech etiquette.

Etiquette is a property and indicator of culture, the basis of a well-educated person, helping to understand how to behave in life situations of modern society, to find a common language with other people. By mastering etiquette vocabulary, the child appropriates part of the social speech experience of the people, masters the cultural and speech standards that are characteristic of the cultural environment in which he is located. Therefore, the introduction of speech etiquette formulas into the general system of speech interaction of a preschooler with surrounding adults and peers will contribute to the formation of a comfortable communicative field and have an unconditional impact on the spiritual world of the child.

Middle preschool age plays a special role in the process of education of speech etiquette, since it is at this age that the foundations of a future personality are laid: a stable structure of motives is formed; new social needs are emerging (the need for respect and recognition by adults, the desire to perform important things for others, to be an "adult"; the need for recognition by peers). A child at this age adopts a certain system of social values; moral standards and rules of behavior in society, in some situations he can restrain his immediate desires and act not as he wants at the moment, but as he should.

The need to solve this problem is confirmed by the modern directions of the Russian state policy in the field of education, presented in regulatory documents: the Law "On Education in the Russian Federation", the Concept of the Federal Target Program for the Development of Education for 2016–2020, the Concept of Preschool Education, the Federal State Educational Standard for Preschool Education ,An approximate basic educational program of preschool education, The concept of spiritual and moral development and education citizenship of a citizen of the Russian Federation. An analysis of regulatory documents allows us to state the need for the development and implementation of innovative technologies and methods for teaching, educating and developing children aimed at creating a common culture, developing intellectual, moral, aesthetic and personal qualities, creating the prerequisites for educational activities, preserving and strengthening the health of preschool children. Thus, the

Federal State Educational Standard for Preschool Education (approved by order of the Ministry of Education and Science of the Russian Federation No 1155 of 10.17.2013), one of the principles of preschool education determines the inclusion of children in social and cultural norms, traditions of the family, society and the state [7].

The issues of mastering the categories of speech etiquette in children of middle preschool age were developed in the works of domestic teachers and psychologists such as A.R. Bunyatova [1], A.M. Vinogradova [2], Z.A. Gritsenko [3], L.M. Gurovich [4], I.E. Kulikovskaya [5], A.A. Lublin, E.I. Radina, N.I. Formanovskaya, E.Yu. Yanitskaya [11] and others. Scientists note the enormous importance of fiction in the moral education of the younger generation. Listening to literary works, the child learns the surrounding natural, social, and objective worlds, gets acquainted with the world of human relationships, and learns to evaluate them from the standpoint of morality. Getting acquainted with fiction, children get acquainted with such moral concepts as good, duty, justice, honor, courage. The artistic word is associated with great opportunities for the development of the emotional sphere of the child's personality, imaginative thinking, broadening the horizons of children, forming the basis of their worldview and moral ideas. Fiction affects not only consciousness, but also the feelings and actions of the child. A word can inspire a child, arouse a desire to be better, to do something good, kind for another person.

The value of the Russian folk tales as a genre of fiction is that with its help an adult easily establishes emotional contact with a child. At present, it is difficult to find a better way of raising children than the way of introducing them from early childhood to oral folk art. The fairy tale gives moral lessons of compassion, selflessness, sympathy, love for all living things, an idea of morality, justice, the need to fight evil, expands the child's life experience. A fairy tale fosters a love of the motherland, introduces it to its nature, customs, and Russian lifestyle.

The Russian folk tale develops imagery of thinking, expressiveness of speech, as it is rich in lyrical inserts, vivid characteristics of the characters, rhythmic song and dialogue. Listening to fairy tales, the child imitates the sounds of its native speech, its melody, and takes possession of accurate

and rich vocabulary. Epithets, figures of speech from fairy tales with their classic and deep meaning are laid in the mind, expand the horizons of a person, make it possible to enrich the vocabulary. Words and expressions from fairy tales with their ancient and deep meaning are laid in our minds and live in us, regardless of where we are located. From a fairy tale, the child learns many new words, figurative expressions, his speech is enriched with emotional and poetic vocabulary.

A striking example is the Russian folk tale "Geese-Swans" ("Privered-nitsa" by Dahl). Having become acquainted with this work, children can see that the heroes of the fairy tale refuse to help Mashenka when she turns to them rudely, not politely, not following generally accepted etiquette norms "- Stove, a stove! Have you seen my brother Ivashechka? And the stove says to her: "A fiancée girl, you eat my rye bread, you eat, then I will tell you!" - No, I will not eat rye bread! "I'm with my mother, with my father don't even look at wheat bread!" Of course, no one would want to help such a fussy and rude woman, but a kind, glorious girl an apple tree and a stove and all people will help. Even the cunning kumushka Lisa Patrikeevna is happy to help everyone, because she asks so affectionately, politely: - "I, the little fox-sister, got out of the way, I overdid it all and beaten my legs! Let me, good man, rest and warm up !! " And what wonderful speech forms we can see in the fairy tale "The Cockerel and the Bean Seed": "Cow –Nursing Mother", Hostess –Mother "," Host – Father ". What warmth and love blows from these words! In the same tale we find wonderful examples of benevolent criticism: "I told you, Petenka -" Take your time, do not rush! ")). In the fairy tale "Morozko" we see a wonderful example of respect for older people: "Are you warm, girl, are you warm, red? "Warm, Morozko, warm, father.", which is generously rewarded, there is also an example of rude treatment: "Is it warm to you, girl?" Is it warm to you, red? - Oh, completely cold! Go away, damn it, damned Morozko! ", Which leads to a very sad end. "Morozko was angry, so he struck so hard that the old woman's daughter froze."

There are examples of speech forms of greeting, farewell, apology, and thanks for the service in Russian folk tales. A fairy tale teaches, educates, warns, encourages activity and even heals.

In other words, the potential of a fairy tale is much richer than its artistic and figurative significance. It is one of the most important moral and pedagogical means of upbringing and carries a great potential for positive moral teachings. Moral concepts, vividly represented in the images of heroes, are fixed in real life and in relationships with the outside world and people, turning into moral standards that govern the desires and actions of the child.

Fairy tales, epics, songs, proverbs, riddles are not only a source of enrichment for the children's dictionary, but they also teach elementary methods of verbal interaction, which means they form the skills of etiquette speech behavior. After all, the language of each people is a reflection of the spiritual life. "In the treasury of the mother tongue, one generation after another brings the fruits of deep heart movements, beliefs, views, traces of lived grief and lived joy - in a word, people carefully preserve the entire trace of spiritual life in their native word" (K. D. Ushinsky) [9].

A fairy tale for a preschooler is a special way of mastering the world, a way that allows a child to appropriate, understand and systematize in a specific way the stream of events that falls upon him from all sides and that does not want to wait until the preschooler's thinking becomes "scientific". Such an unscientific temporary systematization is necessary for a child. It reduces the "tension of misunderstanding", harmonizes the consciousness of the child, makes the world understandable, and therefore pleasant and comfortable, in which it is interesting to live, who want to explore better and understand more deeply.

The analysis of the results of the experimental work revealed the conditions conducive to the formation of etiquette speech behavior in children of middle preschool age in the process of familiarization with Russian folk tales:

• High communicative culture of the teacher. His speech is a model, a standard of speech interaction with surrounding people. The emotional-semantic dominant of communication among preschoolers is surrounding people. They form both a social and linguistic environment. The source of linguistic knowledge for a child is adult speech, where the speech culture is assimilated by the unconscious, and then conscious imitation of the speech of others.

• Priority orientation of the work of teachers on the use of fiction, namely Russian folk tales as a carrier of cultural and speech standards. Russian folk tales contribute to children's awareness of semantic relationships in the perception of verbal units of speech etiquette, thanks to the emotional merging of the child with the heroes of the work, penetration into the moral atmosphere created around the characters. The moral choice made by the hero becomes the choice of the preschooler himself, figurative words and expressions from the work of art are remembered and used by the child in his own speech practice. Familiarization with Russian folk tales becomes a means of mastering the standards of positive forms of communication with adults and peers.

• Pedagogical situations, represented by a set of external conditions of communication and internal reactions of those communicating, are aimed at exercises of each of the subjects of communication in such speech behavior in relation to all others that would not create a negative sign field in communication, would not lead to tension in relationships. The presence of pedagogical situations contributes to the positive use of etiquette in the practice of verbal interaction with adults and peers.

• Depending on the goals of the communicative activity, pedagogical methods should change from teaching (game exercises, visual value-oriented models), through stimulating (game reflective) and activating (improvisation associations, dramatization, "question-symbols") to stimulating methods (choice visual models of information-evaluative dialogue nature), which is due to the psychological mechanisms of the transition of internal speech to external.

As the main form of organizing educational activities with children of middle preschool age, we propose using the set of classes "Chest with Tales". The main objectives of the complex: to form the ability to use words and expressions in accordance with the designated phenomena, that is, the accuracy of speech; to develop the ability to bind together sentences within the meaning of, learn to express in a polite form their attitude towards adults and peers; to form in children ideas about speech etiquette, about politeness; to teach freely to express their attitude towards adults and peers in a friendly manner; to promote the development of skills in the use of forms of speech etiquette in everyday life.

Here are examples of forms of organization of children's education aimed at raising speech etiquette: a creative project (individual, collective, subgroup); fabulous (magical) journey; exhibition of drawings, crafts of fairy-tale heroes; theatrical performance.

The following are used as methods of educating speech etiquette in children of middle preschool age in the process of familiarization with the Russian folk tale:

1. The expressiveness of reading. It is achieved by the diversity of the use of intonations, facial expressions, gestures, allusions to movement.

2. The repetition of reading. It is advisable to repeat a small fairy tale that aroused interest in children immediately 1-2 more times. From the big fairy tale, the most significant and vivid passages for children can be read out again.

3. Showing illustrations, toys, pictures, elements of theatricalization, movements of fingers, hands, etc. You can use a number of techniques that enhance the emotional impact.

4. Dramatization is a form of active perception of a fairy tale. In it, children play the role of fairy-tale characters.

5. Verbal techniques. Often, children may not understand some words or phrases. In such cases, it is necessary to give them the opportunity to understand a new word, build phrases by understanding the situation.

6. Conversation on fairy tale. This is a complex scheme, often including a number of simple tricks - verbal and visual.

7. In the classroom to familiarize children with the fairy tale, you can apply technical training tools (listening is performed by the artist as a technique).

Of interest to us is the methodology of working with the fairy tale of O.A. Novikovskaya [6], which offers five classes on the topics: "Listen to a fairy tale", "Telling a fairy tale", "Show a fairy tale", "Read a fairy tale" and "Draw a fairy tale", within which children can successfully master speech etiquette skills.

In the lesson "Listening to a fairy tale", a acquaintance with a fairy tale takes place, the teacher tells or reads a fairy tale, at the same time putting decorations and figures of characters on the table in front of the

children. After getting to know the fairy tale, a conversation with children about what is happening in the fairy tale unfolds, details and main points are clarified, illustrations are further considered, children talk about what they see in the illustrations. If children have questions about the plot of the story or they find it difficult to understand any turns of speech, the teacher will certainly explain everything and make sure that all the children understand the plot and the meaning of the story. Then the teacher asks the children questions about the characters of the fairy tale, for example: what is their appearance, character, what do their actions say, which of the heroes of the fairy tale acted moral or immoral? Who, what and how did say? The teacher can also clarify which of the heroes of the tale the children liked, and who is not, and why. At the stage of the first acquaintance with the fairy tale, the questions of the teacher will help children better remember the plot and understand the meaning of the Russian folk tale.

The content of the first lesson necessarily includes puzzles. Guessing their children will not be very difficult, since the children immediately before this discussed with the teacher the characteristic features of all the heroes of the tale. The lesson ends with a game, during which children use new words or fix in their speech forms of speech etiquette, thematically related to the plot of a fairy tale. The task of drawing according to a fairy tale is usually given at home, so that the children, together with their parents, can once again turn to the plot of the fairy tale, analyze the fairy tale and together draw the favorite good character they like.

The "Tell a Tale" lesson begins with a collective retelling of the tale: the children tell the tale, and the teacher illustrates it, changing the scenery, moving the characters' figures. In addition, the teacher helps, points to a child who should retell another passage of a fairy tale; if necessary, he begins the next phrase himself, resembles the form of speech etiquette or asks the child a leading question.

The third lesson involves staging a familiar tale. This involves the distribution of roles between children, the choice of decorator. The spectators are children who are not participating in the play, or toys planted in

the "auditorium" and invited parents. The teacher's task is to direct the play and read the text "from the author". After the fairy tale is shown on an impromptu stage, the children perform several game tasks, such as pantomime. Then children are offered developing games in which they demonstrate their observation skills (copying the voices of different animals) and art skills.

The last lesson of the complex is called "Draw a fairy tale." On it, children are given problem tasks, the solution of which requires the possession of a pencil. Children help their beloved fairy-tale heroes by performing a variety of drawings and graphic works for this. Thus, conducting classes, according to the above provisions, significantly increases the motivation in children of middle preschool age to use forms of speech etiquette in everyday life, ensures the work of the whole group, allows you to reveal the creative potential of children, talents, to get closer in communication between yourself and the teacher, and supports the formation moral qualities.

References

1. Bunyatova, A.R. The role of fairy tales in the formation of spiritual and moral values in preschool children / A.R. Bunyatova // Successes in modern science. – 2010. -No 6. – P. 85 –88.

2. Vinogradova, A. M. Fiction as a means of educating humane feelings / Bure R.S., Godina G.N., Shatova A.D. et al. Ed. A. M. Vinogradova. Book for the kindergarten educators. -2nd ed., Rev. and add. - M.: Enlightenment, 1989. - 96 P.

3. Gritsenko, Z.A. Children literature. Methods of introducing children to reading: textbook. manual No for university students / Z. A. Gritsenko. - Moscow: Academy, 2004 (State Unitary Enterprise Sarat. polygr. comb). – 312 P.

4. Gurovich, L.M. and others. A child and a book: Book for the kindergarten educators / L.M. Gurovich, L.B. Beregovaya, V.I. Loginova; Ed. V.I.Loginova. – M.: Enlightenment, 1992. – 64P.

5. Kulikovskaya, I.E. Modern approaches to the spiritual and moral education of a preschool child / I. E. Kulikovskaya // Modern scientific research. –2011. –No 2 (2). –P. 15-25.

6. Novikovskaya, O. A. Summaries of comprehensive classes on fairy tales with children of 4-5 years old – SPb.: Parity, 2007. –112 P.

7. Order of the Ministry of Education and Science of the Russian Federation of October 17, 2013 No. 1155 "On the approval of the federal state educational standard of preschool education" // Russian newspaper, N 265, 25.11.2013.

8. Smirnova, E.O. Preschool age: the formation of friendly relations / EO Smirnova // Preschool education. – 2003. –N 9. –P. 68-74.

9. Ushinsky, K.D. Man as a subject of education: The experience of pedagogical anthropology / K. D. Ushinsky. –M.: OLMA-PRESS, 2004. –576 P.

10.Formanovskaya, N.I. Russian speech etiquette / Volgogr. ONUB named after. M. Gorky, Inform.-bibliogr. Dep.; [comp. I. S. Plyukhin; Ed.: M. M. Samko, T. I. Klimova; res. O. A. Lyashchenko]. – Volgograd 2014. – 36 P.

11. Yanitskaya, E. Yu. Education of a culture of communication in older preschool children in the family and kindergarten (seventh year of life): Diss. cand. ped sci. - Kiev, 1984. - 210 P.

FEATURES OF LIFE DRAWING LESSON PLANNING IN ELEMENTARY SCHOOL

Rotova Natalya Aleksandrovna
Candidate of Pedagogic Sciences, Senior Lecturer
Surgut State Pedagogical University

Abstract. The article discusses the features of planning the teaching of life drawing of primary school children. The essence of this type of drawing is revealed, such as life drawing, the need to take into account the age characteristics of students, the importance of observing all stages of educational activity.

Keywords: life drawing, primary school children, planning, analysis, synthesis, an indicative basis for action.

Considering drawings life drawing made by children of primary school age, from a methodological point of view, I would like to analyze the answer to the question, what is the secret that one work is more successful than the other? Undoubtedly, the decisive factors here will be both the level of art skills of the students and the correctly planned learning process of life drawing of primary school children, so that the student can realize the possibility of developing this type of drawing in the process, therefore, the methodological skill of the primary general teacher comes to the fore education plan the development of primary school children the ability for life drawing. In order to develop the ability to plan, it is necessary to understand the indicative basis of the action of planning, according to P. Ya. Talyzina, this is the system of conditions on which a person really relies when performing actions. The Indicative basis of actionscheme includes the following components: knowledge about the subject, conditions that must be observed, knowledge about the process of activity [5]. Therefore, in order to master the skill in question, it is necessary, first of all, to know

the nature of this type of drawing, such as life drawing, to know the age characteristics of children of primary school age and to understand how to take them into account in the process of organizing training in life drawing, to observe the stages of the actual training activities, namely: need, motive, goal, correlated with the result, training activities, operations, control and reflection, to know and observe the main stages of planning.

Consider the essential content of this type of drawing, as life drawing. In the modern methodology of fine art, a natural method of teaching drawing is used, the advantage of which, in contrast to the copy or geometric method, is the possibility of learning to draw on specific objects of the surrounding reality, understandable and interesting to children of primary school age. Using the natural method that underlies life drawing (American teacher L. Tedd - developing hand movement skills, L. Prang "Teaching fine art in elementary schools", V. S. Kuzin - "Training program for St. Petersburg painting teachers") develops the ability of children to observe, study and depict both in drawing and in 3D design, modeling of the basic and characteristic features of the world. An important criterion for a correctly executed life drawing is the correct transfer of the forms, colors, and proportions of the subject, and this should not be copying, but the depiction of the image of the subject that developed in a child of primary school age, and this is the age from 6.5 to 11 years [3].

It must be borne in mind that a certain image of an object in a child can already be formed, because children by this age have certain life experiences and it is important that the child depicts not the image that he already has, but on the basis of this image, learning something new about the depicted subject, made a life drawing. Therefore, when planning training in life drawing, it is important to identify the idea, image of the depicted object that a child of primary school age already has, taking into account his life experience. For this purpose, you can give a preliminary task to observe during the week a change in the color of autumn leaves on trees in the yard, near the school, etc. It is necessary to offer assignments that reveal among students the formation of ideas about the depicted subject, its shape, color, purpose. For example, the formation of the concept of the shape of an autumn leaf can be revealed by proposing a set of geometric

shapes (square, rectangle, triangle, circle, oval, rhombus), asked to show what shape the subject has. Let us turn to the content of the curriculum of the subject "fine art", reflected in the general basic educational program of primary general education, in the section "ABC of Art" where the content of the basic theoretical concepts that must be learned at the level of primary education in the lessons of fine art is disclosed - this is the concept of composition, color, shape, lines, rhythm, volume. Let us consider in detail the content of the concept of form [2]: students need to observe the diversity of the forms of the objective world and be able to transmit them on a plane and in space, to distinguish between the similarities and contrasts of forms, to analyze simple geometric forms, to observe the natural forms of the world.

It is important to understand that in addition to the form, students need to correctly reflect the color of the autumn leaf. Mastering the concept of color by primary school students, according to the content of the curriculum of the subject "fine art", reflected in the general basic educational program of primary general education, in the section "ABC of Art", involves knowledge of the basic and composite colors, the ability to mix colors, understand emotional possibilities of color, practically master the basics of color science [2, p.65]. Students' ability to choose the color can be revealed using the color wheel, prompting students to choose the colors on the color wheel that they themselves observed during the week on autumn leaves. Most likely, in the course of identifying the colors characteristic of autumn leaves, students will come to the conclusion that, in addition to the monotonous color, autumn leaves are characterized by a mixture of colors, and it is important to find out which ones: it is necessary to give an assignment so that the children name these colors and show them on the color wheel, then mixed on the palette, for example, yellow and red, tried to add in the first case more yellow, in the second case more red, ask what happened in the end, find out what the resulting shade is called. Try to add green, see what happens, make a conclusion about how to get this or that shade that the image needs from the nature of the autumn leaf by mixing colors. In the course of this important search work, the students master the theoretical concept of color. It should be noted that during this period

of time in the lesson the students still do not draw, they conduct a study of form and color, during which the educational task of the visual art lesson is partially solved, and namely, the students master the concept of form and color, which is finally formed in the course of independent practical work.

Since the process of life drawing – is not copying, but the creation of an image by students on their own, we will consider under what conditions this is possible. Firstly, this is knowledge of the features of the subject under study, the laws of its location, existence, development, knowledge of those features, distinguishing features that are inherent in this particular subject. Secondly, this is the knowledge of the stages of image construction for students.

Next, we consider with the help of which methodological methods and means to organize the study of patterns, features of the depicted subject. The analysis and synthesis of the features of the observed object are aimed at solving these problems. During the conversation, it is important to identify the smallest important details, features of the subject, then to understand what role they play in the structure of this subject as a whole, for example, without sharp lines on the surface of the leaf, this will not be a birch, but an oak leaf, etc. And in the end, when then we again characterize the subject as a whole, briefly focus on these features, that is, after the analysis, synthesis follows. For example, when depicting a birch from nature, having examined the trunk thickness, the direction of the branches, the color of one and the other, one should again emphasize its harmony, delicacy of branches, smooth bending, this is how an aesthetic feeling develops in children. The founders of teaching life drawing, methodologists of teaching art, V.S. Kuzin, N.M. Sokolnikova, N.N. Rostovtsev came to a unified conclusion that it is precisely at the stage of the analysis of the subject in the lesson of life drawing that the maximum activity of students occurs [4]. This is the most important stage during which the formation of cognitive educational actions of children of primary school age occurs through observation, analysis, synthesis, and comparison. Thus, the developing task of the fine arts lesson is solved, as described in the section Planned results of the subject "fine arts" in the general basic educational

program of primary general education: by the end of the fourth year of graduation, the graduate will learn to "analyze objects, distinguishing significant and non-essential features, to carry out synthesis as the compilation of a whole from parts "[2, p. 15]. When describing the subject results in fine art, it is assumed that a graduate by the fourth year of study "will learn to observe, compare, match and analyze the spatial form of the subject, to depict objects of various shapes" [2, p. 62]. In the informative section of the general basic educational program of primary general education, where the main content of the subject "Visual Art" is presented, it is specified that through drawing as a type of artistic activity, students at the level of primary general education in the image of trees, birds, animals learn to distinguish between general and characteristic features [2, p. 168].

An important condition for the successful implementation of this task must be considered taking into account the age-related characteristics of primary school children: N.M. Sokolnikova, B.P. Yusov, analyzing the features of the development of primary school children, speaks of the need to build a process of teaching fine art on a scientific basis, taking into account the characteristics of perception, the level of observation, the underdevelopment of eye perception. For example, it is important to consider that children of primary school age can make mistakes in the scale of images when perceiving perspective drawings, since the eye is still not sufficiently developed, it is difficult for them to convey the proportions of an object, to place an object on a sheet. Also, children of primary school age still cannot regulate excessive activity in the process of drawing, and their perception usually takes the form of a visual comparison of objects or their images, so that the image of one of them allows you to see the features of the other. One of the age-related features in the depiction of objects in primary school age is the so-called "transparency" of objects, i.e. children, drawing an object, through it show another object. In this case, it is useful to teach to determine the proportions of an object by eye, by the method of sighting, and also to organize observation of surrounding objects, for example, viewing from a window a class of neighboring houses, trees - this will enable children to understand that when examining objects, only one part of the object can be seen, another part may be covered by other ob-

jects. When painting objects, children of primary school age tend to paint objects elegantly, in contrast, often in arbitrary colors that are not peculiar to one or another object, although in the understanding of the child it will be "beautiful", therefore it is important to analyze not only the shape, but also the color of the objects, to specify methods of obtaining the necessary color shades.

Thus, taking into account the age characteristics of primary school children, objects of simple shapes should be chosen for drawing: flags, balls, fruits, vegetables, flowers, leaves of various shapes, toys. In the process of drawing, it is necessary that students consider the object being drawn and compare with their drawing.

In order for children of primary school age to master the method of depicting an object, it is necessary to show the stages of its drawing. To solve this problem, as a rule, in many modern educational and methodological complexes the stages of drawing objects in the form of a technological map are already presented.

An important point should be the implementation of the pedagogical drawing on the board by the teacher: this is a quick and schematic implementation of all stages of the image of the object, taking into account the identified characteristic features of it, until a finished drawing is obtained. When performing a pedagogical drawing, a combination of analysis and synthesis processes occurs very quickly, then the drawing is erased from the board, this is important so that children do not draw the drawing from the board, since at this age they have a very developed ability to imitate. When doing independent work, the student again begins, but this time in his rhythm, to analyze the characteristic features of the object and their synthesis into a single whole in his drawing.

Before the students start drawing, it is necessary to identify with them the criteria for a good life drawing, so that at the end of the lesson it does not happen that the students go to the teacher and ask if the drawing was correct. That lesson will be methodically competently built, at the end of which the student will be able to reasonably evaluate his work according to the criteria that he adhered to before life drawing. Children of primary school age are able to adequately determine where he can send the work

done: to the exhibition of beginners or professional artists, depending on how correctly all the criteria have been met. Thus, the lesson of life drawing contributes to the formation of reflective skills of students, when the student formulates his own informed attitude not only to the result of the work, but also analyzes successful / unsuccessful work, saying that if something did not work, then at what stage there was a mistake.

When life drawing, it is important that the drawing is positioned correctly, in the center of the sheet, taking into account the correct selection of the layout of objects in the sheet in accordance with the shape of the object (vertically, horizontally), the shape of the object, its color scheme, and thus, three criteria for good a life drawing will be enough for elementary school students, based on the content of the basic theoretical concepts (color, form, composition).

The stage of independent work of students in the visual arts lesson is traditionally the longest – 20-25 minutes depending on the total duration of the lesson (35 minutes in the first grade, 40-45 minutes in 2-4 grades).

So, having examined the essential content of life drawing, taking into account the age characteristics of children of primary school age, we identified important features of the organization of training for this particular type of drawing.

When planning the organization of training in life drawing of primary school children, it is important for the teacher to correctly set a goal that would be concrete, attainable at the end of the lesson, and it could be measured. When formulating the goal, it is necessary to specify what kind of object it is planned to draw, for example, when drawing an autumn leaf, the goal can be formulated as follows: to teach how to do a life drawing of an autumn leaf. The educational task of the life drawing lesson will be the development of the concepts of form and color, and their content should be specified in relation to the age of the children. The solution to the developing problem will be to develop in a child of primary school age the logical skills of analysis, synthesis, comparison, description. If it is planned to develop the ability to describe objects, for example, an autumn leaf, a birch, then this should not only be a teacher reading a poetic passage of a literary work, but it is also necessary to plan a task in the

lesson in which the children will need to describe the object they painted (at the end of the lesson), or give at the beginning of the lesson a task to describe those leaves, trees that he sees in the pictures of the visual range. The development of the student occurs at the stage of reflection, when the child independently compares the resulting image with nature, analyzes the stages of drawing the object. Thus, given the level of development of students, their age characteristics, the teacher determines the methodological tools, their place in the lesson for the implementation of the developing task.

The educational task of the lesson is realized through the familiarization of children with the ability to see beauty in the environment, to develop an aesthetic sense of beauty, harmony in the perception of objects of the world.

However, one should take into account the fact that the process of teaching life drawing occurs during specially organized educational activities, in compliance with its main stages, according to the theory of developing education of V.V. Davydov, namely: the need, motive, goal, correlated with the result, learning activities, operations, control and reflection [1].

Perhaps, one of the most difficult stages in the structure of educational activity when planning a life drawing lesson, future primary school teachers called the stage at which the need and motivation for educational activity is formed. In fact, the teacher needs to be given such a task so that the students have a need and motive to draw, for example, an autumn leaf. A preliminary observation by children of autumn leaves in nature contributes to the solution of this problem – it can be an excursion, independent observation during the week of how the color of autumn leaves of different trees in the surrounding nature changes. For those students who have the least drawing skills, one can be given the task of picking up illustrations, reproductions of paintings by famous artists on autumn themes, creating an "Autumn Gallery" –and this task can be performed both individually and in a group. For those students who have more drawing skills, you can give the task to perform sketches of autumn leaves, trees.

To form a social or competitive motive for educational activities at the life drawing lesson, you can give the task to capture the beauty of autumn

leaves, to create an exhibition, to arrange a class for the fall holiday. If the teacher wants to create intrinsic motivation among the students, then after considering the options presented by the groups of "Autumn Galleries", he can offer the children to guess what the secret of a true artist is in the drawing of autumn leaves.

Thus, we examined the main components of the indicative basis for action in the formation of the ability to plan training in life drawing of primary school children: knowledge about the subject – the essence of life drawing, the conditions that must be observed for successful planning of the organization of life drawing of primary school children, knowledge about the process of activity – the need to comply with the main stages of educational activity.

References

1. Davydov, V.V. Theory of developing learning / V.V. Davydov. – M.: Intor, 1996.

2. Approximate basic educational program of primary general education. [Electronic resource]: https://fgosreestr.ru

3. Rotova, N.A. Methods of teaching fine art in the elementary grades: teaching aid / N.A. Rotova. - M.: Berlin: Direct-Media, 2017. - 162 P.: Ill., tab. - Bibliogr. in book. - ISBN 978-5-4475-9190-8; Same [Electronic resource]. - URL: http://biblioclub.ru/index.php?page=book&id=460428

4. Sokolnikova, N. M. Methods of teaching fine art: textbook for students. Instit. Higher Prof. education / N.M. Sokolnikov. – M.: Academy, 2013. – 256 P.

5. Stepanova M. A. The problem of learning and development in the works of L. S. Vygotsky and P. Ya. Halperin // Psychology Issues. – 2001. –No 4

FEATURES OF SMM - PROMOTION OF STUDENT PROJECTS ON INSTAGRAM

Alekseeva Olga Vladimirovna
Candidate of Pedagogic Sciences, Associate Professor
Surgut State Pedagogical University

The Internet is rapidly socializing, and this is precisely the main trend of the modern online environment. The total audience of social sites exceeds one billion users and, according to some estimates, will overtake the audience of search engines in the near future. Therefore, this channel can become a wonderful field for the development of marketing communications in the light of the promotion of various projects, including those aimed at professional education of future teachers. Today, social networks are the main tool to attract public attention to the activities of universities, educational organizations and scientific, educational, social, and vocational guidance projects.

An important element of the information society culture are "virtual communities" - self-organizing electronic networks of interactive communications, united by common interests or goals. As indicated by O.B. Skorodumova: "... differentiation of virtual communities suggests that users will be divided into interacting and included in the interaction, which causes the appearance of a fundamental difference between those who can find their own virtual communication chains and those who are equipped with an insufficient number of "pre-packaged" versions" [11, p. 76].

E.E. Altynkovich points out that the main source of development is humanitarian capital, knowledge and creative ideas of the individual, which, under the influence of information and communication technologies, acquire an innovative character, and network models of dynamic distribution. This, in turn, affects the formation of a special type - the information man (homo informaticus), a "network personality" with a transforming sphere of communications, a global and complicated system of relationships, a culture of new opportunities, while virtual reality acts here as a mechanism for creating of this type [2].

The share of Internet users in modern Russian society is growing, reaching, according to various estimates, 67% [9, p. 193], and the technical tools for research in a virtual environment have become much more advanced. The tools of today's platforms for promoting services (projects) on the Internet (for example, Instagram) make it possible to do this relatively quickly even in the absence of advanced technical knowledge. The increased number of users of social networks allows us to assume that with the skillful use of Social Media Marketing (SMM) technologies to promote the project, it is possible to reach more and more numerous audiences of potential respondents.

A study conducted in 2017 by Daniil and Anton Salyukovs [4], the founders of Insense, on Instagram users in Russia showed that 9.86% of the total number of respondents are active users. An audience of 18-24 years old is 30.29% of all users of the Russian Instagram. On Instagram, users post photos and videos, as well as small posts, which allows this application to implement elements of a social network that make it possible to take photos and videos, apply filters to them, and distribute them through their service and a number of other social networks.

However, as modern researchers note, Instagram can be used in training. For example, the recommendations that Marlene La-Poncy gave in 2013 on the use of Instagram in the activities of students are still in demand today [14].

Students, as the most mobile and receptive to all kinds of innovations, are more prone to value and communicative changes than others. Given the relative independence of youth, one cannot ignore that a young person is a subject of public life, in which the formation of diverse needs and interests, including professional ones, takes place. Of particular importance are the relations between young people and news feeds, social networks. Information, its quality, efficiency and practical attitude are decisive in the formation of a positive attitude to the chosen profession, especially for pedagogical professions.

Today, the social experience and knowledge of young people are made up of two main components. The first assumes the presence of direct social contacts, the second is formed due to the perception of events and phenomena mediated by media reports [1, p. 35].

N. Lin in 1999 wrote that the nature of the content (for example, the presence of available resources on a network) determines the value of a given network [15]. The results of a study conducted in 2009 [13] revealed that the actual content exchanged between the participants of the virtual structure creates a network of cooperative relationships that generate norms, trust, a common goal and coordination, that is, social capital. For example, exchanging gifts can help develop social capital in an organization or network.

A. V. Kuchukyan identified the main parameters of the interaction of participants in youth virtual associations for a network analysis of their effectiveness [7]:

1) the nature of social relations between network participants;

2) the quality of social relations;

3) a characteristic of the intensity of interactions in the network (communication strength);

4) a characteristic of the ambivalence of network participants.

An analysis of Instagram of different student associations of higher educational institutions of the Khanty-Mansi Autonomous Okrug-Yugra allows us to argue that virtual communities do not fully satisfy all the information needs of future teachers, the information component that can interest this audience is mainly aimed at describing the events in which the participants of these associations are involved, or to announce events. Not enough thought and discussion.

Promotion of any ideas, including pedagogical, has some similarities with marketing. One of the tools for implementing trust marketing is social media marketing. Its effective use involves:

1. Accurate definition of project goals, highlighting the target audience and creating engaging content.

2. The diversity of the organization of interaction with the target audience is the holding of various contests, draws and surveys.

3. The lack of direct imposition. It is unacceptable to force people to enter the community - it is necessary to interest and engage opinion leaders.

Establishing a trusting relationship is a long and ongoing process. First you need to study the target audience and understand what its needs are for a particular student association or project. And then meet these needs.

The project "I want to be the first!" Exists for 4 years [1]. It unites students of SurGPU studying in the direction of "Pedagogical education" (focus on primary education) from 1 to 4 courses. In addition, members of the project are graduates of this orientation.

The goal of the project is the professional education of bachelors of pedagogy through building the interaction of different subjects of the educational space (attracting students of all courses of study focusing on "Primary Education", undergraduates, potential applicants, teachers, former graduates of SUSPU).

For two years, the project had a closed VKontakte page (https://vk.com/club133915930). A survey at the end of the second year among project participants showed that students are not ready to work in an open area. At the same time, the desire to share what is happening inside the project grew. In November 2018, the project was included in the catalog of student associations and projects of SurGPU. Since October 2018, the project has an Instagram (https://www.instagram.com/khochu_byt_pervym/). Each group included in the project has its own main role.

When communicating in a group dedicated to the organization of Instagram, questions were identified that needed to be resolved: what is the purpose of the Instagram project, how often do posts need to be posted, what should it duplicate that posted in the VKontpkt project group, which hashtags are better use everything so that you can easily find the right post, what are the success rates.

During the consultations, discussions, it was revealed that the motivation for Instagraming the project is the desire: to be aware of the project (a survey in September 2018 of students and teachers of the Surgut State Pedagogical University showed that 96% of respondents did not know anything about the project, although it had already existed successfully for two years); that the project is correctly perceived as a project dedicated to the professional education of future primary education teachers; to have regular followers.

There are a large number of various ways to carry out project promotion. One of the modern ways to promote educational services and projects on the Internet is SMM promotion.

The following domestic and foreign authors studied the promotion of educational services through SMM: T. Ekshikeev, E. Neretina, A. Vorobyova, A. Makarets, E. Lukhmeneva, O. Kalieva, M. Silverman, D. Tsovalis.

Promotion is any form of message for information, persuasion, reminder of goods, services, social activities, ideas, etc. [3].

In the context of promoting a student project, promotion should be understood as the process of transmitting a specific message to the target audience, as a result of which a certain reaction is expected from the message recipient. The implementation of the project aimed at professional education of future teachers implies the formation of a positive attitude towards the profession, preparation for solving pedagogical problems at school and, of course, plays a significant role in promoting the university where such a project is being implemented.

Social media marketing (SMM) allows you to create a loyal audience by publishing useful information and communicating with potential consumers [5, p. 52]. SMM includes a number of key areas: monitoring social networks; promotion in social networks; reputation management in social networks; customer support on social networks.

The formation of loyalty as part of the SMM promotion of the project "I want to be the first!" Can be called a priority goal, since loyalty entails the development of trust, the elimination of negative attitudes towards the project, and the increase in its recognition. Among the most frequently used and effective tools applicable in SMM are video clips, infographics, informational messages, graphic images, etc.

The analysis of the group's content on Vkontakte and on the Instagram of the project "I want to be the first!" Showed that the largest number of views was caused by the simultaneous use of a post and video. Instagram of the project is characterized by the publication of news about the project, promotions, high-quality branded content (messages in which events the project participants successfully participate). These publications have led to increased loyalty of existing subscribers. Their number increased to 123 as of October 2019, there have not been any unsubscribes since October 2018. The project team in Vkontakte as it was a thematic community, and remained. It publishes a large amount of content related to

the topics in which the project works. Publications alternate with offers of stocks, flash mobs and polls. The number of participants is more numerous (192 people, unsubscribed in three years - 5 people), but the proportion of users who are constantly participating in the work of the group is not very high - about 15-20 people (12-16%). These data are consistent with the results presented in the literature [6, p. 13].

One of the key success criteria is the openness of the project to the audience. The opportunity given to the audience to take part in creating content is aimed at the effectiveness and stability of communication, which, as E. Rosen pointed out, causes people to feel involved, increases self-esteem and arouses the desire to promote the product (in our case, the project) [8, p. 162].

Based on the theory of F. Kotler [16], we can identify areas that can improve content on the Instagram of the project "I want to be the first!":

1. Production of new hybrid products (events, promotions) and convergent content, i.e. content that provides a wide range of content for text units, photos, videos, infographics, audio podcasts.

2. Simplification of the process of information consumption (provide links through hashtags to the maximum number of social networking platforms and instant messengers in order to guarantee the maximum possible number of consumers access to the content in a format convenient for them).

3. Providing the project participants and Instagram subscribers with new opportunities: in addition to participating in the creation of user-generated content in the public, which has become familiar and traditional, offer to participate in the creation of the material.

4. Improving the efficiency of the provision of content.

An important parameter for evaluating the effectiveness of SMM promotion is ER (Engagement rate), which is the coefficient of involvement of a community audience in interacting with content [12].

The average engagement rate for the Instagram project "I want to be the first!" From October 2018 to March 2019 is 3.3. Engagement in October-November 2018 exceeded the average rate, so it can be argued that the posted content on the Instagram project hit the target. It was at this time that the level of audience loyalty was significantly raised and new subscribers were attracted. In the future, we see a decline in activity.

Instagram content creates the conditions for the formation of project participants of such socio-communicative qualities as sociability, communicative control, business communication, as well as situational communication modeling. These qualities are necessary qualities of the teaching profession.

Summarizing the analysis of SMM-promotion, we can distinguish both strengths and weaknesses of the Instagram project "I want to be the first!". Among the strengths are ways to attract audiences and content. Among the weaknesses - a small number of subscribers. It should be emphasized that Instagram of a student project has significant educational potential, realizing a special form of management, which involves the active participation of students in the preparation, adoption and implementation of managerial decisions regarding the selection of material, creating content that meets the goals of the project, and active inclusion in the professional community.

Given that students, future teachers, make the most of the information presented on different media, Instagram should set the patterns and standards of behavior that are typical for a modern primary education teacher that are projected onto this environment, which helps students acquire formed value orientations and social practices required in the context of their future professional activities. And here it is necessary to unobtrusively but constantly promote those models of behavior in the team that students will need in their future professional activities, and carefully make fun of models that are clearly inappropriate for this activity. The necessary professional models of behavior should be formed gradually, taking into account the peculiarities of the modern youth environment.

References

1. Alekseeva OV, Araslanova A.A., Chetvertnykh M.I. The formation of professional-pedagogical orientation in students through project activities // Innovative development. 2018. No 3 (20). P. 113-116.

2. Altynkovich E. E. Transformation of the cultural values of the individual in the information society / E. E. Altynkovich, G. D. Petrova – Cheboksary: Chuvash. state ped un-t 2016. – 179 P.

3. Vashchenko A. Is your promotion effective? // Advertiser: theory and practice. 2013. No 6. P. 46.

4. Instagram audience research [Electronic resource], 26.04.2017, Access: http://www.forbes.ru/tehnologii/343331-issledovanie-auditorii-instagram-servisom-polzuetsya-kazhdyy-desyatyy-v-rossii, public – Screencap (appeal date: 26.10.2019).

5. Kozhushko O. A., Churkin I., Ageev A.; Internet marketing and digital strategies. Principles of effective use: study guide; Novosib. state un-ty, "Intelsib" Company. Novosibirsk: RIC NSU, 2015. 327 P.

6. Kremnev D. Promotion in social networks. SPb.: Peter, 2011. 160 P.

7. Kuchukyan A. V. Opportunities of the network analysis methodology in the study of virtual youth communities // Theory and practice of social development. 2017. No 4. URL: https://cyberleninka.ru/article/n/vozmozhnosti-metodologii-setevogo-analiza-v-issledovanii-virtualnyh-molodezhnyh-soobschestv (appeal date 25.03.2019).

8. Rosen E. Anatomy of word of mouth marketing; per. from English Natalya Yatsyuk. – M.: Mann, Ivanov and Ferber, 2013. - 409 P.

9. Russian society and the challenges of the time. The second book. Ed. M.K. Gorshkova, V.V. Petukhov. – M. "The whole world". 2015. 432 P.

10.Savina S.V. The role of the media in the process of youth assimilation of sociocultural values / S.V. Savina // Bulletin of the Adygea University. Series 1: Regional studies: philosophy, history, sociology, jurisprudence, political science, cultural science. 2010. No 4. P. 245-250.

11. Skorodumova O. B. Culture of the information society: features and development trends / O. B. Skorodumova // Bulletin of the Russian Philosophical Society – 2008. – No 2 (46). – P. 76–80.

12. Teryaeva E. Engagement rate (ER): calculation and values of indicators: [Electronic resource]. - Access: https://blog.calltouch.ru/engagement-rate-er-raschet-i-znacheniya-pokazatelej/ (appeal date: 25.10.2019).

13. Dolfsma W., Eijk R. van der, Jolink A. On a source of social capital: gift exchange // Journal of Business Ethics. 2009. Vol. 89, no. 3. October. P. 315-329.

14. LaPonsie M. Picture This: 5 Ways Teachers Can Use Instagram in the Classroom: [Electronic resource]. - Access: https://www.emergingedtech.com/2013/03/picture-this-5-ways-teachers-can-use-instagram-in-the-classroom/(appeal date: 26.10.2019).

15. Lin N. Social networks and status attainment // Annual Review of Sociology. 1999. Vol. 25. P. 467-487.

16. Philip Kotler. Marketing Essentials, 1984. / Филип Котлер. Основы маркетинга. Translation into Russian: V. B. Bobrov – M.: Publishing house "Progress", 1990. 652 P.

NATIONAL AND CULTURAL IDENTITY OF ENGLISH AND RUSSIAN PROVERBS WITH THE MEANING «SPEECH, WORD»: COMPARATIVE ANALYSIS

Orlova Tatiana Gennadyevna
Candidate of Philological Sciences, Associate Professor
RUDN University

Abstract. The article is devoted to a comparative analysis of the proverbs of the English and Russian languages with the meaning of «speech, word». In the process of analysis, the main meanings of proverbs were identified and systematized. An analysis of the phraseological meaning, lexical components, syntactic structures, expressive-evaluative means, the sound organization of English and Russian proverbs revealed the role of language means in expressing the mentality of the English and Russian peoples.

Keywords: meaning «speech, word», proverb, lexical component, syntactic structure, phraseological meaning, expressive-evaluative means, folklore, mentality.

One of the important means of understanding the national-cultural originality of the life of peoples are proverbs. Proverbs are a bunch of thoughts. «Proverbs demonstrate all the proverbial, intellectual-linguistic diversity and richness of both Russian and English in the syntactic and analytical ways inherent in these languages» [Dubrovskaya, 2002, p. 148]. Each nation in its own language reflects in its own way the world of reality surrounding it, depending on the conditions of its life, different natural and climatic conditions, social structure, history, culture and traditions, etc. The difference between the proverbs "is in their figurative structure, local realities and concepts ... And all in common - is in their logical content, in the nature of the relationships transmitted by them.» [Permya-

kov, 1988, p. 21]. We add that the similarity in the meaning of proverbs is determined by the universal nature of human thinking, which is inherent in humans as homo sapiens. "Of particular interest is the study of the proverbial conceptualization of the world, which allows us to establish common and different features in the comprehension of the world by two peoples ... to compare the mentality of peoples manifested in proverbs» [Ivanova, 2006, p. 5].

For a comparative structural and semantic analysis of a large number of English and Russian proverbs with the meaning of «word, speech», we selected only those that convey a significantly greater national-cultural identity, the mentality of two linguistic-cultural ethnic groups. In our analysis, we used both Russian and foreign dictionaries [Dahl, 1994; Zhukov, 1990; Dictionary of Common English Proverbs, ed. Bukovskaya, Vyaltseva, Dubyanskaya et al., 1990; Shatskaya, 2013; Smith W.G., 2008] using the continuous sampling method.

As a result of a comparative structural and semantic analysis of English and Russian proverbs with the meaning «speech, word», we distinguished several groups, of which the largest group is with the meaning «the less you speak, the better». This group includes proverbs that are full equivalents that were formed as a result of tracing, for example: *Speech (speaking) is silver, silence is golden,* which is the exact equivalent of a Russian proverb *Слово – серебро, молчание – золото.* Some proverbs of this group are very close both in figurative meaning and in lexical components due to the universality of human thinking, for example: *He knows much who knows how to hold his tongue.* It corresponds to a Russian proverb *Держи язык за зубами.* Another English proverb *A silent fool is counted wise* also has a very close equivalent in Russian: *Молчи – за умного сойдёшь.* The Russian proverb is distinguished only by its syntactic structure. The following English and Russian proverbs are close in figurative meaning and internal form: *Great talkers are great liers* and *Кто меньше толкует, тот меньше врёт,* as well as proverbs *Great talkers are little doers* and *Большой говорун - плохой работун.* At the same time, Russian proverbs are built according to folklore canons: *говорун – работун*,

in which an important role is played by sound and rhythmic organization. Of interest is an English proverb *A close mouth catches no flies,* which corresponds to an almost equivalent Russian proverb *В рот закрытый глухо не залетает муха.* In these proverbs, the close phraseological meaning is expressed by an unusual set of lexical components (*close mouth, flies, рот, муха, влетим*). Due to this, imagery and expression arise, which indicates that both the English and the Russian are not without a humorous attitude to life.

However, in this group of proverbs there are those in which a similar meaning is conveyed by different lexical and syntactic means, for example: *Least said, soonest mended; Give every man thine ear, but few thy voice,* in which archaic words *thine* and *thy* are found in the meaning of «yours», which indicates the early origin of this proverb; *Keep your mouth shut and your ears open; Keep your mouth shut and your eyes open.* As you can see, in English proverbs there is an unusual lexical compatibility, due to the use of somatisms «*ears*», «*eyes*», «*mouth*», which give them a figuratively expressive character. These English proverbs correspond to Russian: *Лучше не договорить, чем переговорить; Язык до добра не доведёт; Язык мой – враг мой; В добрый час молвить, в худой – промолчать; Меньше говорить – меньше согрешить.* Russian proverbs contain appraisal due to the use of antonymic words: добрый- худой, молвить-промолчать, due to the opposing conjunctionsless syntax, as well as due to syntactic parallelism. Such a large number of diverse English proverbs with the meaning «you need to speak less and be silent more» indicates the closedness of the British, their secrecy, the national originality of their character, which was formed under the influence of various conditions. Famous hereditary anthropologist Kate Fox explains the character traits of English society based on geographical factors. She believes «that Great Britain – is «not just an island», but a relatively small overpopulated island – fertile ground for the formation of such qualities as restraint, constraint, secrecy, desire to have one's territory, alertness, <···> refusal to intervene in people's private lives and impose one's own society on them.» [Fox, 2016, p. 655]

The second most important group includes proverbs that have the meaning «actions are more important than words»: *Better to do well than to say well; Deeds, no words* (Дела, а не слова); *Easy said than done; Saying and doing are two things.* As can be seen see, English proverbs are distinguished by laconicism, simplicity of syntactic constructions, two of which include comparative turns. All these proverbs are didactic in nature. Russian proverbs corresponding to them are: *Лучше хорошо делать, чем красиво говорить; Сказано – не доказано, надо сделать; От слова до дела далеко; Не спеши языком, торопись делом; Скоро сказка сказывается, да не скоро дело делается; От слова до дела – целая верста.* In Russian proverbs, syntactic constructions are more diverse. The last three proverbs contain folklore vocabulary and one of them has a folklore beginning (*скоро сказка сказывается*). They are based on opposing and comparative constructions.

The next group of proverbs is represented by the meaning «short, kind answer repels anger»: *A soft answer turneth away wrath*. This proverb has a synonymous proverb *Soft fire makes sweet malt.* The second proverb is more figurative due to the metaphorization of lexical components associated with household details characteristic of the life of the British. Here is another English proverb with a similar meaning: *Politeness costs little (nothing) but yields much.* This proverb is instructive, contains instruction, it speaks of politeness, which is an integral character trait of an Englishman and reflects his mentality.

Here are Russian proverbs with the same meaning: *Покорное слово гнев укрощает; Ласковое слово и ласковый вид и свирепого к рукам приманит; Жёсткое слово строптивит, а мягкое – смиряет; Ласковое слово нетрудно, а споро; Доброе слово и кошке приятно.* As you can see, in Russian proverbs the figurative component is enhanced through the use of emotionally-expressively colored vocabulary (покорный, ласковый, жёсткий, добрый) in relation to such a concept as a «word». They use the verbs of folk peasant speech (укрощает, приманит, строптивит). Russian proverbs in their own way reflect the character and national characteristics of the Russian person: kindness, benevolence, meekness, love of people and animals.

The following group includes proverbs that realize the meaning: «slander, evil word destroys a man». Compare: *Many words hurt more than swords and Russian counterparts: Слово пуще стрелы разит; Не ножа бойся, а языка; Бритва скребёт, а слово режет; Слово не нож, а до ножа доводит.* Common in English and Russian proverbs is their internal form, equating the word with sharp objects, such as «*swords*» and «стрела, бритва, нож», which acquire figurative phraseological meaning. The English proverb is more neutral than Russian proverbs, the expressiveness of which is enhanced by contrast. This group includes a closely related English proverb that is naturalistic in nature – including the word «*dirt*»: *Fling dirt enough and some will stick*, which means «slander more – people will believe something». It corresponds to Russian proverbs: *Бойся клеветника как злого еретика; Клевета как уголь: не обожжёт так замарает; Раскрасилась клевета во все махровые цвета.* As you can see, in Russian proverbs with the meaning of «speaking» the words «клеветник», «клевета». are used. The lexical component «клевета» after the meaning «замарает» acquires a figurative meaning, which brings it closer to the meaning of the English proverbs.

Note that both human thinking and behavior are often contradictory, which is confirmed by proverbs that have the opposite meaning to the previous proverbs: «Rude words alone do not hurt, but actions do». *Hard words break no bones; Sticks and stones will break my bones, but names will never hurt me; Words may pass but blows fall heavy.* English proverbs contain teachings, they are literary in nature and contain more neutral vocabulary. The second and third English proverbs contain oppositions that enhance imagery. We give a Russian proverb with an identical meaning: *От палки все заболит, а слово мимо ушей пролетит.* This proverb has a similar internal form and figurative meaning, which is expressed by means of folklore. Other Russian proverbs are found with the same meaning: *Брань на вороту не виснет; Хоть горшком назови, только в печку не ставь; Слово не обух, в лоб не бьёт; Собака лает – ветер носит.* Russian proverbs are of a popular nature and reflect the mentality of the peasant. This is evidenced by folk colloquial vocabulary and folkloric syntactic constructions. The last Russian proverb uses the zoononym «собака», which gives it an allegorical character.

The next group of proverbs conveys the peculiar meaning of «one who threatens a lot, does little harm»: *Great barkers are not biters; Barking are seldom bite.* They correspond to the Russian proverb, which is their full equivalent: *Брехливые собаки не кусаются.* It is interesting that both English and Russian proverbs use allegory, the actions of a person are described through the actions of the animal – «собаки», and the Russian proverb uses the vernacular «брехливые», which indicates the peasant origin of this proverb.

A few more synonymous proverbs with the same meaning can be given: *Много грозит, да мало вредит; Из большой тучи, да малый дождь; Вспыльчивый нрав не бывает лукав; Тих да лих, криклив, да отходчив.* It is easy to notice that Russian proverbs are distinguished by a folklore character. The meaning of «speech, word» is implicitly expressed in them, they do not contain a mention of «speech, speaking», but they are implied. Of an interest is the proverb *Из большой тучи, да малый дождь,* in which a similar meaning is transmitted through natural phenomena that are close and understandable to man. This group of proverbs uses popular colloquial vocabulary: «лукав», archaism «лих»; parallelism of syntactic constructions, contrast, rhyming lines. The conjunction «да» in the opposite sense also has colloquial coloring. These proverbs reflect the universal experience, the behavior of people regardless of their nationality. The general phraseological meaning of proverbs in English and Russian is expressed by various language means and techniques.

Next, consider the proverbs that express the meaning: «you can not believe the words, people say one thing and think another». In these proverbs pretense, duplicity and hypocrisy of people are condemned: *To cry with one eye and laugh with the other*. Is corresponds to Russian proverbs: *Глазами плачет, а сердцем смеется; Говорит направо, а глядит налево.* When comparing English and Russian proverbs, we see that they are based on a syntactic contrast, which is based on the verb antonymy: «*cry*» – «*laugh*», плакать – смеяться. Both in English and in Russian proverbs somatisms are used: «*eye*», «глаз», «сердце». The similarity of the phraseological meaning of English and Russian proverbs is observed at the language level. This gives them a universal character.

It should be further noted that in both English and Russian there are unique proverbs that directly reflect the mentality of the English and Russian people. For example, English proverb ***Better the foot slip than the tongue*** conveys the character of an Englishman, who attaches great importance to the manners and speeches of others. In Russian, there is a proverb *Язык да Киева доведёт*, conveying the mentality of a Russian person who is distinguished by sociability and openness.

Thus, a comparative structural and semantic analysis of English and Russian proverbs with the meaning of «speech, word» showed that among them we can distinguish proverbs that are equivalent in meaning, as well as counterparts, in which features of a national character are clearly manifested. However, English proverbs are more distinguished by their didactic, edifying character, they are more specific, they often use correlative, opposing and incentive sentences. They use more neutral vocabulary. Emotionality and imagery are created by the inclusion of unusual lexical components (zoonyms, antonyms, somatisms, etc.).

Russian proverbs, despite the edifying character, are more expressive. They include folk-colloquial, often archaic vocabulary, use diminutive suffixes, more often use sound repetitions and rhymes, which serve to actualize their meaning and contribute to their memorization. They also make extensive use of comparative and opposing constructions, as well as syntactic concurrency. In general, they are close to folklore. The differences and similarities of English and Russian proverbs clearly characterize the mentality of the English and Russian peoples. The study of English and Russian proverbs in the educational process will deepen the knowledge of students, arouse interest in a deeper study of the English language, will help to better navigate in English literature.

References

1. Dal V.I. Explanatory dictionary of living, Great Russian language. In 4 volumes, M., 1994, 3600 P.

2. Dubrovskaya O.G. Russian and English proverbs as cultural units. Tyumen, 2002, 164 P.

3. Zhukov V.P. Dictionary of Russian proverbs and sayings. - M., 1990, 537 P.

4. Ivanova E.V. The world in English and Russian proverbs: Textbook. – SPb.: SPbSU publ. 2006, 280 P.

5. Permyakov G.L. Fundamentals of Structural Pareomyology. – M.: Nauka, 1988, 236 P.

6. Dictionary of common English proverbs / M.V. Bukovskaya, S.I. Vyaltseva, Z.I. Dubyanskaya et al. - M., Russian language,1990, 234 P.

7. Shatskaya E.Yu. Thematic dictionary of Russian and English proverbs and sayings. «Feather» Publishing House, Moscow, 2013, 157 P.

8. Kate Fox Paradoxical British. 2,460 facts. - M.: Ripol Classic,2016. – 672 P.

9. Smith W.G. The Oxford dictionary of English proverbs. Oxford, 2008, 625 p.

PHRASEOLOGICAL SEMANTIC FIELD "CHARACTER" (BASED ON ENGLISH PHRASEOLOGICAL UNITS WITH THE PHYTONYM COMPONENT)

Yakunina Tatiana Igorevna
Postgraduate
South Ural State Humanitarian Pedagogical University

The phraseological fund of a language reflects peoples' mentality and worldview, depict their traditions and realities. The study and description of phraseological units of a language is essentially connected with the study of their practical usage. So, this paper analyzes the semantic structure of phraseological units having a phytonym component with regard to their lexical contextual environment as well as comparing their dictionary definitions with the contextual meanings.

The **objective** of the research is the analysis and description of the structure, linguistic and cultural aspects of the phraseological semantic field "Character" made up by phraseologisms with the phytonym component.

The English phraseological units with the phytonym component in their structure comprise the **material** of the research. They are taken from the leading lexicographical publications (C. Ammer, H. Collins, R. Spears, M. Skeat, W. Walter, Farlex, etc.). The sources of contextual usage are the British National Corpus (BNC) [5] and the Corpus of Contemporary American English (CCAE) [3].

Methodology. Phraseological base was studied with the method of semantic analysis – analysis of the semes in phraseologisms structure, the method of phraseological semantic fields – studying the PSF "Character"; method of linguistic and cultural analysis allows to study the main associations and metaphors serving as the sources of the set expressions and identify their role in forming the picture of the world.

The study of any language and its diverse lexis involves the allocation of persistent systems and subsystems that are interconnected. Speaking about phraseology, the system of phraseological semantic fields (PSF) is under consideration. The fields are of various size and amount and concern different spheres of human life.

The set expressions of the language are commonly defined by the term 'phrase': 'a short group of words that are often used together and have a particular meaning' 2]; and idiomatic or short pithy expression' [9]. The term 'phrase' also includes the notion of a divisible word combination, so that it is important to distinguish and define these concepts. The Russian language studies (S.V. Maslova, V.M. Mokiyenko, V.V. Vinigradov, V.N. Teliya, B.N. Golovin, A.A. Shakhmatov, A.V. Kunin, etc.) suggest the term 'phraseological unit', or, in short, 'phraseologism'. It is a set expression that is characterized by semantic integrity, close connection of its components and integrity of reproduction in speech.

The British, American and European linguistics (C. Bally, O. Jespersen, A. Hornby, L.Smith, C. Fries, E. Nida, F. Palmer, etc.) operate with the term 'idiom'. Idiom is identified as a integral word combination the meaning of which is not derived from the meanings of its constituent components.

It is more efficient to accept the broader term which includes the term 'idiom' into its definition. Based on the scientific experience in the field of linguistics, 'phraseological unit' is defined as an indirect nominative set phrase (the meaning of the whole unit is not derived from the meanings of its components), that is grammatically formed on word combination model, and is characterized by semantic integrity of the individual meaning depending on the degree of cohesion of its constituent components and function in the context.

Phraseological units have a great impact on the linguistic picture of the world. Its meaning is closely related to the background knowledge of the native speakers, his experience and historical traditions of peoples. A phraseologism is equivalent in meaning to a word and can usually be explained by a single word. Every word has a complex semantic structure. Different researchers agree that the lexical meaning consists of *semes*. The seme is a minimal indivisible semantic unit of the meaning.

The seme which represents the essential, distinctive feature of the word, is ***denotative.*** Denotative semes are divided into *nuclear* and *peripheral*. Nuclear semes are the most significant: they denote permanent, irremovable object features which distinguish the word from the words with the similar meaning. Peripheral semes denote less significant or inconstant features. They can be potential, contextual, connotative (expressive, emotional, evaluative) and functional (grammatical). The same structure can be applied to a phraseological unit. The relations between semes can be linear (equal) and hierarchical (subordinate). In the second case, there are producing and derivative semes. The derivative seme is somehow motivated by the initial meaning.

Phraseologisms reflect the process of culture development, its individual form and meaning trace cultural information. The latest method applied to the study of phraseology is the method of phraseological semantic fields (PSF). Semantic fields were studied by A.V. Kunin, I.I. Chernyshova, A. Birikh, J. Trier, J. Lyons and other linguists. PSF is a structural organization of phraseological units that function in certain systemic relationships and are united by a common semantic theme and a common expression of one concept .According to V.N. Denisenko [4], any semantic field is a hierarchical structure: it consists of the *core*, or nucleus – the seme common for all units of the field, the *center* comprised of the units that have the core semen in their structure, and the *periphery* formed by the units having the core seme as a peripheral – connotative, potential or contextual, and thus, alterable. The fields are interconnected: one and the same unit can belong to two or more fields.

The current research studies phraseological units with the phytonym component. The dictionaries define the term *phytonym* as a name of a plant. It is practically more efficient for the research to extensively define this term as follows:

- hypernyms – general name of plants (tree, flower, bush);
- hyponyms – individual names of plants (rose, oak);
- names of parts of a plant (root, leaf);
- plant areas – collective nouns denoting the totality of plants (garden, wood, forest, jungle);
- derivatives from hypernyms and hyponyms (blossomed, rooted);

- partial names – the names of plants processed by a human or parts of plants remaining after certain manipulations with them (log, stump, oat).

Core

The name of the field is usually the nuclear seme of the field included into semantic structure of every unit. *Character* is defined as "the mental and moral qualities distinctive to an individual" [9]. Psychological dictionary [1] consider character as the "totality of an individual's attributes and personality traits, particularly his or her characteristic moral, social, and religious altitudes". The synonymous term *personality* has broader sense and denotes "the enduring characteristics and behaviour that comprises an individual's unique adjustment to life, including major traits, interests, drives, self-concept, abilities, and emotional patterns" [1]. It is necessary to separate the terms *character* and *behaviour*. *Character* is a set of constant mental properties of a person, unlike his/her behaviour. Character as a system of permanent personal features determines the ways of behaviour. It is a 'source' of short-term, single reactions related to as *behaviour.* So, the term *character* is regarded from the point of view of relative stability of personal features and presents the core of the field the meaning of which is included into the meanings of the phraseological units. Synonymous term *personality* is also included into the core of the field.

Center

Character traits are manifested in two systems of relations: the altitude of the person to himself and the altitude towards society.

Altitude to society. The phraseologism **lily white** has three meanings: 1. Completely white in colour. 2. Completely honest. 3. Having only white people near. Lily is often symbolized due to its appearance: almost pure white color and elegant shape.

The association between the white lily and a white object is the source of the derivative nuclear seme 'completely honest': "However, if we don't and we say we're lily white but the prosecution solicitor, prosecution witnesses, are all bent... his previos convictions attack his credibility" (Trent Law Schol: tutorial). The meaning is semantically reinforced by the opposi-

tion to the lexical item "bent" meaning "dishonest". White lily is associated with purity and innocence [10]. Mainly in European cultures, the white color symbolizes purity and cleanliness, as it is the basic color of the spectrum. Lily is a Symbol of the Virgin Mary. White is the color of the good, unlike black is the color of the evil. Being white means having no properties of any colour, in religion – having no sins, so being honest means having no lies coming out from your mouth. Another marker in the context is the noun "credibility" possessing the meaning 'believable', 'trusted'. The usage of this noun in the passage determines materialization of the contextual peripheral seme 'trusted' in the structure of *lily white*. The meaning of white colour also produces the derivative nuclear seme "having only white people around". The colour is directly associated with the skin and refers to historical societal altitudes and prejudices towards black-skinned people. The phrase can employ both negative and positive evaluativity.

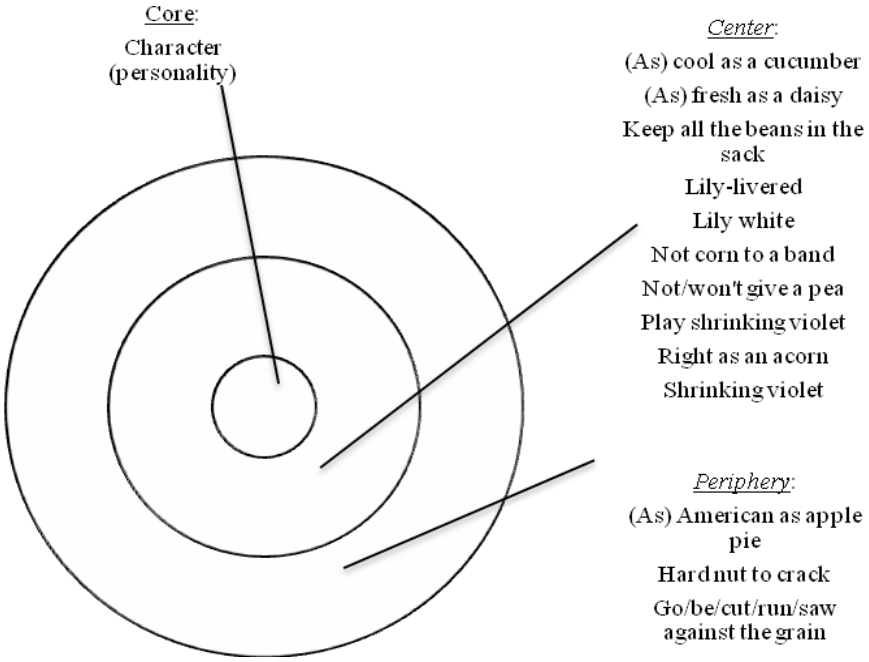


Figure 1. Phraseological semantic field "Character"

2. Altitude towards oneself. The peculiarities of one's volitional regulation are denoted bн phraseological units with the phytonym component. Being **lily-livered** mean being not brave, coward person. The core seme is "not brave'. The expression permits grammatical variation of the participle component, particularly, its substantivisation with the definite article: "On the Afghan border with Soviet Union lies Mazar-e-Sharif. Not a city for the lily-livered" (Adverts from Clothes Show. 1991). In this sense, the phraseologism actualizes the peripheral functional grammatical seme 'person'. The expression can employ the derivative seme 'infirm', 'feeble', 'unable to decide/do something vigorously/confidently' characterizing the character in a whole: "David Miller was never vicious about though; he was too lily-livered for that" (J. Cox *Don't cry alone*). Lily here is connected in mind with weakness and vulnerability. Liver is the organ of 'digestion' and blood purification. It is a place of 'flammeous' emotions concentration – hate, aggression, insult, offence. Thus, to be *lily-livered* means to be unable to feel or reveal these emotions, because you experience the lack of blood in your liver [8].

Shrinking violet denotes a very/extremely shy, modest person: "He's no shrinking violet.' Mallaby said. "He's willing to take on entrenched establishments" (R. Sadomir, A. Ross Sorkin *Hedge und Manager and Mets Near a Deal*). The core seme 'very shy' is semantically supported by the opposition to participle II "entrenched", participle I "willing" possessing the meaning of "assured, fortified" and "ready to act, having spirit to act" respectively. This expression is, likely to be the source of the set expression **to play shrinking violet** which means "to pretend to be innocent or shy": "Those big shoulders were going to be a hindrance to me somehow. You can't really play a shrinking violet with shoulders like mine" (A. Huston *Story of Growing Up with a Director Dad*). The nuclear semes of this unit are 'shy' and 'play-act'. Peripheral connotative seme is negative evaluativity.

Personal character traits. Greed is depicted by the expression with the varying verb component **not/won't give a bean for a pea**. The core seme of the unit is 'ungenerous': "Your sister, I suppose, carries water and does some things for you. Well, mighty little, her won't give a bean for a pea" (Lanwarne). Distrust is reflected by the I phraseologism **not corn to a band** meaning a person who cannot be relied upon. The association is clear enough: a person is compared to the grain unfit for further usage.

Honesty and fair is the core semes of the set expression **right as an acorn**. Thrift is the nuclear seme of the set phrase **keep all the beans in the sack** naming a person who is careful of his money. Calmness and self-possession are depicted by the phraseologism **(as) cool as a cucumber**: "Joan felt nervous, but she acted as cool as a cucumber (Farlex [6]). A positive, energetic and well rested person can be described **(as) fresh as a daisy**. "...we've been for a run over the fields, lovely; feel as fresh as a daisy after it"(S. O'Casey, *Purple Dust*). The nuclear seme in the example is 'well rested', 'vivacious', 'lively', 'having a lot of energy'. The expression may also realize the derivative seme 'elegant', 'beautiful', 'attractive': "He liked Lucy Moore, in his own way. "She's fresh as a daisy', he often thought, and a regular smarter" (A.J. Cronin, *Three Loves*).

Periphery

Difficult human character is depicted by the set phrase **hard nut to crack** – a person or a situation difficult to deal with. The metaphor and, thus, the meaning of the unit is obvious: the laborious process of cracking a nut is associated with a very vigorous, delicate, challenging situation or a tough, prickly person. *Nut* symbolizes something/someone difficult, complex, *hard to crack* denotes difficulties to comply with sth/sb. The core seme is 'difficult to deal with'. The peripheral, or changeable, semes are:

- 'person': "I wish I could made some progress toward making peace for Mummy. Auntie's a hard nut to crack" (A. Chidester *Borderlands*). Other distinctive semes if to concern a human are 'unwilling to compromise', 'stubborn', 'ultimatistic';

- 'people': "But we really wanted to look at an alternative for the folks that – what we call the hard nut to crack or the folks that are hard to reach" (B. Edwards *Analysis: Researchers point out flaws in Pentagon's Serve Project*). Other peripheral semes of the unit regarding peoples are 'difficult to reach', 'difficult to appeal to', 'disagreeing', 'stubborn';

- 'situation': "She thought and thought but could not come up with one idea. She knew this problem was going to be a hard nut to crack" (J. McKlintoc *The Squirrel and the Oak Tree*). Other distinctive semes of the phraseologism denoting a situation are 'difficult to solve', 'complex'.

As the meaning relation to a person is changeable, the phraseologism is located in the peripheral area of the field.

The phraseological unit with the variable verb component **go/be/cut/ run against the grain** means "to go against the natural direction or inclination". The nuclear seme of the phrase is 'against, in opposite way to [something]'. The changeable peripheral semes relating to a person are 'obduracy [way of behaviour]' and 'obduracy [character trait]'. The second one requires this peculiarity to be persistent, permanent, unchangeable; to characterize a person as a long-term individual trait. The potential seme 'way of behaviour' makes the expression be pertaining to the PSF "Human behaviour".

The phraseological unit with the variable verb component **(cannot) get/ squeeze/examine/like getting blood out of a turnip** reflects difficulties in persuading someone to do something: "You can't get blood out of a turnip. When an absent parent is unwilling to support, authorities look for a source of money they can turn to" (NPR Morning *De*).The core seme of the unit is 'impossibility of doing something'. The "something" is specified by the verb used before the noun *blood.* The seme 'inability/extreme difficulty to persuade someone' and its derived seme 'stubborn person' are peripheral contextual. In the example above they are realized by means of using the lexical item – the participle I "unwilling" related to a person.

The seme 'character' is potential in the semantic structure of the phraseologism (**as) American as apple pie**. The set phrase means having qualities that are thought to be typical for the people of America. The core seme is 'typical American', the phrase can name any object or person associated with the country. The probability of the character seme usage determines phrase's location in the periphery area of the field.

Conclusion. The majority of set units of the field are negative. It is the peculiarity of human nature to depict very positive or negative features in the language. Negative is perceived as not normal, that's why it is give more attention in people's mind. The main negative character traits depicted in phraseology with the help of phytonyms are shyness, greed, distrust, general difficulty of a person. Positive features are self-possession, thrift, attractive appearance.

Phraseologisms of the field are derived from the following phytonyms' features. Appearance. The white color of lily suggests purity of the human soul. Its shape is associated with beauty [7]. In negative terms, tenderness and delicacy symbolize weakness and vulnerability. The flower of lily can describe a person as unable to stand for himself or cope with difficult situations.

The flower of violet, i.e. pansy, may be associated with shyness and reserved, reclusive demeanour due to the small size of the flower sand growing close to the ground, so that they can be hidden under bigger plants.

Eating vegetables is associated in human mind with health. Peculiarly, freshness and pleasant appearance are connected with wateriness and green color of a cucumber.

The firm solid structure of the nut shell is used to protect the core. In human mind it is connected with the people who are difficult to understand, hard to communicate with.

Function. The source of set expressions are usually the functional features of food crops and their harvesting. Corn and grain are put into sacks or bands. Therefore, the unfit ones are thrown away as a person unacceptable by other members of the society. By beans and peas people mean the seeds of legumes which can be eaten. They are also gathered by people and reflect person's altitude toward his resources: generosity or greed, thrift or profligacy.

Polysemy and presence of the peripheral area of the field indicate the process of re-thinking and changing of meaning. The ability to appear in different context is the sign of flexibility of human mind and, thus, of phraseological units. Due to this flexibility any phraseological semantic field is able to extend and include new units to its central and peripheral areas.

References

1. APA Dictionary of Psychology / https://dictionary.apa.org/
2. Cambridge Dictionary Online / https://dictionary.cambridge.org/ru/
3. Corpus of Contemporary American English / www.english-corpora.org/coca
4. Denisenko V. N. Semanticheskoe pole «izmenenie» v russkoj yazykovoj kartine mira (strukturnyj, funkcional'nyj, kognitivnyj aspekty): dis. na sos. uch. step. d. filol. nauk. M., 2005. 333s.
5. English Corpora / https://www.english-corpora.org/bnc/
6. Farlex Free Dictionary / https://www.thefreedictionary.com/
7. Ferber M. A dictionary of literary symbols. – Cambridge University Press. 1999.
8. Hendrickson Robert. The Facts on File Encyclopedia of Word and Phrase Origins / R. Hendrickson. – 4th edition [Updated and expanded ed.] – Facts On File, Inc., 2008.
9. Oxford Dictionary Online / https://www.lexico.com/en
10. Tressider Jek. Dictionary of Sybmols / D. Tressider.- M.: 1999.
11. Voloshkina I.A. Frazeosemanticheskoe pole «Harakter cheloveka» (na materiale francuzskogo yazyka): Avtoref. dis. kand. filol. nauk. – Voronezh, 2009. – 22s.

TURKEY'S ENERGY POLICY IN THE CONTEXT OF RUSSIAN-TURKISH RELATIONS

Khlopov Oleg Anatolyevich,
Candidate of Political Sciences, Associate Professor
Faculty of International Relations
and Foreign Regional Studies
Russian State University for the Humanities,
Moscow, Russia

Abstract. The article presents an analysis of Turkey's energy policy regarding its geopolitics, national interest and relations with Russia for Turkey's energy security. The author argues that strategic interests as well as changes in the worldview of the political leadership over national identity, explain the foreign policy vector of Turkey. Turkey is striving to become an energy center due to energy and economic relations with Russia, searching for a balance between the EU and Russia in order to achieve its goals in implementing its concept of energy security.

Keywords: energy policy, hydrocarbon resources, gas oil pipelines, Turkey, Russia, European Union.

Since 1990 years the pipeline policy and energy security issues have been playing significant role in Turkey's foreign policy for the materially determined interest in becoming an energy center of transit oil and gas resources to European markets as well as for determining Turkey's national identity as the leader of the Turkic Eurasian region.

To study Turkey's energy policy, the nature of its relations with Russia and Euroopean Union an analysis of scientific and specialized literature was carried out, which made it possible to identify the main fundamental shifts in Turkey's foreign policy, taking into account the energy factor: increasing energy demand for the Turkish economy and the formation of Turkey as a hub for further transportation of hydrocarbon resources based on the principle of diversification of supply routes[1].

[1] Emre Erşenam, Mitat Çelikpalab. Turkey and the changing energy geopolitics of Eurasia // Energy Policy. Volume 128, May 2019, Pages 584-592.

Hydrocarbons play a crucial role in the production of energy and heat in the modern world, although the share of other sources is also very significant. There have often been wars in history over the possession of oil and gas. Hydrocarbons occupy the bulk of Turkey's primary energy consumption. The main types of fuel in the country's energy balance are gas (32%), coal (31%), oil (26%), and others (11%). The rapid growth in demand for natural gas over the past two decades has contributed to the fact that gas has taken first place in the country's fuel balance.

Turkey is a fairly large consumer of natural gas and is one of the five largest importers in the world. Gas consumption in the country is growing rapidly and half of it is used at power plants to generate electricity.

The absence of significant gas reserves predetermined the status of Turkey at as a net importer of natural gas and the attempts of the Turkish leadership to diversify import sources and supply pipeline routes. Currently, the country has already a developed infrastructure for gas imports and actively is developing transit capacities for natural gas supplies to Europe.

The pipeline policy and political economy of oil and gas projects have become an integral part of Turkey's foreign policy since the 1990-s. The energy-rich countries of the Caspian Sea region - Kazakhstan, Azerbaijan and Turkmenistan - became new participants in energy geopolitics, provided new investment opportunities at the beginning of the post-Soviet period. Their energy resources have become important for diversification, security and the stabilization of global energy supplies to international markets. Energy transport routes have become part of Turkey's foreign policy to adapt it to changing strategic conditions in the context of the post-bipolar period.

Turkey aims to become an energy corridor and a center (hub) for transporting oil and gas from the Caspian and Middle Eastern regions to European markets.

Turkey imports about 74% of its energy, while oil and natural gas account for 60%. Distribution of Turkish imports of oil and natural gas between 2005–2017 demonstrate that in 2017 Russia still has the highest share in natural gas imports (28.690 million cubic meters) and ranks third in oil imports (2.07 million tons, after Iran - 1.49 million tons and Iraq - 7.05 million tons).

In other words, Turkey imported 82% of its natural gas supplies from only three countries, namely Russia, Iran and Azerbaijan, and 73% of oil imports

were mainly from two countries - Iran and Iraq in 2017. Azerbaijan remains an important alternative supplier of natural gas, while Russian natural gas exports are still crucial for Turkey's energy security in the medium term.

The key objectives of the country's energy policy are: diversification of import routes for energy supplies; strengthening the transit role of Turkey in energy supplies; strengthening positions in ensuring energy security in Europe; increase in the share of renewable energy sources; strengthening the potential of nuclear energy; improving energy efficiency.

Turkey is located between the leading suppliers of oil and natural gas and Europe and that gives her opportunity to promote its geo-energy interests. Thanks to the "right" energy diplomacy, Turkey has achieved the implementation of major pipeline energy projects through its territory.

In particular, we can note the following: "Kirkuk-Ceyhan" (oil pipeline); "Baku-Tbilisi-Ceyhan" (oil pipeline); "Baku-Tbilisi-Erzurum" (gas pipeline); Turkey-Greece Interconnector (ITG) (gas pipeline); "West Line" (gas pipeline); Blue Stream (gas pipeline); "Iran-Turkey" (gas pipeline); TANAP (gas pipeline project); "Turkey - Bulgaria Interconnector" (ITB) (gas pipeline project); Turkish Stream (gas pipeline project).

Russia has a special place in Turkey's energy diplomacy. The rapid increase in demand for energy resources and the geographical proximity to the energy power Russia has become a main partner in long-term cooperation in energy industry. The expansion of ties between Russia and Turkey in the energy sector have resulted in the signing of a number of agreements - from the construction of oil and gas pipelines to a nuclear power plant. So both sides have experience of interaction in the field of energy policy[2].

Turkey pursues an independent policy, which is the most important factor in the dynamic development of the energy dialogue with Russia. It should be noted that the Russian-Turkish energy dialogue on gas transit issues in the Turkey – Russia – EU triangle is becoming decisive and laid the foundation of cooperation between the two countries. It is obvious that Russia and Turkey have reached a mutually beneficial formula for cooperation in this area, although their interests and positions diverge[3].

[2] İpek P. The Role of Energy Security in Turkish Foreign Policy (2004–2016). InTurkish Foreign Policy: International Relations, Legality and Global Reach, edited by Pinar Gozen, 173–94. Basingstoke: Palgrave Macmillan. 2017.

3 İpek P. The Role of Energy Security in Turkish Foreign Policy (2004–2016). InTurkish Foreign Policy: International Relations, Legality and Global Reach, edited by Pinar Gozen, 173–94. Basingstoke: Palgrave Macmillan. 2017.

In the long run, the relations between Turkey and the EU deteriorate, the country will develop its own gas trading system. This will lead to the creation of a new gas center called «The Eurasian Gas Hub in Turkey». It will compete with the existing gas hubs in Europe regarding prices, which is an opportunity for the Russian side. Russia will be able to participate in the formation of a hub in Turkey in order to make a profit and the opportunity to influence the price of gas.

However, the pricing system of the EU, and current EU legislation, especially the third energy package, do not allow Russia to expand its presence in the European gas market. An example of this is the recent European Commission ban on the purchase by Gazprom of a 50% stake in the Central European Gas Center in Austria.

Given the interdependence of the countries, Russia and Turkey consider each other as a partner. Ultimately, as the main topic of negotiations becomes cooperation, which continues to develop through the planning of new gas pipelines, Russia and Turkey must take into account the existing uncertainties in the Eurasian gas market. Moreover, to strengthen the Turkish-Russian gas dialogue, it is necessary to create a joint venture in the interests of both countries. Both for Turkey and Russia there are much more opportunities for implementing joint projects than existing cooperation in the gas industry. Russian companies are interested in participating in the privatization of some Turkish downstream gas projects: wholesale, distribution, electricity, storage.

At the same time, in the LNG sector in the Mediterranean market, Russian and Turkey companies can implement profitable projectss. On the other hand, companies with Turkish investments can participate in upstream LNG projects in Russia, as well as create similar projects together with Russian companies. For 20 years, Turkish companies have invested $10 billion in the Russian economy, including electricity.

While Russia is a major resource power, its economy is aimed at exporting these resources, Turkey is the second growing economy after China, has great potential for import and transit of energy resources. This gives the possibility to strengthen the position of Turkish companies at the upstream level in Russia and, accordingly, Russian companies at the downstream level in Turkey. As a result, the 30-year-old Turkish-Russian gas dialogue has developed into a strategic partnership based on trade[4].

[4] Nargiz Hajiyeva. Russia-Turkey: The Interdependent Relationship Shaped by Energy or a Deeper Friendship? // Modern Diplomat. April 4, 2018. - URL: https://moderndiplomacy.eu/2018/04/04/russia-turkey-the-interdependent-relationship-shaped-by-energy-or-a-deeper-friendship/ (Accessed: 20.10/2019).

If the above possibilities are to be realized, then the potential will open for increasing mutual economic interests. The dialogue, which contains questions on gas transportation projects, on mutual investments and the formation of the future Turkish gas hub, has been developing more intensively in recent years. After the collapse of the Soviet Union for 20 years, relations between the two countries turned into geopolitical cooperation and a rational economic partnership. State, public and business structures of both countries over the years have received the opportunity to study each other.

The events of the end of 2015 after the Russian Sukhoi Su-24 shootdown, related to the military operations in Syria caused the freezing of important joint project «Tuky Stream». In late July 2016, following a reconciliation meeting in Moscow, both sides brought the project back to the table. On 10 October 2016, Russia and Turkey officially signed the intergovernmental agreement in Istanbul, confirming commitment in the execution of the project[5].

The economic aspects of Russian-Turkish gas and nuclear relations, which are the foundation of a multilateral energy dialogue, serve the interests of both countries, provided that mutually beneficial investment opportunities are maintained. Todat we may see transition of relations in the field of energy to a new stage with great opportunities for both Turkey and Russia.

That is why «TurkStream» (then named «Turkish Stream») project was announced by Russian President V. Putin 1 December 2014, during his state visit to Turkey. At the first stage seven intergovernmental agreements were concluded. The agreement with Bulgaria dated January 18, 2008 provided for the construction of a pipe across the country with the equal participation of Gazprom and a Bulgarian company. A solid preparatory work was also done But at an advanced stage the EU, with US support, launched a massive attack on the «South Stream». The argument was "3rd Energy Package" of the EU, according to which in order to combat the monopoly of one company it prohibits to buy gass from producing and transporting company. Bulgaria was forced to abandon the project.

The decision to send the gas pipeline not to Bulgaria, but to Turkey (which, , is not a member of the EU) under such conditions turned out to be more than natural for Russianp. Only such a move allowed to approach a solution to the problem.

[5]"Turkey, Russia Sign Gas Pipeline Deal as Ties Improve". ABC News. 10 October 2016. Retrieved 10 October 2016.

The «Turkish Stream» project, even after its fullest implementation, is hardly capable of itself changing for the better the now dangerously destabilized situation in Europe, especially due to Ukrainian crise, NATO-Russian relation. But, it seems, it could nevertheless become an important component in the system of measures aimed at creating in this geopolitically important region d a climate of a peculiar new detente.

The European Union pursues a policy of diversifying gas supplies to its territory. This is due not only to the need to increase gas consumption for european ountries economy, but also by trying not to allow Russia to become the dominant players in the European gas market.

European countries really hardly want to see Turkey in EU now, because it is different - a muslim state. Turkey also has an impressive army (the second largest in NATO), which has significant combat experience in conducting hostilities. Turkey, led by an extremely ambitious leader in the person of T. Erdogan, claims to be a regional leader and builds multi-path geopolitics. Nevertheless, despite all the contradictions and possible threats emanating from the Turkish side, the EU will not refuse to deal with such an ally, and, taking into account the objective advantages of partnerships.

The main elements of the energy strategy of Turkey are the following areas and principles. 1) Taking into account the growing demand for energy and dependence on imports, prioritization of activities related to energy security; 2) In the context of sustainable development, due attention is paid to environmental issues throughout the energy chain; 3) The efficiency and productivity of the energy industry is enhanced through reform and liberalization. 4) Expanding research and development in the field of energy technology.

The main elements of the energy strategy of Turkey are the following areas and principles. 1) taking into account the growing demand for energy and dependence on imports, energy security issues are of high priority, 2) in the context of sustainable development, due attention is paid to environmental issues throughout the energy chain; 3) the efficiency and productivity of the energy industry is enhanced through reform and liberalization. 4) research and development in the field of energy technology.

Through the application of these four basic principles, Turkey seeks to achieve the following goals: diversification of supply routes and sources of imported oil and natural gas: an increase in the ratio of local and renewable energy in the energy structure of the Turkish economy; increasing energy efficiency; the development of nuclear energy[6].

The strengthening of Turkey's centralized political governance after the referendum on the new presidential system in April 2017, the subsequent presidential elections in June 2018 continue to affect the transformation of the political leadership and self-esteem of Turkey's identity, its place and role in the region and the world.

President Erdogan's growing nationalist-conservative discourse sets the tone for Turkey's foreign relations, the revival of the Eurasian orientation in Turkey's foreign policy. Turkey's energy policy is aimed at improving diversification of energy sources and increasing the share of renewable energy sources in electricity production in order to ensure long-term structural changes in the balance of energy consumption[7].

The prospects for the development of Russian-Turkish relations are largely determined by the huge resource potential of Russia and the geographical position of Turkey. Turkey - a promising transport corridor, maritime and land, connecting European consumers and suppliers of energy resources of the Caspian, Central Asian and Middle Eastern regions, controlling the strategically important Bosphorus and Dardanelles. Russia seeks to export through Turkey its raw materials to the West. Turkey, in turn, gets the opportunity to benefit from the transit of Russian energy. Currently energy remains a long-term priority area of Russian-Turkish cooperation.

Economy, trade and energy, on the contrary, remained the main areas of cooperation and today have a positive impact on political relations. Despite this, close economic relations are not capable of nullifying serious disagreements on many international issues. Given the difficult geopolitical situation, as well as political and economic interests, we can confidently assume that Russian-Turkish relations will continue the transformation in the future.

[6]Turkye's Energy Profile and Strategy // Republic of Turkey, Minstry of Foreign Affair. - URL: http://www.mfa.gov.tr/turkeys-energy-strategy.en.mfa (Accessed: 05.10.2013).

[7]Zhang F. Energy price reform and household welfare: The case of Turkey // Energy Journal. 2015. vol. 36, no. 2, pp. 71-95.

Strategically located between the two continents, Turkey aims to become an international center and transit corridor of natural gas and oil, while improving its energy security. Turkish domestic demand and market regulation, existing and new sources of supply determine the goals of Turkey's energy strategy. Turkey can become an important player in the transit of natural gas - to become the center of Russian gas through the western part of the country, and can also become a center for import and transit of gas from Central Asia and the Middle East. The result depends on domestic decisions related to the economy of natural gas transportation and political events in Turkey.

TRAINING DRAWING AND COMPOSITION. INTERCONNECTION OF SUBJECTS IN MODERN ACADEMIC SCHOOL

Kudrevatyi Mikhail Georgievich
Candidate of art history. Professor.
St. Petersburg state academic Institute of painting, sculpture and architecture named after I. E. Repin
Honorary member of the Russian Academy of Arts

Abstract. The article considers the problems of interconnection and development of training drawing and composition - subjects, which is the basis of professional Academic art education.

Keywords: traditions, drawing from nature, sketch, intent, composition

Classical art school and academic study drawing - these two concepts are equally connected, which have become almost synonymous. The training system for future artists, formed historically in the 17-19 centuries, was inextricably connected with the traditions of the Italian Renaissance, it was based on the so-called "samples" - ideal forms of ennobled antiquity of nature, on their unstable study and copying. Drawing from nature has traditionally been considered the most reliable and proven way, which was to lead to the formation of professional skill, dreams and intentions in the finished picture on a historical, mythological or biblical theme. Looking in the history of academic school one thing we can say without any doubt that at all times of its existence, it was the drawing that was assigned the most significant role among the subjects taught. It is no accident that the first Academy of Arts, created in Florence, was conceived precisely as the Academy of Painting.

And in last centuries and today, when the national art school is faced with various crises and the "challenge of the time", drawing remains its most solid and objective basis, serves as the key to its viability. A genuine academic drawing strictly follows nature and does not allow arbitrariness,

distortion and subjectivity. This is due to a solid scientific foundation, involving a deep understanding of the structural foundations of the form, knowledge of the laws of anatomy and perspective. Following these principles has always distinguished and distinguishes the St. Petersburg school of drawing today from many others. The high quality of interpretation of the form is a kind of trademark of this school. Such healthy conservatism allows you to maintain a traditionally high level of training for future artists, despite the complexity and inconsistency of the development processes of modern realistic painting.

Indeed, a drawing is all that allows you to conduct an intelligible conversation with the viewer, these are the elements that make up speech, its syntax, subject and predicate, all that defines the meaning. Clarity, persuasiveness of such articulation is characteristic to a greater extent of those who have sufficient knowledge of the art of drawing. In this regard, the words of a remarkable domestic painter and teacher A.A. Mylnikov: "A drawing is what makes the conversation between the artist and the viewer understandable ... Only the artists who paint well talk to the viewer, for concreteness and completeness of thought, the ability to touch feelings can give details, details. And in order to get to it, you need to draw very well first of all" [1, p.131]. All this explains the much-needed and cultivated in most serious schools of art attention to the problems of drawing, as a foundation on which subsequently grows, as a kind of harmonious whole, the building of a work of art. Its comparison with the architectural object, of course, is very arbitrary. With the same success, it can be compared with the birth of a living organism, which goes through all stages of growth, the formation of structures, tissues, volumes, etc. in its development. In this sense, drawing, as an art that combines emotions and strict logic, is a universal tool for both cognition of natural phenomena and their further reproductions and interpretations.

Speaking about drawing, one cannot help but recall his extremely accurate and comprehensive definition, which belongs to Michelangelo: "Drawing, which is also called the art of sketching, is the highest point of both painting and sculpture and architecture: drawing is the source and soul of all types of painting and the root of all science. To someone who has achieved so much that he has mastered the drawing, I will say that he owns

a valuable treasure" [2. p.32.].

In this definition of a great master, the emphasis made by him on the role that a quick drawing or sketch plays in visual practice is extremely important. It is he who allows the artist in the most concise form, to convey his thought as quickly as possible, to express all the most essential that is in the external appearance of objects and phenomena. It is no exaggeration to say that nothing confirms the skill of a true draftsman as mean and, at the same time, promising sketch lines, behind which lies the whole untapped potential of further embodiment of reality. At all times, the possession of the drawing certified the professional solvency of the artist and served as a kind of pass, workshop certificate, which opens the way to the world of high art.

Even the very first lines drawn on a white sheet of paper (R. Arnheim likened them to stones thrown into a pond) really violate the tranquility of this conditional space, as if charging it with peculiar force fields. It is extremely important that these first lines already give rise to a certain concept of "compositionality" of the sheet, organize it as a conditional space, where the laws of gravity, equilibrium and symmetry, where there are deep and close to the viewer plans. Sometimes even the most seemingly imperfect or pointless lines and signs already carry a certain graphic syntax, and can give rise to peculiar and unexpected plots. From this we can conclude that the sketches play not only an applied role in reproducing reality, but also are a field of active creative experiment in solving the visual plane, which, in essence, is the solution to the problems of composition.

Returning once again to the well-known definition of drawing formulated by Michelangelo, it is worth noting that in it is especially important for us to establish the priority of the sketch. It is the sketch that, with all the necessary, obliges the drawer to immediately determine all the most important things that are in the object: the characteristic of the silhouette, the main contrasts of the lines, proportional ratios, rhythms, volume relationships, their connection into a living, organic whole. Without solving these main tasks, a drawing, with whatever degree of illusory and black-and-white modeling, it was not executed, can not be considered perfect and convincing. Thus, it can be assumed that even the most studied long-term drawing should ideally "remember" the first quick sketch, be "trans-

parent" in relation to it.

Already in the initial cursory sketch, the unity of thought and practice in the creative process is clearly evident, and therefore it is no coincidence that such drawings were called in the art schools of France and Italy in accordance with the word "thought" - "pensee", (it. - "pensiero"). Then, during the time of the Late Renaissance, ideas arose about the existence of two types of drawing - the so-called "disegno interno" and "disegno esterno", "internal drawing" and "external drawing". If the "external drawing" is a direct skill of the draftsman, the totality of mechanical, craft skills in transferring the external forms of nature, then the "internal drawing" is the ability to create an internal image, design, which is the basis and the highest goal of creativity. The ideal object to study the laws of nature and practice in the educational drawing has always been and still is the human body. The human figure is the most perfect composition created by nature, a kind of "microcosm" consisting of volumes harmoniously connected with each other according to the laws of equilibrium and symmetry.

It is also significant that the tasks mentioned above, solved in a quick drawing - silhouette, contrasts, weight and proportional volume ratios, rhythmic patterns - all of them, in essence, are composite tasks, tasks whose solution is exclusively by graphic means, drawing means, without using color, it already allows you to organize and solve the visual plane.

Considering the development of the domestic school of academic drawing, it is worth recalling the main stages through which it passed. Education at the Academy of the 18th century was based on the study of ancient sculptures, on copying from samples of Western European paintings, drawings. The first academic teachers, mainly foreign ones, created programs that made it possible to teach drawing from life, anatomy, and perspective. A little later, a circle of domestic masters was formed, among them A. Losenko, A. Ivanov, V. Shebuev, A. Egorov. The 19th century is the heyday of the Academy, the time that gave a galaxy of wonderful painters and draftsmen. The mature style of the drawings of this period is distinguished by some idealization characteristic of the era of classicism, the adjustment of living nature, seen as if through the prism of the ideals of antiquity and the High Italian Renaissance.

The traditions of teachers of the early 19th century were continued by P. Chistyakov, V. Savinsky, D. Kardovsky, I. Repin. The drawings of this time are characterized by a more direct and exact following of nature, its transfer in all, even in the smallest details. It is necessary to emphasize the importance of the teaching system of P. Chistyakov, under the influence of which a whole generation of outstanding Russian painters was formed, including Repin, Serov, Surikov, Vasnetsov, Vrubel. By its significance in the art world, the Chistyakov system can be compared with the Stanislavsky system in the theater world. "Strict, complete drawing," Chistyakov believed, "requires that the object be painted, firstly, as it seems in space to our eyes, and secondly, what it really is; therefore, in the first case, a rather gifted eye, and in the second, knowledge of the subject and the laws according to which it seems this or that is necessary" [3. p.357]. The fundamental principles of the Chistyakov method are the priority of a large volumetric form, its construction using form planes, the value of the internal axes of objects, work with relationships - all this is relevant and applicable in the conditions of a modern art school.

The Russian school of drawing stood in the revolutionary storms of the 20s of the last century, when not only views on art were questioned and revised, but also the very need for professional training of artists. The period of bold revolutionary experiments that took place at the Academy at the beginning of the 20th century, however, was not too long, and, in the future, largely thanks to the efforts of the student Repin I. Brodsky, the school of drawing began to regain its former quality and solidity.

The post-war period of the history of academic drawing is associated with the names of P. Belousov, A. Debler, O. Eremeev, A. Korolev. The value of the teaching practice of A. Korolev, an outstanding draftsman of his time, should be especially noted in this connection, since he developed his own unique method comparable in its effectiveness to Chistyakov's method. The essence of this method was to combine a verbal explanation of plastic problems with a simultaneous visual display in the margins of a student's drawing. It was carried out in an extremely short period of time, unusually easy and artistic. A human figure appeared in front of the student's eyes, combining strict constructiveness, dynamics and the thrill of a living form. And to this day, a whole generation of domestic monumental artists with deep gratitude recalls the lessons of the Korolev.

The torch relay of the traditions of the Post-war Academy was continued by the modern generation of teachers. As a rule, they inherit the approaches and methods of their teachers, but sometimes they bring personality traits into them. In general, the basic requirements for educational drawing today remain the same as they were in the old Academy. As before, special attention is paid to the transfer of exact proportions, knowledge of the anatomical foundations, the persuasiveness of the constructive structure, the competent use of tone. As before, the principle of gradual, step-by-step complication of tasks, from studying a person's head in the first courses, to complex staging of senior figures, is respected.

Will the drawing at the Academy of Arts of the 21st century remain the same as it was in the 18th century, or will it gain new features and features? Looking back, we can clearly trace and compare what it was in different periods of its history. Now, at the beginning of the new millennium, the students 'educational drawings are noticeably different from those that were done at the time of Losenko and Bryullov. What trends are noticeable in the development of the modern art school, and is the concept of evolution applicable to this issue?

It should be noted that, as before, the main goal of teaching drawing is to prepare the young artist for conscious and effective professional creativity, for the possibility of creating finished works in which the content and form, meanings and feelings will be organically combined. At the same time, as before, it is necessary to observe the immutability and inviolability of the basic requirements for the drawing.

At the initial stage of training, especially in the first two courses of these principles, one should adhere especially strictly. In the process of further training in personal workshops, the approach to these problems can become more varied, more differentiated. So, in the easel workshops, according to their specifics, increased attention is paid to solving the problems of space, immersion of objects in the light-tonal environment, special "portraiture", the exact transfer of psychological features of the model, etc. In monumental workshops, as well as in the workshop of church painting, productions are quite justified, forcing the student to think about different ways to solve the most pictorial plane, which the real wall of the building can become in the future, about its architectonics, expressiveness, readability from various, often very significant distances.

The solution to these problems is also facilitated by the practice of copying monuments of ancient art carried out in these workshops, which significantly increases the overall fine culture of the student. Such acquaintance with old wall-painting traditions is the best way to prepare those who will later be able to embody complex spiritual meanings both in strict canonical and in the most modern and innovative forms. In this regard, it may be appropriate, to a greater extent, in senior courses, to complicate the plastic structure of educational settings, including the introduction of a limited amount of color, solve problems of space and plane, tonal spots and silhouettes, an abundance of accessories, complex rhythms of drapery, etc. d. The whole complex of such tasks is able to develop the student's initiative, prepare him for solving the most unexpected problems that may later arise in his real creative practice. It is clear that this process is very complicated and ambiguous, most likely, it will take some "over effort" in order to enrich the teaching methods with new opportunities that are consonant with the new time, to get away from routine, standard and thinking with "archetypes", but not lose the traditional quality factor and professionalism, which have always been characteristic of the domestic academic school.

Reflecting on the prospects for the development of the academic school, we can only assume, as a hypothesis, that in the future we will be able to observe the increasing role of composition in all its fields. Being the most active formative and plot-forming element, composition can become a kind of paradigm for the development of modern fine art. Probably, all this will somehow affect the nature of the academic drawing. Indeed, even now, in a number of training workshops, we can see how the balance between rational analytics and the emotionally-imaginative beginning shifts toward the latter. This may be due to a clear understanding that further creative life will put former students before the need for an active processing of reality through a compositional, formative beginning, make them overcome excessive dependence on nature, shifting the emphasis towards greater freedom of the artist, who chooses a measure of conditionality according to his will .

In this regard, it is necessary to note the importance for future creators of such abilities as fantasy, observation, imagination, the ability to work from memory, i.e. specific features of the so-called mnemonic art, allowing you to depict life not literally, but by filtering, sifting out all that is superfluous, insignificant. The best results in this intense spiritual work are achieved when all three main components are involved in it: the artist's intellect, his knowledge, erudition, then imagination, fantasy, and, finally, visual memory that accumulates life impressions. Very indicative in this regard are the words of A.A. Mylnikov on the role of fantasy and visual memory. Remembering the work of his friend Konstantin Rudakov, who fully possessed these qualities, Mylnikov said that "freedom and independence of the artist from the model is possible only when he perfectly understood the laws of nature, on which harmony in art is based, and besides matured intellectually and spiritually. Only then can he, as Sabartes successfully put it, "create the real, as if without resorting to a model" "[1, p. 37].

It is very characteristic that two outstanding academic teachers are A.A. Mylnikov and E.E. Moiseenko put forward precisely the composition to the forefront both in his work and in teaching. Both masters often said that the compositional beginning should permeate the entire educational process - from a cursory sketch to a finished picture. With these words a specific strategy was stated and asked, a specific program for the development of art education for a sufficiently long period of time. Both teachers clearly understood that the strength of this direction lies in the breadth of the outlook on life, in the brightness and variety of visual means, in the ability to mobilize the student's activity as a future creator. But whatever the individual taste and stylistic preferences of the artist-educators, whatever the winds of innovations would test the strength of the system of classical art education, nevertheless, its traditional foundation continues to be the traditional academic drawing and sketch from nature. They have always been and still are the cornerstone of a realistic school, a donkey on which skill is honed, and, at the same time, a compass that prevents you from getting lost in the wilds of form-making. Fidelity to these principles is the best guarantee of the vitality and relevance of a modern domestic academic school.

References

1. Gusev V.A. A. Mylnikov. - M.: Sovietskiy hudozhnik. 1989.
2. Rostovtsev N.N. History of teaching methods of drawing. Foreign school of drawing. - M.: Prosveshenie. 1981.
3. Chistyakov P. P. Letters. Notebooks. Memories. - M.: Iskusstvo. 1953.

LYMPHADENOPATHY IN INFECTIOUS DISEASES IN CHILDREN - IMPORTANCE IN DIFFERENTIAL DIAGNOSIS

Makhmutov Ravil Fatkulislyamovich
Candidate of Medical Sciences, Associate Professor
Bobrovitskaya Antonina Ivanovna
Doctor of Medical Sciences, Full Professor
Makhmutova Asiya Ravilevna
Zakharova Lyubov Alekseevna
State Educational Organization of Higher Professional Education
Donetsk National Medical University

Annotation. Lymphadenopathy is one of the leading manifestations of a clear or latent infectious process, as the lymph nodes are directly involved in the development of inflammatory processes in the body. Lymphadenopathy with Epstein-Barr virus infection was manifested by the presence of predominantly large diameter (2.7±0.06 cm) lymph nodes - in 70.9% of schoolchildren; recurrent respiratory diseases - small (0.4±0.01 cm) and medium in children of school age (50.8%) and preschool (43.1%); adenovirus infection, small lymph nodes with a diameter of 0.5±0.03 cm in 55.2% of preschool children, average 0.6±0.1 cm in diameter - in 38.1% of school age. Features of lymphadenopathy in Epstein-Barr, recurrent respiratory diseases, adenovirus infection in children can be used as a marker at the stages of early and differential diagnosis of the disease.

Keywords: children, lymphadenopathy, infectious diseases, differential diagnosis.

Lymphadenopathy is one of the leading manifestations of a clear or latent infectious process, as the lymph nodes are directly involved in the development of inflammatory processes in the body. An important pathophysiological mechanism for the development of lymphadenopathy is a direct infectious lesion of the lymph nodes with the development of the

inflammatory process. In the presence of viremia, as a rule, generalized lymphadenopathy develops (an increase in two or more lymph nodes of non-adjacent groups). However, it can be limited as one area [1, 2, 3, 4, 5].

Currently, it is recognized that the main mechanism of damage to the lymph nodes with an increase in their size is both the reaction of the immune system to antigenic aggression and the inflammatory reaction due to the ingestion of an infectious agent. In addition, the lymph nodes belong to the peripheral organs of the immune system and are the main barrier to pathogenic agents penetrating the body. Therefore, when antigen enters in large quantities, their barrier function is violated and an inflammatory process develops in the lymph node [6, 7, 8, 9].

The above requires determining the significance of lymphadenopathy as one of the leading syndromes in the differential diagnosis of viral diseases in children.

Purpose of work: determine the significance of lymphadenopathy for the differential diagnosis of the primary Epstein-Barr virus infection, recurrent respiratory diseases, adenovirus infection in children based on the study of the macrostructure and the nature of the inflammatory process in the lymph nodes.

Materials and methods

The study was conducted over the period 2012-2019 in the Donetsk region of Ukraine. Study Design: Cahorsky Retrospective. The object of the study was 336 children and adolescents with lymphadenopathy. The first group included 93 children with the primary Epstein – Barr virus infection, the second 167 children with recurrent respiratory diseases, the third 76 children with adenovirus infection, the tonsillar form. The comparison group consisted of 30 conditionally healthy children (health group I and II A).

The diagnosis of the primary Epstein – Barr form of viral infection, recurrent respiratory diseases and adenovirus infection was established on the basis of anamnestic data, extracts from case histories, examination by narrow specialists (pediatricians, pediatric surgeons, otolaryngologists, immunologists), clinical laboratory and functional examinations in accordance with "International Classification of Diseases and Related Health Problems" of 10 revision.

Using the ultrasonic diagnostic system DR-6600, changes in the affected lymph nodes were detected by digital ultrasound scanning in combination with color and energy Doppler mapping modes. A linear multifrequency sensor with an expanded aperture mode was used. Scanning was carried out in three mutually perpendicular planes.

Based on the results of visualization of ultrasound data, the overall sizes, quantity, localization and qualitative characteristics of the lymph nodes were determined. Morphological signs included changes in the structure of the stroma, echogenicity of surrounding tissues, the presence of necrosis, as well as the severity of blood flow.

Results and its discussion

Features of lymphadenopathy in the primary form of Epstein-Barr virus infection, recurrent respiratory diseases and adenovirus infection in children are presented in the table.

Lymphadenopathy in the primary form of Epstein-Barr virus infection, recurrent respiratory diseases and adenovirus infection in children, depending on the location of the lymph nodes (M±m)

Indicators	Epstein-Barr viral infection primary form n = 93		Recurrent Respiratory Disease n = 167		Adenovirus infection n = 76	
	diameter (cm)	duration (weeks)	diameter (cm)	duration (weeks)	diameter (cm)	duration (weeks)
Submandibular	1,5±0,4	2,1 ±0,2	1,6±0,3	2,3±0,6	1,6±0,1	2,2±0,5
Anterior Cervical	2,3±0,8	3,4±0,5	1,9±0,7	2,5±0,5	1,1±0,3	2,4±0,7
Posterior cervical	2,9±1,3	4,7±1,8	0,8±0,4	2,7±0,1	1,3±0,5	2,1±0,3
Inguinal	2,5±0,9	5,3±0,8	–	–	–	–
Mesenteric	1,1±0,2	3,2±0,4	–	–	–	–
Generalized lymphadenopathy	2,2±0,7	4,3±0,4	–	–	1,7±0,2	2,4±0,6

Lymphadenopathy of the cervical region in the primary form of the Epstein – Barr virus infection was detected in all children. The disease, as a rule, began with a simultaneous growth in the lymph nodes of all groups.

However, the most characteristic is the enlargement of the lymph nodes, which are located on the posterior edge of the sternum-nipple muscle in the form of a "chain" or "packet" of 2.9±1.3 cm in diameter. They were of a densely elastic consistency, not welded together, as a rule, multiple and painless. In some cases, enlarged lymph nodes created conglomerates that change the configuration of the neck. This created the impression of edema and was noted mainly in children of preschool and primary school age. Their reverse development occurred slowly - after 4.7±1.8 weeks from the onset of the disease, they reached normal sizes.

The increase in the size of the cervical group of lymph nodes in all patients did not correspond to the degree of damage to the oropharynx - a significant increase in the posterior cervical and submandibular lymph nodes with a slight damage to the oropharynx. At the same time, with massive overlays on the tonsils, a moderate increase in lymph nodes was observed. At the same time, the anterior cervical lymph nodes were also enlarged, reaching a size of 2.3±0.8 cm in diameter symmetrically on both sides, of medium density, moderately painful not soldered together. Significantly less was an increase in the submandibular lymph nodes and their sizes reached no more than 1.5±0.4 cm in diameter, multiple, painless. Their reverse development occurred simultaneously with the disappearance of signs of the disease or was delayed.

Along with this, in the first days of the disease, the inguinal lymph nodes on both sides gradually increased - the maximum sizes reached 7.2±0.8 days of the disease with a diameter of 2.5±0.9 cm. The inverse dynamics of the sizes of these lymph nodes was also slowed down (5.1±0.3 weeks).

Generalized enlargement of the lymph nodes is the earliest and most typical sign of the primary Epstein – Barr virus infection. Therefore, polyadenia is the result of lymphoid hyperplasia in response to viremia.

In 69.8% of children, polyadenia was the first symptom of the disease and the enlarged lymph nodes reached their maximum size after 6.91.7 days from the onset of the disease. In other cases, there was a simultaneous increase in the lymph nodes of different groups while maintaining leadership for a more pronounced increase in the posterior cervical, against the background of the absence of a certain sequence. In 9.6% of children, fiber pasty was noted around the enlarged nodes.

In addition, a feature of the disease in 52.6% of children was a mismatch between an increase in the size of the cervical group of lymph nodes and signs of damage to the oropharynx. A significant increase in the posterior cervical and submandibular lymph nodes in 23.6% of children was observed with the catarrhal nature of inflammation of the oropharynx; moderate increase in the size of the lymph nodes (29.0% of children) - with massive deposits on the tonsils.

Lymphadenopathy of the cervical region in recurrent respiratory diseases in preschool children (35.3%) was manifested by swelling of the tissue and an increase in cervical lymph nodes with the simultaneous development of the symptom complex of the disease. Most often the anterior cervical lymph nodes were enlarged, reaching a size of 1.9±0.7 cm in diameter, located symmetrically on both sides, medium density, not soldered together. Less commonly, posterior cervical lymph nodes were enlarged, the sizes of which were 0.8±0.4 cm in diameter, multiple and painless. Their reverse development occurred simultaneously with the disappearance of the signs of the disease within 2.7±0.1 weeks.

Adenovirus infection in 76 young children was accompanied by mild generalized lymphadenopathy. Enlarged lymph nodes also occurred from the first days of the disease. Most often and to a greater extent, the posterior cervical and submandibular lymph nodes were enlarged, occasionally mesenteric, and in some patients a mononucleosis-like syndrome was observed. Lymph nodes were densely elastic, slightly painful. In some cases, the enlargement of the posterior cervical lymph nodes was so pronounced that it even changed the configuration of the neck. The decrease in lymph nodes occurred after 1.8±0.2 weeks.

Priority results were obtained in the process of studying the structure of the lymph nodes during ultrasound diagnostics: an increase in lymph nodes was observed in all children. In accordance with the conditional gradation, the diameter of small lymph nodes is up to 0.5 cm, medium - 0.6-1.0 cm, large - 1.2-1.5 cm.

In the primary form of the Epstein – Barr virus infection, the diameter of the cervical lymph nodes averaged 2.23±0.7 cm, and remained enlarged up to 3.4±0.8 weeks; recurrent respiratory diseases in the period of exac-

erbation - 1.43±0.4 and 2.5±0.5; adenovirus infection - 1.33±0.3 and 2.23±0.5, respectively. A more pronounced increase in the lymph nodes of the cervical region was observed in children with the primary Epstein – Barr virus infection compared with children with recurrent respiratory diseases or adenovirus infection – the diameter is 1.6–1.7 times larger and the duration of recovery to normal lymph nodes 1.3 and 1.4 times, respectively.

Along with this, in the primary form of the Epstein – Barr virus infection, small lymph nodes 0.5±0.02 cm in diameter were found less often mainly in young children - 17.2%; average (0.7±0.01 cm) in preschool children - 11.8%; large (2.7±0.06 cm) in school children and adolescents - 70.9%. In children with recurrent respiratory diseases, small lymph nodes of the cervical region with a diameter of 0.4±0.01 cm were determined in 43.1% of preschool children, medium 0.8±0.03 cm in 50.8% of school children, large 1.2±0.05 cm in 5.9% of adolescents. In case of adenovirus infection, small lymph nodes with a diameter of 0.5±0.03 cm were palpated in 55.2% of preschool children, medium 0.6±0.1 cm in diameter - in 38.1%, large 1.5±0, 05 cm - in 6.5% of adolescents.

Ultrasound with dopplerography made it possible to determine the nature and severity of inflammatory changes in the lymph nodes. During the study, the presence or absence of blood flow in the affected lymph nodes, the diameter of the vessels and the size of the avascular zones, as well as the ratio of the volume of vascularized and "numb" areas were determined.

In children with Epstein – Barr virus infection, recurrent respiratory diseases, and adenovirus infection, morphological changes were characterized by a heterogeneous structure and different echogenicity of the stroma, which indicates the presence of an inflammatory process. This can be considered as a marker of the unfavorable state of the lymphatic system caused by numerous factors, primarily the etiological cause of the disease (Fig. 1; Fig. 2; Fig. 3; Fig. 4).

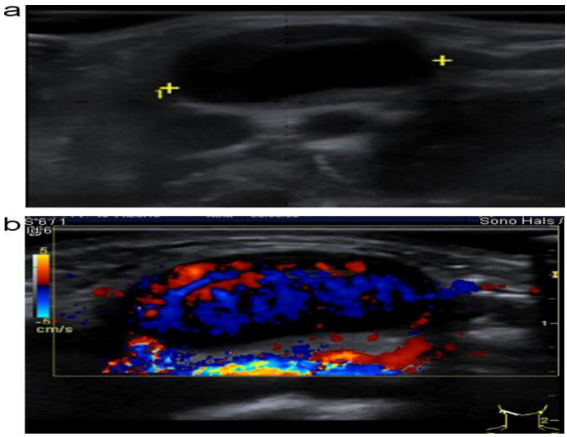


Fig. 1. (a and b). Enlarged cervical lymph nodes in the primary form of Epstein-Barr virus infection, serologically confirmed. 4th week of illness

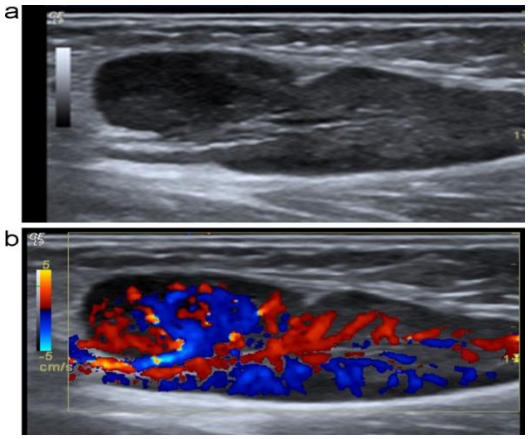


Fig. 2. (a and b). Ultrasound and color Doppler mapping of the lymph node. Normal vascular architecture, homogeneous internal echo with unchanged capsule. The primary form of Epstein-Barr virus infection is serologically confirmed. 2nd week of illness

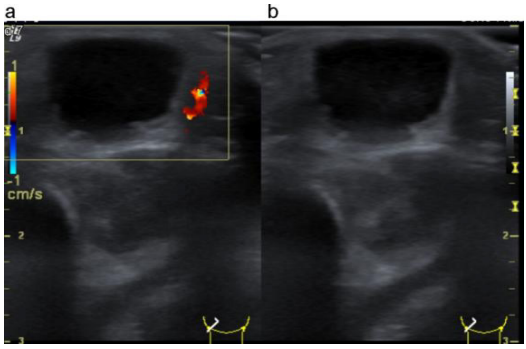


Fig. 3. (a and b). Ultrasound of the submandibular lymph node in recurrent respiratory disease. Submandibular lymphadenitis. The characteristic pattern of abscess formation

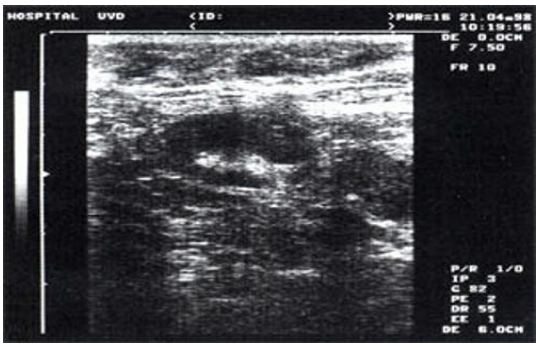


Fig. 4. Ultrasound tomogram of an enlarged reactively altered lymph node with adenovirus infection. 7th day of illness

In all children, the nature of the damage to the lymph nodes is largely the same in the primary form of the Epstein – Barr virus infection, recurrent respiratory diseases, and adenovirus infection. Despite the etiological factor, the response of the lymph nodes to the presence of various viral agents in the body is non-specific and is not determined by the severity of the infection process, which complicates the early and differential diagnosis of the disease. However, the severity of lymph node damage depending on the etiological cause of the disease is different, which allows for the early stages to conduct a qualitative diagnosis of the primary form of Epstein-Barr virus infection, recurrent respiratory diseases and adenovirus infection in children.

Conclusions

1. Lymphadenopathy with Epstein-Barr virus infection was manifested by the presence of predominantly large diameter (2.7±0.06 cm) of lymph nodes - in 70.9% of schoolchildren; recurrent respiratory diseases: small (0.4±0.01 cm) and medium in schoolchildren (50.8%) and preschool (43.1%); adenovirus infection, small lymph nodes with a diameter of 0.5±0.03 cm in 55.2% of preschool children, average 0.6±0.1 cm in diameter - in 38.1% of school age, that is, with Epstein-Barr more often, 12 and 10.9 times large lymph nodes were observed compared with recurrent respiratory diseases and adenovirus infection.

2. In the primary form of the Epstein-Barr virus, recurrent respiratory diseases, adenovirus infection, lymphadenopathy are characterized by the same type of damage to the lymph nodes, has a non-specific character and are not determined by the severity of the infection process, which complicates the early and differential diagnosis of the disease.

3. Morphological changes in the lymph nodes in Epstein-Barr virus infection, recurrent respiratory diseases, adenovirus infection in all children are manifested by a heterogeneous structure and different echogenicity of the stroma, which reflects the presence of an inflammatory process.

4. Features of lymphadenopathy in Epstein-Barr, recurrent respiratory diseases, adenovirus infection in children can be used as a marker at the stages of early and differential diagnosis of the disease.

References

1. Savenkova M.S. Lymphadenopathy and lymphadenitis in children: diagnosis and treatment / M.S. Savenkova, A.A. Afanasyev, A.K. Abdulaev, L.Yu. Neizhko // Difficult patient. - 2008. - No 12. P.17-25

2. Zhurilo I.P., Grona V.N., Litovka V.A., Latyshev K.V., Lepikhov P.A., Gunkin F.Yu. Practical aspects of the differential diagnosis of diseases of the lymph nodes in children // Child Health. 2008.- 3(12).

3. Data P.G., Hossain M.D., Amin S.A., Rahman M.K., Das. P.P., Saha K.L., Taous A., Biswas A.K., Data F. Tubercular lymphadenitis – diagnostic evaluation //Mymensingh. Mtd.J. -2011Apr-20(2) – 233-7.

4. Barton F. Haynes (http^//www.genmed.ru/med-b1-484-03.htm1. (Swollen lymph nodes and spleen. Chapter 55)

5. Bogadelnikov I.V. Lymphadenopathy in infectious diseases in children. / I.V. Bogadelnikov, Fazel Hamid, A.V. Kubyshkin. – Donetsk. - 2013. - 224P.

6. Drozdova N.F. Infectious mononucleosis caused by the Epstein – Barr virus: clinical and pathogenetic aspects (literature review) / N.F. Drozdova, V.Kh. Fazylov // Bulletin of modern clinical medicine. – 2018. –V.11, Issue.3, -P.59-61.

7. Karrera U., Nadalb D. Epstein–Barr-Virus und infektiose Mononukleose // Schweiz Med Foru. 2014. Vol. 11 P.226–232.

8. De Paschale M, Clerici P. Serological diagnosis of Epstein-Barr virus infection Problems and solutions. World J Virol. 2012 Feb 12;1(1)31-43.

9. Karpukhina O.A. Clinical characteristics and differential diagnosis of diseases occurring with a mononucleosis-like syndrome in children. Ref. diss., med. sci, - 2013. –18P.

QUANTUM-DIGITAL TECHNOLOGIES IN ONCOLOGY: LOCAL LASER HYPERTHERMIA

Titova Vera Alekseevna
Full Professor, Head of Radiation Therapy Laboratory
Panshin Georgy Alexandrovich
Full Professor, Head of Radiotherapy Clinic
Shevchenko Lyudmila Nikolaevna
Candidate of Medical Sciences, Head of the Department of Complex Treatment of Oncogynecological Diseases
Federal State Budgetary Institution "Russian Scientific Center of X-ray Radiology" of the Ministry of Health of Russia

Abstract. Fiber-optic laser technologies now include multimodal therapeutic effects within the framework of the consistent use of medical technologies – local laser hyperthermia to accelerate tumor resorption against radiation and chemotherapy by 3-5 times; prevention and treatment of radiation and combined complications and photodynamic therapy in an independent version or in combination with radiation therapy.

Keywords: low-intensity and high-intensity laser radiation, cancer patients.

Current trends in the treatment of patients with malignant tumors are based on:

- on the use of integrated imaging technologies - ultrasound, MRI, PET-CT of primary tumors and regions of regional and distant metastasis for primary staging and assessment of the treatment effect;
- on the hardware and technological achievements of the radiation method based on individually formed dose-time parameters of conformal irradiation under conditions of radiosensitization [1,2];
- on the broad cooperation of conformal radiation therapy (RT) with surgical treatment of radical and cytoreductive volume;

- on the combination of radiation therapy of various tumors with polychemotherapy in neoadjuvant, adjuvant and intermittent modes in the conditions of its systemic and regional application.

Despite the evolutionary development of diagnostic and therapeutic technologies in oncology and the guaranteed high efficiency of standardized treatment methods, a certain niche remains for the use of, along with the traditional options for surgical, radiation and drug treatment methods (chemotherapy, hormonal therapy), medical technologies based on the use of innovative laser methods and systems [1, 3,4,5].

However, the high frequency of locally advanced forms of cancer and relapses of the disease require the expansion of clinical indications for the use of modern laser technologies that provide a multidisciplinary effect in the framework of surgical treatment, achieve a radio modifying and protective effect in relation to radiation complications (RC) and their treatment, as well as laser photodynamic therapy (PDT) and the development of methods of antibiotic laser therapy [1, 4].

The creation of modern multi-wavelength medical laser systems is relevant in the treatment of cancer patients by various methods and, above all, in the surgical treatment of cancer.

Semiconductor pumped fiber lasers have high reliability, a long service life, and a short preparation time for work [1]. They can be freely placed on a standard endoscopic stand or table and are characterized by low energy consumption. The use of fiber-optic lasers has effectively proven itself in oncology with local laser hyperthermia as a way to enhance the effect of radiation exposure in large-volume tumors resistant to cytostatic and radiation therapy.

Material and methods

At the Federal State Budgetary Institution "Russian Scientific Center of X-ray Radiology" of the Ministry of Health of the Russian Federation, as part of the state assignment, medical studies of the "Laser Medical Device" Lazon-FT "device were carried out (certificate of conformity ROSS RU.IM 02B16418 of 09/23/2009, registration certificate FSR No. 2009/04660 dated April 2, 2009), at a wavelength of 1.06, in constant current mode with a power in the range from 1 to 10W.

The installation according to its technical characteristics is intended for the treatment of various diseases by the method of photodynamic therapy (PDT); interstitial thermotherapy (ITT); combined method (ITT plus PDT), as well as removal, excision and coagulation of pathological soft tissues with powerful laser radiation with digital control of laser exposure.

Clinical studies were carried out within the framework of the scientific protocols of the Federal State Budgetary Institution "Scientific Research Center" of the Ministry of Health of the Russian Federation after certification of the device according to the technologies approved by the Ministry of Health of Russia ("Multicomponent programs for the treatment of cancer of the cervix, vulva, vagina and rectum under the radiosensitizing effect of local laser hyperthermia" - medical technology, permission for application of the Federal Service for Surveillance in Healthcare and Social Development FS No 2009/389 of November 25, 2009.

In the course of the work, the choice was substantiated and the working range of the technical characteristics of the installation was tested in accordance with medical tasks and the economic feasibility of introducing domestic high-tech developments into practical healthcare. In accordance with the installation capabilities declared by the developer, studies have been clinically conducted in 3 directions:

1. - local laser hyperthermia (LLHT) as a universal radiosensitizer (wavelength 1.06 μm);

2. - photodynamic therapy (PDT) for the treatment of basal cell carcinoma and squamous cell carcinoma of the oropharyngeal region in combination with radiation therapy (wavelength 0.63 μm);

3. - low-intensity laser radiation (LILR) for the treatment of radiation complications [3, 4, 5] and various viral lesions associated with the underlying disease with quasi-frequency laser exposure with a wavelength of -1.06 μm. The technique of local laser hyperthermia (LLH) on the Lazon-FT device as an integral part of contact radiation therapy (brachytherapy).

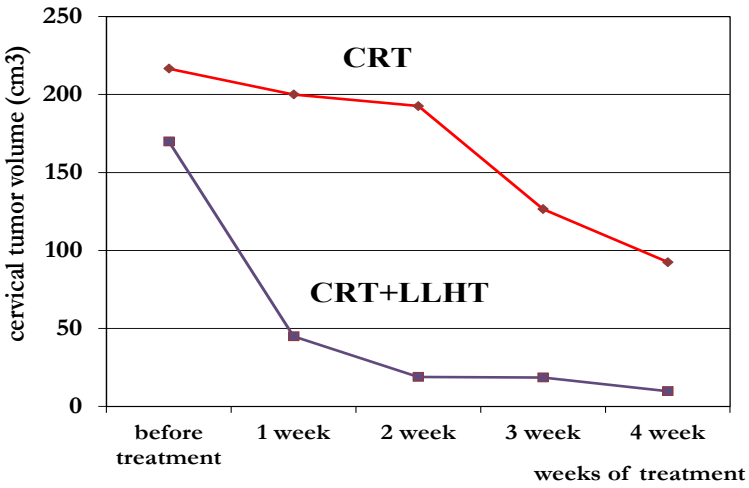
The development of the method of regional and local hyperthermia (HT) is associated with the name of the academician of RAMS N.N. Al-

exandrova (Research Institute of Oncology, Republic of Belarus, Minsk). It has been ascertained that at a temperature of 40-42°C, the tumor sensitizes to chemotherapy and ionizing radiation, while the tumor is heated above 43-44°C, the death of tumor cells is achieved. The synergistic antitumor effect with the combined use of HT and radiation is associated with the induction of apoptosis along the pathway mediated by the products of the bax gene. The role of heat shock proteins (HSPs) in enhancing the antitumor response, their participation in the body's immune responses, and their importance in the clinical effects of HT are noted. When the tumor is heated to a temperature of 42°C, HSP 70 expression is induced, with the appearance of local necrosis, HSP release into the extracellular medium, dendritic cell maturation and the appearance of associative peptides.

The purpose of the LLH – is the acceleration of the rate of regression of large tumors. The advantages of LLH are the ability to adjust the temperature, depth and uniformity of local heating of the tumor in real time by changing the parameters of laser radiation (wavelength, power, exposure) during the procedure based on direct thermometry, which allowed us, using the achievements of domestic laser technology, to develop medical technology for LLH in multicomponent treatment of cancer of various localization

LLH for cancer of the cervix, vagina, vulva and anal canal was performed immediately before a session of high-power intracavitary gamma-ray therapy using ^{60}Co or ^{192}Ir isotopes after individual session planning based on a quantitative assessment of the parameters of the tumor focus (2D-3D ultrasound, CT/MRI). The fractionation regimen in the treatment of cervical cancer included summing up the SFD (single focal dose) - 5-6 Gy; TFD (total focal dose) -35-50 Gy in the area of the primary tumor. A total of 5-7 sessions took plce. The criterion for terminating the LLH procedure was a 3-5-fold decrease in the volume of the cervix, normalization of the echostructure and blood flow parameters, and the disappearance of symptoms (with endophytic tumors). With vaginal metastases, the termination criterion is metastatic resorption. Immediately after the LLH session, intracavitary gamma therapy is performed [3,4,5].

a



b

Fig. 1, a-b. Change in the volume of a cervical tumor with combined radiation therapy (CRT), taking into account 5 sessions of LLHT and intracavitary gamma-therapy and without it (a) and the multiplicity of volume changes in various forms of the tumor (b)

Discussion of the results

Local laser hypertremia (LLH) is a universal "radio chemomodifier". Radiation treatment in the conditions of LLH was performed on 128 patients with cervical, vulvar and vaginal cancer of the Pv-Schw stage with a primary tumor diameter of 4.5-6.0 cm. In the clinical aspect, an acceleration of the rate of regression of cervical tumors compared with traditional combined radiation therapy (Fig. 1 , a-b).

As a result of DU/MRI, direct measurement of the linear dimensions and volume of the tumor, it was found that the regression rates, for example, of the primary cervical tumor in the group of patients with LLH were 5.2 times higher than in the control (Fig. 1, a). Dynamic determination of the area and volume of visualized foci after LLH with contact radiation therapy in comparison with focal doses showed that after 10 Gy a decrease in the volume of cervical tumors by 1.4 times was recorded; 20 Gy - 2.4 times and 60 Gy 8.3 times in 85% of patients. When assessing the correlation between the rates of regression and tumor volume before treatment, a high degree of correlation was revealed in the main group for any initial volumes (r> 0.8). The highest degree of correlation was obtained with cervical tumors with a volume of more than 100 cm3 (r = 0.94); a lower degree of correlation in tumors with a volume of 51 to 100 cm3 (r = 0.87), for tumors with a volume of less than 50 cm3 this dependence was the least significant (r = 0.81) (Fig. 1, b).

The LLH method developed at the Federal State Budgetary Institution "RSCRR" made it possible to comply with the terms of special treatment, reduce the frequency and severity of complications, limit the need for medical treatment, and reduce the length of hospital stay. Moreover, the proposed technology is economical, easy to use, has a small number of contraindications.

Conclusion

Improving the equipment for quantum-digital therapy and medical technologies for using lasers in oncology allows us to consider it expedient to intensify the introduction of laser technologies for pain therapy as well. The Lazon-FT complex was created for the implementation of various types of wave effects-LLH, PDT, LILI from one device. A fundamentally new and significant difference of this complex is the possibility of digitally controlled laser action on the patient's organ structures to restore functions after traumatic, inflammatory, transferred viral lesions, allergic and toxic conditions after RT, and polychemotherapy in oncology. Particular attention in oncology today is drawn to the virus-associated mechanism of malignant transformation of human prapiloma virus (HPV) and herpes simplex virus (Herpes Simplex) cells, for example, cervical cancer.

Thus, the Lazon-FT complex guarantees the possibility of an effective and economically feasible new multidisciplinary approach to the treatment of complex organ diseases using quantum-digital therapy.

Findings

1. The feasibility of developing and improving domestic technologies of quantum-digital therapy in combination with traditional methods of antitumor therapy is obvious.

2. The methodology of LLH as a radio-chemo-modifier using the "Lazon-FT" diode apparatus for primary and recurrent malignant tumors is effective and can be used in oncological clinical hospitals.

3. The creation and implementation of a new generation of multifunctional laser systems is economically feasible and expands the therapeutic capabilities of cancer hospitals.

References

For the article of Titova V.A., Panshin G.A., Shevchenko L.N. "Quantum-digital technologies in Oncology: local laser hyperthermia"

1. V.P. Minaev. Laser devices for surgery and power therapy based on semiconductor and fiber lasers. Quantum electronics, 2005, 35, No 11.- P.976-983.

2. A.D. Kaprin, V.N. Galkin, S.A. Ivanov, V.A. Solodky, V.A. Titova Brachytherapy in the treatment of vaginal cancer. Biomedical Photonics Journal, 2016, V.5, No 1, P.22-26.

3. B.A. Solodky, V.A. Titova. Automated contact radiation therapy - conditions for effective use in practical health care – Oncology issues journal.2016. No 5.-V.62.- P.688-693.

4. V.A. Solodky, V.A. Titova, T.S. Belle, S.A. Koloskov. "Contact radiation therapy using the domestic AGAT-VT complex. Guide for Physicians and Medical Physicists".ISBN No 978-5-7567-0983-4. LLC Aspect Press Publishing house, M.2018, 192P.

5. Titova V.A., Kharchenko N.V., Tishenko V.A., Kreinina J.M. et al. Lazer interstitial thermotherapy in multimodal treatment of locally advanced and recurrent gynecological cancer: the pilot study // International Journal of Gynecological Cancer. 2006– 16(3). – P. 731.

THE PROBLEM OF "DRY EYE" SYNDROME IN SCHOOLCHILDREN OF THE ARAL SEA REGION

Karabalaeva Aiman Beisembaevna
Master of Biological Sciences
Ibadullaeva Saltanat Zharylkasynovna
Doctor of Biological Sciences, Full Professor
Korkyt Ata Kyzylorda State University

Abstract. The article presents the results of studies on the problem of "dry eye" syndrome in schoolchildren of the Aral Sea region. The most probable causes of this disease in adolescent students are considered. The statistics of the study on the number of decrease in visual acuity in students are also shown. The study revealed the percentage of students with eye diseases.

Keywords: "dry eye" syndrome, eye disease, visual acuity

What is this "dry eye" syndrome and what does it threaten the younger generation with?

Dry eye syndrome is a widespread pathology in the modern world. This is a condition characterized by insufficient production of tear fluid.

Dry eye syndrome can be an independent pathology or one of the manifestations of a disease. With the syndrome and Sjögren's disease (Sjögren's), the glands of the body are affected, in this case, the lacrimal. The production of tear fluid is sharply reduced, its chemical composition is changed: the tear is thick, viscous, the content of bactericidal substances is reduced, patients suffer from chronic inflammation (blepharitis, conjunctivitis, keratitis). Sjögren's syndrome is observed in many systemic diseases (rheumatoid arthritis, systemic lupus erythematosus, etc. [1]). Less common as a completely independent disease.

The study of this syndrome showed that basically, the beginning of the development of many eye diseases is the "dry eye" syndrome.

Let us consider the most probable causes of this ailment relative to the adolescent period in our students and correlate the relationship of this ailment with the sharply continental climate of our Kyzylorda oblast, so what creates this ailment in the generation of adolescent students?

These are the following prerequisites:

- wearing contact lenses for beauty, for example, often dry eye syndrome develops in contact lens users. If the lens dries, it absorbs moisture from the tear fluid.

- Wind, dry climate, salty dust of the Aral Sea, urban smog from an ever-increasing number of cars, tobacco smoke, air conditioning can also cause or aggravate the dry eye syndrome.

- long sitting at the computer, dry eye syndrome is sometimes called "office" or "monitor." When we look at a computer screen or read, the frequency of blinking movements is reduced, the tear film does not update on time and the cornea is not sufficiently moistened. If this happens every day for many hours, then dry eye symptoms will appear.

- Vitamin A deficiency also leads to specific changes in the cornea of the eye, which in the initial stages appear as a "dry eye". With prolonged vitamin A deficiency, a corneal ulcer may eventually develop. Clinical manifestations of the "dry eye":

with a mild degree, patients complain of a periodically occurring sensation of a foreign body in the eye, sand, dry eyes that appear when exposed to the adverse factors mentioned above; - The average degree is characterized by increased and prolonged symptoms. There is a burning sensation, itching, photophobia, eyes redden, tearing often occurs, which proceeds compensatory,

- In severe cases, changes in the cornea and conjunctiva appear. Frequent inflammatory phenomena are observed: blepharitis, conjunctivitis, because against the background of insufficient moisture in the eye, local immunity decreases and the infection easily joins. On the cornea, microerosion can form, filamentous keratitis, corneal ulcer develop. [2]

To study the prerequisites for visual impairment, statistical data were collected on the Kyzylorda oblast and four schools in the region for comparative analysis. The visual acuity statistics provided by the medical service of four schools were studied and analyzed. Questioning was conducted in four schools in the city's region: Nazarbayev Kyzylorda Intellectual School, Kazakh-Turkish Lyceum No 9 for boys and No 10 for girls, No 264 school-lyceum.

Based on the results, a situation analysis was carried out and indicator charts were compiled.

According to studies conducted in 2011 by the Higher School of Public Health of the MHRC at the Scientific Center for Pediatrics and Surgery, it was noted that 73,752 children aged one to five years living in the Kyzylorda oblast were covered by medical examinations in 2011. Of the examined, 48.3% were children living in rural areas. According to region-averaged data, the number of newly diagnosed diseases per 100 examined was 37.0 ± 0.18. Moreover, the indicator value for urban areas is significantly higher than for rural areas, and, accordingly, is 49.2 ± 0.26 and 23.9 ± 0.23. Consequently, the indicator for urban areas is 2.1 times higher.

Indicators in the class "Diseases of the eye and its appendages", determined by almost completely revealed decrease in visual acuity, are characterized among urban children by an increase in the values of the indicator with an increase in the age of children (from 0.6 ± 0.17 per 100 examined to 8.2 ± 0.34) , in specific gravity, from 1.2 ± 0.35% to 17.1 ± 0.68%. Against this background, indices for groups of children from rural areas are significantly lower and decrease with increasing age from 1.4 ± 0.23 to 0.3 ± 0.07 per 100 examined, and by specific gravity - from 5.8 ± 0.94 % to 1.6 ± 0.35%. [6]

The study of statistics on the overall incidence of children under the age of 14 years in the context of the districts of the Kyzylorda oblast for the 1st half of 2016 in comparison with 2015, the following indicators for the progression of eye disease were revealed:

Incidence of eye disease in Kyzylorda in 2015 and 2016

Kyzylorda	Accommodation spasm		Including myopia	
Years	2015	2016	2015	2016
Number	1921	2879	953	1308

The statistics of our studies on the number of decrease in visual acuity in students conducted in three schools in Kyzylorda, including the Intellectual School, has the following indicators:

1. By to the Kazakh-Turkish Lyceum No 9 of Kyzylorda for boys

A) The contingent of students 13-15 years old

Total number of students	Number of students with visual impairment	Myopia	Accommodation spasm	Hypermetropia	Myopia with astigmatism	Congenital hyperopia	Strabismus
125-100%	53-42,4%	43-81,1%	8- 15,1%	1	1	0	0

B) The contingent of students 16-18 years old

Total number of students	Number of students with visual impairment	Myopia	Accommodation spasm	Hypermetropia	Myopia with astigmatism	Congenital hyperopia	Strabismus
102-100%	43- 42,2%	33- 76%	7- 16,3%	1	1	1	1

A study of school statistics shows a higher percentage of visual impairment in the incidence of eye myopia in both schools.

The study of statistical data in the context of age categories shows a greater percentage of -74.6% of visual acuity disorders in the incidence of eye myopia, out of a total of 169 for eye diseases.

A study of the statistics of the Kyzylorda Intellectual School show a greater percentage of visual acuity disorders in both age categories according to the incidence of myopia in the eyes of different degrees: 223 students out of 758 students suffer, which is -29.4% and accommodation spasm-4.5% of the number of students registered for eye diseases.

In total, the percentage of students with eye diseases in the four schools studied was 59% (chart 3)

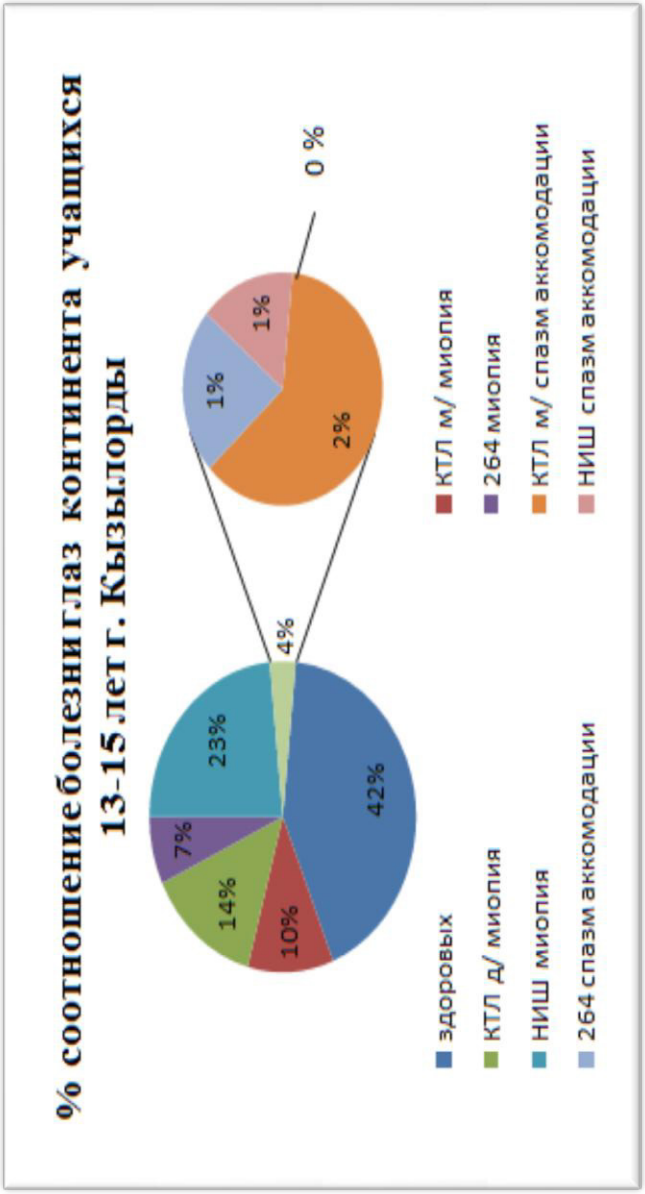
According to the analysis of visual acuity disorders in adolescent students, the problem of the need for certain preventive and educational work among school students to maintain visual acuity is acute.

References

1.http://journal.ksph.kz/contents/v11n2_2012.pdf statistics of eye diseases in Kyzylorda oblast 1

2. Biology D. Taylor, N. Green, W. Stout, 2 volume, Binom Publishing House, 2015. P. 321

3. Regional Children's Clinic of Kyzylorda - statistics of eye diseases in the Kzylorda oblast of children aged 14 years.


% соотношение болезни глаз континента учащихся 13-15 лет г. Кызылорды
42%
10%
14%
7%
23%
4%
2%
1%
1%
0 %
здоровых
КТЛ д/ миопия
НИШ миопия
264 спазм аккомодации
КТЛ м/ миопия
264 миопия
КТЛ м/ спазм аккомодации
НИШ спазм аккомодации

% соотношение учащихся с нарушением остроты зрения и здоровых в четырех школах г.Кызылорды
С нарушениями о/зрения
Здоровых
59%
41%

UDC: 626.82:626.81

CHEMICAL INDICATORS OF SOILS OF THE KAZALY DISTRICT

Ibadullayeva S.Zh.
Tapalova A.S.
Azhmoldayeva K.B.
Baihozhayeva G.M.
Kyzylorda State university named Korkyt Ata,
Kyzylorda

Summary

In modern world, the rapid development of science and technology has a very negative impact on the environment. The problem of studying the long-term dynamics of soil properties that determine its efficiency is one of the main problems of soil science. A particularly acute problem is in arid regions, where the widely manifested processes of secondary salinization are associated with irrigation, the rise of groundwater and irrigation-forming hydromorphic and semi-hydromorphic soils. It should be noted that the development of environmental processes in an unfavorable direction for wildlife not spared the Aral Sea region. The territory of Kyzylorda region is located in the Turan lowland. So here nature is fragile and the relationship between its components is quickly destroyed in the arid climate. Over the past half-century major changes in the whole natural complex had been experienced in the Aral Sea region due to reduced flow of the Syrdarya River. Environmental and land reclamation conditions are very complicated in the area and they are compounded in total arid areas. Soils have a strong leaning to the secondary salinization. A part of irrigation provided land is now withdrawn from the agricultural use because of the secondary salinization and reduction of soil fertility.

Key words: degree of salinity soil, salinization soil type, cations, anions, chemical indicators.

Introduction. The rapid development of science and technology has a very negative impact on the environment. The study of long-term dynamics of soil properties that determine its efficiency is one of the main problems of soil science. This problem is in arid regions, where the widely manifested processes of secondary salinization are associated with irrigation and the rise of groundwater and irrigation-forming hydromorphic and semi-hydromorphic soils. The ecological crisis of Aral Sea area resulting from the irrational use of water and land resources has a significant impact on the state of the ecosystem and socio-economic conditions of the population. A vast territory of delta-alluvial plain was destabilized and exposed to desertification [1]. Irrational use of soil resources, low culture of agriculture and the poor state of irrigation systems on the background of heavy reclamation conditions of the region led to increased halogeochemical pressure on soil cover, particularly strong in the modern delta of Syrdarya River and reduced the area of cultivated land and yield of crops [2].

In connection with the irrational use of water and land resources, desertification and the drainage area intensify the processes of salinization of soils and groundwater. Gray-brown soils and diverse salt marshes were extended in the dining remnants, in decrease of relief and in a seaside. Areas of salt marshes are constantly increasing at the continuing decrease in the level of the Aral Sea [3, 4, 5]. In this connection it is necessary to study the history of halogenesis of soils of the region. It should be noted that mapping of irrigated saline soils is not carried out. Hence there is a need for a detailed inventory of modern space and the dynamics of the spread of saline soils. Along with this, there is a need to examine the qualitative and quantitative composition of soil area and mapping of areas of saline soils of the area.

Methods of experiment. Monitoring soil studies have been conducted for the purpose of scientific research and to identify key factors and the degree of soil salinity on the Aral Sea region territory. Accounting platform was chosen for eco-geographical monitoring of saline soils of the Aral Sea region in order to achieve the objectives.

Accounting platform has been identified for sampling Kazaly region saline soils with an area of 95.25 km^2, in particular the nearby territory of the village Abay 5 km from Kazaly station, Basykara human settlement 10 km from the Kazaly station and Orkendeu human settlement located in 30 km. The following soil sampling points were selected: 1-3rd sampling points - 1, 3.5 km and 6 km south-east from the village Orkendeu, 4th point location Abay is located 5 km south of irrigated lands, 5-7th points selected 2-6 km south-east from the village Abai, 8th point 1 km north-east from the village Basykara, 9th point 1.5 km south of the Aiteke village and 10th point is selected in the 1.5 km north east of the village Altai.

Soil sampling was conducted in accordance with the above procedure; with a depth of 0.5-1 m. Mapping schema of soil salinity degree depending on various factors was drawn for the visualizations of findings in GIS environment using MapInfo professional program.

Results and discussion. Evaluation of saline soils was based on 3 main criteria: the chemistry (type) of salinity, the degree of salinity and depth of saline horizon bedding. The chemistry of saline soils was defined by the composition of anion and cation. Primarily anions were taken into consideration, the value of their relationship in aqueous extracts of soil. Drainage of soil survey was carried out according to the "Guideline for the conduct agrochemical land survey of agricultural holdings".

Ions are toxic and capable of forming toxic salts. Chlorine ions, sodium, magnesium are classified as toxic. SO_4^{2-} and HCO_3 ions are toxic only in the case where they form sodium or magnesium salts. Gypsum ($CaSO_4.2H_2O$) and carbonates (bicarbonates) calcium are non-toxic. N.I. Bazilevich and E.I. Pankov recommend evaluating salinity on toxic ions, or the sum of toxic salts that have fallen in the water extract less water-soluble salts of gypsum and calcium carbonates. Ion toxicity calculations are carried out in meq, and then the content of these ions are converted into percentages and summed. The degree of salinity can be determined according to the total effect of toxic ions, expressed in equivalent form to the chlorine ion [6].

Chemical composition studies of saline soils provided in Kazaly region show predominance cations such as calcium, magnesium, sodium, potassium and chloride anions, sulfate anions bicarbonates. In one sampling point in the calcium content at the depth of 0.5 m was 0.096% at the same point at a depth of 1 m calcium content was 0.092%. At this point, the magnesium content at a depth of 0.5 m was 0.036%, and a depth of 1 m at 0.031%. Sodium + potassium content were the difference at a depth of 0.5 m, 0.384%, and a depth of 1 m to 0.359%. Study anion content showed the following results: hydrocarbons at a depth of 0.5 m - 0.018%, and at a depth of 1 m - 0.012%. The content of chloride ions at a depth of 0.5 m was 0.518%, at a depth of 1 m - 0.440%. Chemical analysis of the content of sulfate anions showed the following results: 0.46% at a depth of 0.5 m and a depth of 0.499% to 1 m corresponding soil studies were conducted at two points. Calcium cations at a depth of 0.5 m was 0.096%, at a depth of 1 m was 0.092%. Magnesium ion content varied from 0.157% at a depth of 0.5 m to 0.165% at a depth of 1 m. Percentage of sodium + potassium ion difference gave the following picture: 0.671% at a depth of 0.5 m and a depth of 0.738% to 1 if m. consider the contents of anions, the situation is as follows: the content of hydrocarbons at a depth of 0.5 m - 0.054%, at a depth of 1 m - 0.036%; chloride ions at a depth of 0.5 m - 0.072%, at a depth of 1 m - 0.1%; sulfate ions at a depth of 0.5 m - 1.897% and at a depth of 1 m - 1,957%. In the 3rd sampling point the following results were obtained: the calcium content varied from 0.109% at a depth of 0.5 m to 0.07% at a depth of 1 m; magnesium content ranged from 0.029 to 0.5 m and a depth of 0.029% at a depth of 1 m; the content of sodium + potassium ions from the difference was at a depth of 0.5 m - 0.064% and 0.191% at a depth of 1 m anionic composition changes were appropriate indicators. Hydrocarbons content varied from 0.012% at a depth of 0.5 m to 0.018% at a depth of 1 m; chloride ions at a depth of 0.5 m - 0.142% and at a depth of 1 m - 0.163%; sulfate ions at a depth of 0.5 m - 0.317% and at a depth of 1 m - 0.422%. In the fourth sampling point the following results were obtained: the calcium content varied from 0.15% at a depth of 0.5 m to 0.142% at a depth of 1 m; magnesium content ranged from 0.08 to 0.5 m and a depth of 0.076% at a depth of 1 m; the content of sodium + potassium ions from the differ-

ence was at a depth of 0.5 m - 0.102% and 0.240% at a depth of 1 m anionic composition changes were appropriate indicators. Hydrocarbons content varied from 0.012% at a depth of 0.5 m to 0.016% at a depth of 1 m; chloride ions at a depth of 0.5 m - 0.334% and at a depth of 1 m - 0.326%; sulfate ions at a depth of 0.5 m - 0.374% and at a depth of 1 m - 0.643%. In the 5th sampling point the following results were obtained: the calcium content varied from 0.062% at a depth of 0.5 m to 0.073% at a depth of 1 m; magnesium content ranged from 0.158 to 0.5 m and a depth of 0.165% at a depth of 1 m; the content of sodium + potassium ions from the difference was at a depth of 0.5 m - 0.671% and 0.738% at a depth of 1 m anionic composition changes were appropriate indicators. Hydrocarbons content varied from 0.074% at a depth of 0.5 m to 0.053% at a depth of 1 m; chloride ions at a depth of 0.5 m - 0.08%, and at a depth of 1 m - 0.14%; sulfate ions at a depth of 0.5 m - 2.497% and at a depth of 1 m - 2.557%. In the 6th sampling point the following results were obtained: the calcium content varied from 0.12% at a depth of 0.5 m to 0.06% at a depth of 1 m; magnesium content ranged from 0.05 to 0.5 m and a depth of 0.032% at a depth of 1 m; the content of sodium + potassium ions from the difference was at a depth of 0.5 m - 0.584% and 0.324% at a depth of 1 m anionic composition changes were appropriate indicators. Hydrocarbons content varied from 0.012% at a depth of 0.5 m to 0.006% at a depth of 1 m; chloride ions at a depth of 0.5 m - 0.951% and at a depth of 1 m - 0.341%; sulfate ions at a depth of 0.5 m - 0.422% and at a depth of 1 m - 0.49%. In the 7th sampling point the following results were obtained: the calcium content varied from 0.026% at a depth of 0.5 m to 0.032% at a depth of 1 m; magnesium content ranged from 0.058 to 0.5 m and a depth of 0.064% at a depth of 1 m; the content of sodium + potassium ions from the difference was at a depth of 0.5 m - 0.246% and 0.252% at a depth of 1 m anionic composition changes were appropriate indicators. Hydrocarbons content varied from 0.024% at a depth of 0.5 m to 0.030% at a depth of 1 m; chloride ions at a depth of 0.5 m - 0.029% and at a depth of 1 m - 0.035%; sulfate ions at a depth of 0.5 m - 0.68%, and at a depth of 1 m - 0.128%. In the 8th sampling point the following results were obtained: the calcium content varied from 0.36% at a depth of 0.5 m to 0.042% at a depth of 1 m; magnesium content ranged from 0.104 to 0.5 m and a depth

of 0.110% at a depth of 1 m; the content of sodium + potassium ions from the difference was at a depth of 0.5 m - 0.451% and 0.492% at a depth of 1 m anionic composition changes were appropriate indicators. Hydrocarbons content varied from 0.036% at a depth of 0.5 m to 0.024% at a depth of 1 m; chloride ions at a depth of 0.5 m - 0.049% and at a depth of 1 m - 0.067%; sulfate ions at a depth of 0.5 m - 1.267% and at a depth of 1 m - 1.334%. In the 9th sampling point the following results were obtained: the calcium content varied from 0.096% at a depth of 0.5 m to 0.102% at a depth of 1 m; magnesium content ranged from 0.164 to 0.5 m and a depth of 0.170% at a depth of 1 m; the content of sodium + potassium ions from the difference was at a depth of 0.5 m - 0.511% and 0.517% at a depth of 1 m anionic composition changes were appropriate indicators. The content of hydrocarbons ranged from 0.096% at a depth of 0.5 m to 0.102% at a depth of 1 m; chloride ions at a depth of 0.5 m - 0.059% and at a depth of 1 m - 0.065%; sulfate ions at a depth of 0.5 m - 1.327% and at a depth of 1 m - 1.333%. In the 10th sampling point the following results were obtained: the calcium content varied from 0.048% at a depth of 0.5 m to 0.051% at a depth of 1 m; magnesium content ranged from 0.054 to 0.5 m and a depth of 0.057% at a depth of 1 m; the content of sodium + potassium ions from the difference was at a depth of 0.5 m - 0.221% and 0.247% at a depth of 1 m anionic composition changes were appropriate indicators. Hydrocarbons content varied from 0.018% at a depth of 0.5 m to 0.012% at a depth of 1 m; chloride ions at a depth of 0.5 m - 0.023% and at a depth of 1 m - 0.033%; sulfate ions at a depth of 0.5 m - 0.63%, and at a depth of 1 m - 0.69% (Table 1).

Cartogram of these areas on a scale of 1: 100,000 was compiled to determine the extent of soil salinity from the action of soluble salts, as already noted, in the territory of Kazaly district of Kyzylorda region.

The results showed that all soil study area have some degree of salinity. As the chemistry the soil dominate chloride-sulfate and chloride type of salinity. Large areas of Kazaly district (64.3%) occupy the saline average salted soils. Next in descending order there is weakly and strongly soil . Minor area of study is occupied by saline and deep saline soil. Most of the area is salted from the surface and it is the result of irreversible secondary salinization of these soils.

Table 1 - Distribution of soil varying degrees of salinity in accounting areas of Kazaly district Kyzylorda region

Characteristics of soil salinity	Territory of the area	
	in km^2	in %
Kazaly district		
Weakly salted	21,5	22,6
Medium salted	61,25	64,3
Strongly salted	12,5	13,1
Total	95,25	100

Currently, along with soil salinization, the process of dehumification is one of the main factors of degradation of rice-marsh soils and the loss of soil nutrients. Getting high and stable yields of rice along with other elements of soil fertility are closely related to the content of humus and provision of soil with nutrients.

Further, the degree of soil degradation of soil from degree, the chemistry, the depth of salted horizon and other salinity factors were determined using the obtained analytical data. Soils throughout the study area on the depth of occurrence of the first salt horizons are from degraded soils category. These data indicate that the main part of the soil arable lands territory was saline from surface, i.e. there are readily soluble toxic salts in their arable horizon constantly. This is a direct result of secondary salinization that reduces the fertility of soils and efficiency of agricultural plants with a great extent.

Conclusion. Soils throughout the surveyed territory on the chemistry of saline and according to chlorine content composed of soluble salts are also categorized as degraded.

Sodium content in the soluble salts has relatively less impact on soil fertility. Soil degradation of half examined area and then to a lesser degree was subjected from sodium action. The remaining half of the area is covered in a moderate to severe degree of soil degradation.

Based on the above, we can conclude that in terms of rice irrigated array with initial saline soils major factors of soil degradation is soil salinization. In particular, the greatest negative impact on the fertility level

has a depth of the first salt horizon. Also, the soil exposed to the action of degradation total content of readily soluble salts and their chemistry, in particular sodium and chlorine ions. Thus, it was found that under conditions of Kyzylorda oblast watering array of the main factors of soil degradation are salinization, dehumidification and soil loss elements of basic nutrition.

Cartogram of these areas on a scale of 1: 100,000 was compiled to determine the extent of soil salinity from the action of soluble salts, as already noted, in the territory of Kazaly district of Kyzylorda region.

The results showed that all soil study area have some degree of salinity. As the chemistry the soil dominate chloride-sulfate and chloride type of salinity. Large areas of Kazaly district (64.3%) occupy the saline average salted soils. Next in descending order there is weakly and strongly soil (Table 2). Minor area of study is occupied by saline and deep saline soil. Most of the area is salted from the surface and it is the result of irreversible secondary salinization of these soils.

Table 2 - Distribution of soil varying degrees of salinity in accounting areas of Kazaly district Kyzylorda region

Characteristics of soil salinity	Territory of the area	
	in km^2	in %
Kazaly district		
Weakly salted	21,5	22,6
Medium salted	61,25	64,3
Strongly salted	12,5	13,1
Total	95,25	100

Currently, along with soil salinization, the process of dehumification is one of the main factors of degradation of rice-marsh soils and the loss of soil nutrients. Getting high and stable yields of rice along with other elements of soil fertility are closely related to the content of humus and provision of soil with nutrients.

Further, the degree of soil degradation of soil from degree, the chemistry, the depth of salted horizon and other salinity factors were determined using the obtained analytical data. Soils throughout the study area on the depth of occurrence of the first salt horizons are from degraded soils category. These data indicate that the main part of the soil arable lands territory was saline from surface, i.e. there are readily soluble toxic salts in their arable horizon constantly. This is a direct result of secondary salinization that reduces the fertility of soils and efficiency of agricultural plants with a great extent.

Conclusion. Soils throughout the surveyed territory on the chemistry of saline and according to chlorine content composed of soluble salts are also categorized as degraded.

Sodium content in the soluble salts has relatively less impact on soil fertility. Soil degradation of half examined area and then to a lesser degree was subjected from sodium action. The remaining half of the area is covered in a moderate to severe degree of soil degradation.

Based on the above, we can conclude that in terms of rice irrigated array with initial saline soils major factors of soil degradation is soil salinization. In particular, the greatest negative impact on the fertility level has a depth of the first salt horizon. Also, the soil exposed to the action of degradation total content of readily soluble salts and their chemistry, in particular sodium and chlorine ions. Thus, it was found that under conditions of Kyzylorda oblast watering array of the main factors of soil degradation are salinization, dehumidification and soil loss elements of basic nutrition.

BIbliography

1. Karlykhanov O.K. For the restoration of the Small Aral Sea // Scientific articles. Hydrometeorology and ecology. - 2002. No 4. - pp. 18-26.

2. Geldyeva G.V., Skorintseva I.B., Budnikova T.I., Basova T.A. Monitoring and cartographic modeling of natural-economic system of the Syr Darya // Geographical bases of sustainable development of the Republic of Kazakhstan. Almaty, - 1998. -pp.134-149.

3. Benduhn, F., Renard, P., 2004. A dynamic model of the Aral Sea water and salt balance. // Journal of Marine Systems 47 - pp. 35-50.

4. Geldyeva G.V., Budnikova T.I. Spatial and temporal aspects of the functioning of natural and territorial systems of Aral Sea region // Vestnik AN Kaz SSR. - 1987. No 3. - pp. 55-62.

5. Glazovsky N.F., 1995. The Salt Balance of the Aral Sea. Geo Journal. - 35.1.

THE RURAL POPULATION OF THE SOUTH OF TYUMEN REGION: MARRIAGE AND DIVORCE STATUS AT THE BEGINNING OF XXI CENTURY

Solodovnikov Alexander Yurievich
Doctor of Geographic Sciences, Associate Professor
Head of Ecology Research Department Tyumen branch of «SurgutNIPIneft»
Solodovnikov Dimitriy Alexandrovich
Magister of ecology, middle school #70 of Tyumen city

Abstract. This article is devoted to the marriage and divorce status in the south of Tyumen Region at the beginning of XXI century. Almost all of the population lives in the municipal districts and is limited in cities, is settled and live there for centuries. The formation of the population began with the Russians colonizing the Siberia to the south, Central Asia and the Pacific Ocean. The colonization ended only in XX century before the 1st World War. The rural population colonized these lands, so the patriarchal way of life was lead here. It can be seen through the high marriage and low divorce rate. But at the beginning of XXI century the situation changed. It can be viewed though the population census. Nowadays the marriage and divorce rate of rural population is the same with the city population. This is the result of the materialism to take the leading position in the minds of people.

Key words. Tyumen region, rural population, municipal districts, marriage, divorce, marriage rate, divorce rate, age groups, men, women.

Introduction

The southern part of Tyumen region is now inhabited by the rissians, that lead the agricultural way of life, that are involved into food-producing industry, and are involved into hunting and fishing way of life. For centuries the agricultural activity takes the high ground of the economic pyramid.

The main chages eliminated the patriarchal way of life. This could be seen through the decreasing rate of marriage and the increased number of divorces. In this case the rural population is now close to the city population.

Main information about the region

Tyumen region is the biggest region of Russian Federation. Its' square is 1 435,2 thousand km^2, or 8,4 % of all country territory. Only the Sakha republic (Yakutia) and Krasnoyarsk district are bigger. There are 2 autonomous districts located on the territory of Tyumen region – Khanty-Mansiisk autonomous district and Yamal-Nenets autonomous district. They have their autonomy since 1993.

The southern part of Tyumen region consists of 21 municipal districts and 5 urban districts (**Figure 1**). The biggest districts are – Uvat (30,1 %), Zavodoukovsk (1,9), the smallest – Sorokinsk (1,7) и Yalutorovsk (0,03 %). The districts are spread over 97,4 % of all the square of the region. 2,6 % are occupied by the urban districts.

The population of the region is almost 1.5 million people. 1/3 of the population live in villages and 2/3 are the city inhabitants. Since the beginning of the 3rd millennium the population of the region increased more than 1.1 times. The city population increased for 1.2 times and the rural population has its' decrease for about 15%. The rural population decrease happened due to the Zavodoukovsk reformation into the city. The interesting fact is that the biggest part of population here lives in rural locations. The population increased everywhere except Tobolsk. The rural populations' increase was seen in Tyumen district only – 1.3 times more.

The territorial differenciation of the southern part of Tyumen region

It is the common fact that the population increase could be achieved through the possibility to make families. The south of Tyumen region is not the best place to do so. During the 2001 – 2012 the marriage rate was stronger than it appeared in the 2018, when some districts showed the tendency of divorces overpowering the marriages. The most marriages are seen in Tyumen and Yalutorovsk districts, the most divorces – in Tyumen and Uvat districts, the lowest number of divorces – in Tobolsk and Sladkovsk, Vagai and Vikulovsk district. In 9 districts the marriage rate is bigger than divorce rate. In 8 districts the divorce rate is bigger (**Figure 2**).

Figure 1. Administrative-territorial arrangement of the South of Tyumen region.
Source: Composed by the authors

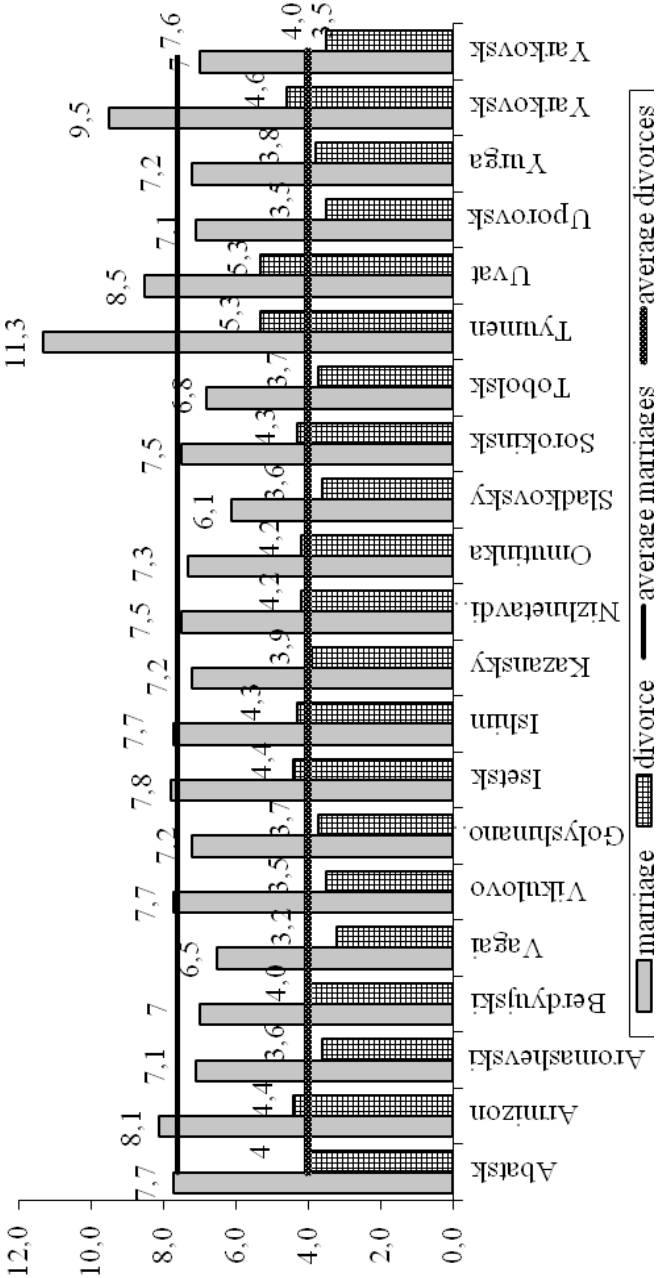


Figure 2. Average marriage and divorce rate by municipal districts in 2001–2018 (per 1000 citizens)
Source: [1-5].

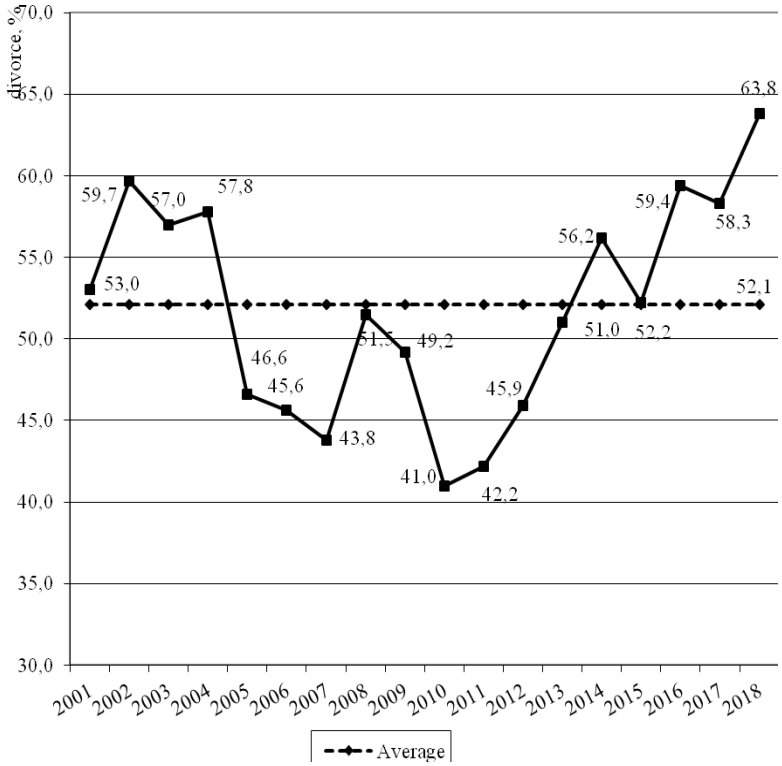


Figure 2. The divorces in families in municipal districts in 2001–2018, %. Source: [1-5]

During the 2001–2018 the number of marriage decreased from 6.4 to 5.4 points (per 1000 people), the divorce rate increase from 3.2 to 3.9 points. The most marriages were registered in 2011 – 10.8 points, the most divorces – 2012 (5.5 points). The most divorces were registered in 2018 (63,8 %), minimum – 2010 (41,0 %) (**Figure 3**).

The number of divorces is 52,6% from all marriages. Uvat district has the biggest number of divorces, the smallest – Vikulovo and Tyumen (**Figure 4**). It's a common fact that than the worse is the economic situation – the weaker are the marriages. But there're some other problems like different family «treasures», personal and social immaturity etc.

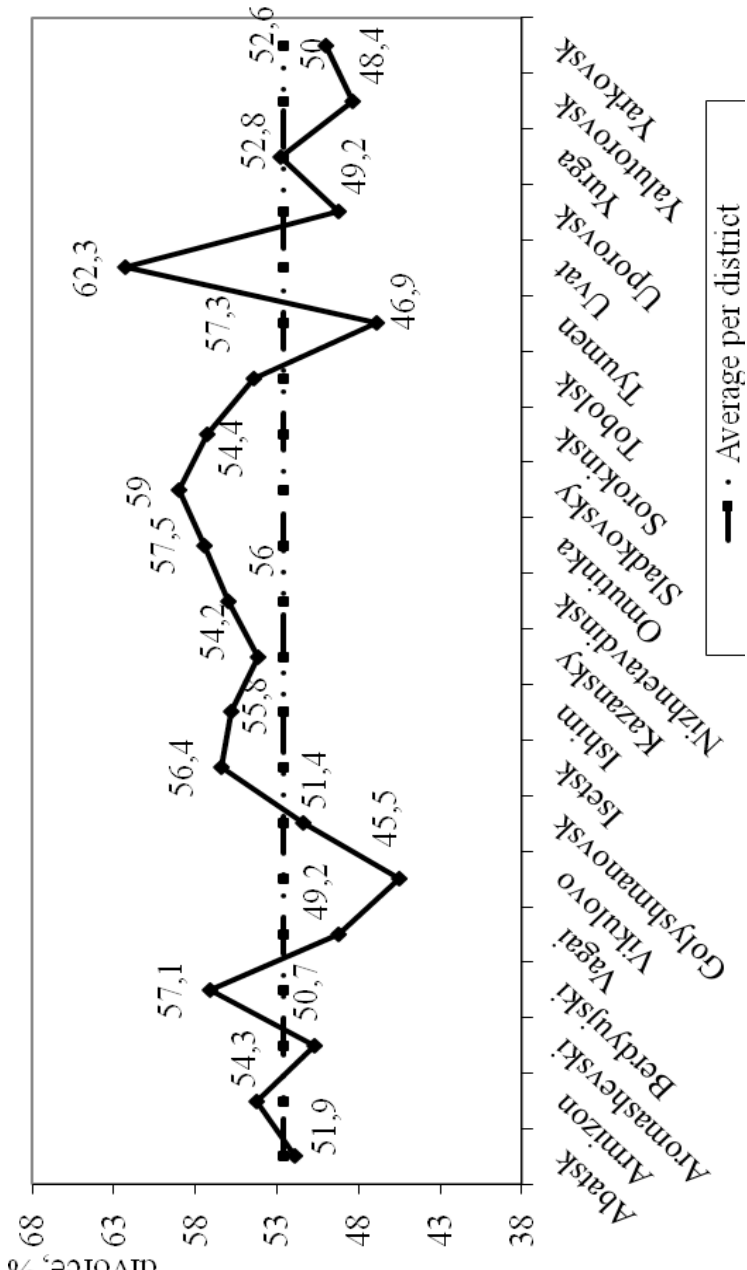


Figure 4. Family divorces by the municipal districts in 2001–2016, %.
Source: [1-5]

About 63% of rural population of 16 years and above is married. 18.6% have never been married (in 2002 – 63,3 % and 19,3 %). The biggest amount of married people live in Berdujski (66,5 %) and Kazansky (66,8 %) districts, the smallest – in Tobolsk (58.7%) and Yurginsk (59.4%) districts. 11 % – are widdowed and 7,2 % – are divorced (in 2002 – 11,4 % and 5,9 % corresponding) (tabl. 1). The differences of marriage categories do not differ a lot (**Figure 5**).

Tabl. 1. The rural population allocation by the marriage status (in the age 16+) in south of Tyumen region, % (to the moment of population census in 2010)

Index		2002			2010		
		All population	Male	Female	All population	male	Female
married		100,0	100,0	100,0	100,0	100,0	100,0
Been married		63,3	67,1	59,8	62,9	66,7	59,5
Incl.	Registered marriage	83,6	83,5	83,6	82,3	82,3	82,3
	Unregistered marriage	16,4	16,5	16,4	17,7	17,7	17,7
Never been married		19,3	23,6	15,6	18,6	23,3	14,4
Widowed		11,4	3,6	18,3	11,3	3,6	18,1
Officially divorced					5,3	4,5	6,1
Separated		5,9	5,7	6,3	1,9	1,9	1,9
Not stated the marriage status		0,1	0,06	0,1	-	-	-

Source: [6].

The number of married men is 66.7%, woman – 59.5% 82.3% are officially married. The leading position of officially registered marriages take Berdyujski and Kazansky districts (84.6%), unregistered – Vagai district (23.5%) and Tobolsk district (24.0%). About 19% of all population have never been married, 23.3% for men and 14.4% for woman (tabl. 1). The most «never-been-married» population is registered in Tobolsk district (21.3%) and Yurginsk (21.5%) district, the smallest number of such people is registered in Berdyujski district (14.3%) and Sladkovsk (15.2%) (tabl. 2). The number of never-been married men is bigger than the number of never-been married woman in 1.4 times. The maximum of never – been married men is Yurginsk and Tobolsk districts, minimum – in Berdyujski and Kazansky, the same parameter for woman in Golyshmanovsk, Tyumen, Berdyujski and Sladkovsk districts respectively (tabl. 3).

Tabl. 2. The rural population allocation by the marriage status (in the age 16+) in districts of the south of Tyumen region, % (to the moment of population census in 2010)

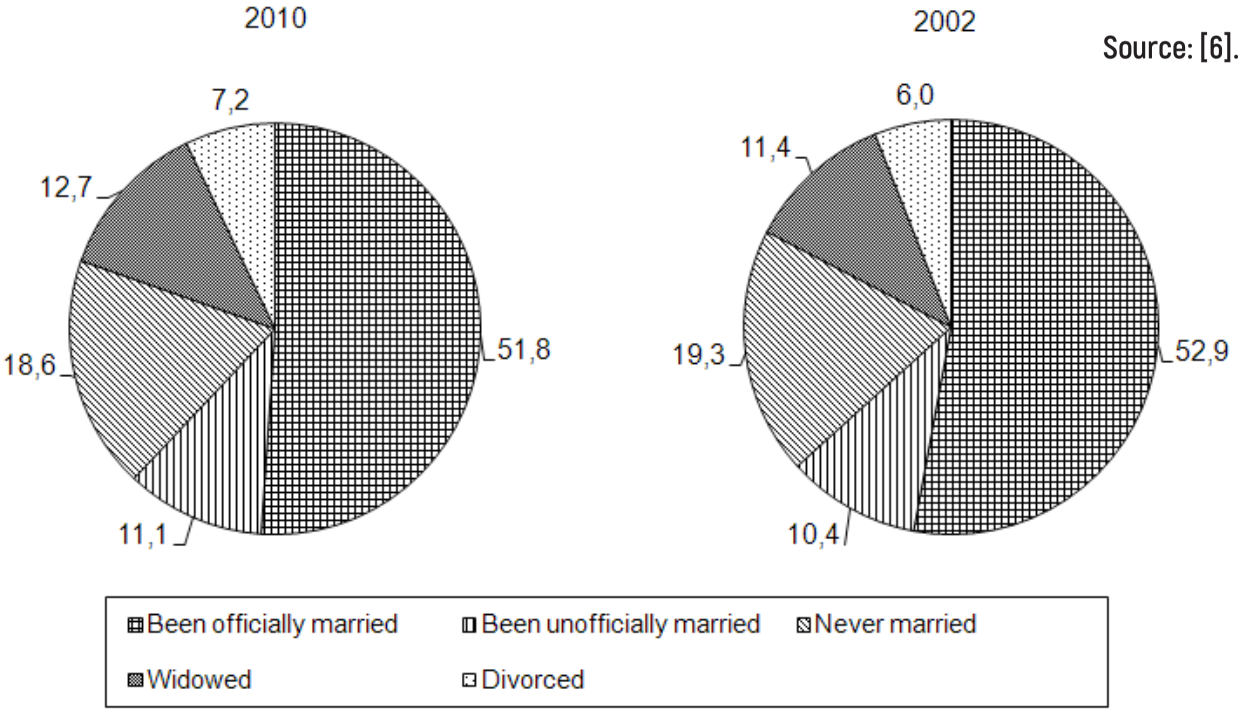
District	All Population	Including					
		Married	Including		Never married	Widowed	Other categories
			In registered marriage	In unregistered marriage			
Abatsk	100,0	65,2	84,1	15,9	16,0	12,5	6,3
Armizon	100,0	61,4	82,8	17,2	19,3	12,6	6,7
Aromashevski	100,0	62,4	82,3	17,7	18,4	12,9	6,3
Berdyujski	100,0	66,5	84,6	15,4	14,3	12,8	6,4
Vagai	100,0	62,2	76,5	23,5	19,3	11,9	6,6
Vikulovo	100,0	65,9	84,1	15,9	16,8	11,6	5,7
Golyshmanovsk	100,0	61,4	81,6	18,4	20,0	11,0	7,6
Isetsk	100,0	62,8	83,9	16,1	18,8	10,7	7,7
Ishim	100,0	64,2	82,4	17,6	16,5	12,8	6,5
Kazansky	100,0	66,8	84,6	15,4	16,0	10,8	6,4
Nizhnetavdinsk	100,0	60,2	78,7	21,3	19,4	13,0	7,4
Omutinka	100,0	60,7	81,1	18,9	18,3	13,2	7,8
Sladkovsky	100,0	66,2	84,1	15,9	15,2	12,7	5,9
Sorokinsk	100,0	63,6	81,8	18,2	16,9	12,4	7,1
Tobolsk	100,0	58,7	76,0	24,0	21,3	12,2	7,8
Tyumen	100,0	62,7	84,4	15,6	19,9	9,5	7,9
Uvat	100,0	63,6	83,6	16,4	19,1	9,5	7,8
Uporovsk	100,0	66,3	81,3	18,7	16,2	11,0	6,5
Yurga	100,0	59,4	82,0	18,0	21,5	11,9	7,2
Yalutorovsk	100,0	64,5	82,9	17,1	16,7	12,4	6,4
Yarkovsk	100,0	59,8	79,6	20,4	20,6	12,1	7,5
Average per district	100,0	62,9	82,3	17,7	18,6	11,3	7,2

Source: [6].

Tabl. 3. The male and female population characteristics by the marriage status at the age of 16 and above by districts of the south of Tyumen region, % (based on the data of the population census of 2010)

District	Been married		Including				Never been married	
			Officialy married		Unofficially married			
	male	female	male	female	male	female	male	female
Abatsk	69,4	61,6	84,1	84,1	15,9	84,1	15,9	15,9
Armizon	65,7	57,6	82,9	82,7	17,1	82,7	17,1	17,3
Aromashevski	66,3	59,0	82,2	82,4	17,8	82,4	17,8	17,6
Berdyujski	71,1	62,5	84,5	84,7	15,5	84,7	15,5	15,3
Vagai	63,2	61,3	76,7	76,3	23,3	76,3	23,3	23,7
Vikulovo	69,8	62,4	84,0	84,2	16,0	84,2	16,0	15,8
Golyshmanovsk	65,3	58,0	81,5	81,6	18,5	81,6	18,5	18,4
Isetsk	67,3	59,0	84,1	83,8	15,9	83,8	15,9	16,2
Ishim	68,3	60,6	82,4	82,4	17,6	82,4	17,6	17,6
Kazansky	70,6	63,4	84,5	84,6	15,5	84,6	15,5	15,4
Nizhnetavdinsk	63,6	57,3	78,7	78,8	21,3	78,8	21,3	21,2
Omutinka	65,5	56,6	81,1	81,1	18,9	81,1	18,9	18,9
Sladkovsky	70,2	62,8	84,1	84,0	15,9	84,0	15,9	16,0
Sorokinsk	67,3	60,3	81,9	81,6	19,1	81,6	19,1	19,4
Tobolsk	60,0	57,4	76,0	75,9	24,0	75,9	24,0	24,1
Tyumen	67,1	58,8	84,4	84,3	15,6	84,3	15,6	15,7
Uvat	66,2	61,2	83,6	83,5	16,4	83,5	16,4	16,5
Uporovsk	70,1	63,0	81,3	81,4	18,7	81,4	18,7	18,6
Yurga	60,5	58,3	82,1	81,6	17,9	81,6	17,9	18,4
Yalutorovsk	68,2	61,3	82,8	83,1	17,2	83,1	17,2	16,9
Yarkovsk	62,5	57,5	79,6	79,5	20,4	79,5	20,4	20,5

Source: [6].



Source: [6].

Figure 5. The structure of rural population of the south of Tyumen region by marriage status (age 16 and above), %

Tabl. 4. The rural population allocation by the marriage status % (to the moment of population census)

Marriage state	Groups by age						
	16+	20–24	25–29	30–39	40–49	50–59	60+
2010							
Male	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**
– never married	97,5	71,7	35,1	17,0	8,4	5,7	2,6
– previosly been married	2,4	26,9	59,4	74,1	81,2	82,7	76,1
– widowed	...	...	0,1	0,4	1,2	3,3	16,6
– divorced	0,1	1,4	5,4	8,5	9,2	8,3	4,7
Female	100,0	100,0	100,0	100,0	100,0	100,0	100,0
– never married	88,5	46,6	21,2	10,2	4,4	2,9	3,6
– previosly been married	11,1	49,0	69,5	76,8	78,0	71,0	36,4
– widowed	...	0,4	1,0	2,4	6,7	16,1	54,7
– divorced	0,4	3,0	8,3	10,6	10,9	10,0	5,3
2002							
Male	100,0	100,0	100,0	100,0	100,0	100,0	100,0
– never married	98,1	71,6	32,2	12,2	6,0	3,8	2,7
– previosly been married	1,9	27,3	62,6	78,4	83,2	84,1	78,0
– widowed	...	...	0,1	0,4	1,4	3,4	15,3
– divorced	...	1,1	5,1	9,0	9,4	8,7	4,0
Female	100,0	100,0	100,0	100,0	100,0	100,0	100,0
– never married	92,6	53,7	21,4	8,6	4,8	3,8	4,3
– previosly been married	7,2	43,2	68,6	75,0	74,4	67,4	37,1
– widowed	...	0,3	1,1	3,0	7,0	15,9	51,9
– divorced	0,2	2,8	8,9	13,4	13,8	12,9	6,7

Note: ... – less than 0,1%.
Source: [6]

The most common age for woman to be married is 20-24 years and 24-28 for men. But the rural population has other parameters. About 60% of men and 70% of woman below 30 years old are already married. By until the age of 25 only 27% of men and 50% of woman are married. The maxi-

mum married men are at the age of 50-59 (82.7%) and woman at the age of 40-49 (78%). The lowest amount of married is in the age 16-19: 2.5% for men and 11.5% for woman. Common level of celibacy is 2.6% for men and 3.6% for woman. The great difference has come since the year 2002 (tabl. 4).

During the years that was a tendency of woman to be married early than men do. The early marriages are also followed by the early divorces. Most of them are registered in Yurginsk district – 0.6%. Woman have the tendency to apply for divorces more than men do. All age groups have more divorced woman than men. The biggest clash could be seen in 20–24 age group. The maximum number of divorced people could be seen in 30–59 age group (tabl. 4). Some districts follow this tendency, but there're also some differences. The most divorces of 20–24 age group are seen in Berdyujski district (3.5%), 25-29 years in Armizon and Aromashevski district (9.8%), 30–39 in Golyshmanovsk district (11.4%), 40-49 in Tyumen and Uvat districts (11.7%), 60 and above – in Sladkovsky district (9.4%) (tabl. 5).

Conclusion

At the beginning of XXI century the following situation came to the south of Tyumen Region:

1. In 2001 – 2016 comes the tendency of marriage decrease in 18 out of 21 districts. In some district this number comes to 60 – 80%. In other 3 districts the marriage rate increased from 40 – 100%. The greatest decrease came in 2013 – 2016.

2. More than 37% of population at the age 16 and above are not married. In some districts the number such people is 40%. 18% have never been married. The number of married men is more than the number of married woman on 7%. More than 80% of marriages are registered. The number of unmarried woman is more than man on 900 people. The level of celibacy is low – 3% for men and 4% for woman.

3. Woman mary early than men. · of all woman is married till the age of 25, but only 27 % of men is married in this age group. The most divorces are made during this period of life. The most number of single people is seen in 20 – 39 age group. Basing the data of all – Russian population census of 2002 – 2010 the number of marriages decreases in all age groups.

Tabl. 5. The population allocation by the divorce status by age groups, % (based on the data of population census)

District	Groups by age						
	16+	20–24	25–29	30–39	40–49	50–59	60+
Abatsk	-	2,2	6,8	9,6	8,4	7,9	3,7
Armizon	0,5	2,2	9,8	9,3	8,3	8,0	4,5
Aromashevski	0,2	2,3	9,8	7,1	8,9	9,2	4,1
Berdyujski	-	3,5	6,4	9,1	8,7	7,4	4,1
Vagai	0,5	3,3	6,3	7,3	9,5	8,7	4,0
Vikulovo	0,2	2,2	6,1	7,5	7,7	7,6	3,6
Golyshmanovsk	0,3	3,1	7,0	11,4	9,5	9,7	5,8
Isetsk	0,3	2,8	7,0	10,5	11,0	10,0	5,1
Ishim	0,3	2,4	6,5	9,0	9,0	8,2	4,3
Kazansky	03	2,5	7,0	7,9	8,8	7,4	4,7
Nizhnetavdinsk	...	2,9	6,0	8,3	10,9	10,3	5,4
Omutinka	-	3,3	7,1	11,3	10,3	9,8	5,5
Sladkovsky	0,2	1,6	4,5	6,0	6,8	5,5	9,4
Sorokinsk	-	2,3	7,1	8,7	10,9	11,5	4,7
Tobolsk	0,2	3,2	8,2	10,5	11,2	9,6	5,1
Tyumen	0,2	2,2	6,8	10,8	11,7	10,4	5,7
Uvat	0,2	3,1	6,0	9,8	11,7	9,6	5,2
Uporovsk	0,3	2,3	6,0	7,3	9,6	8,1	5,1
Yurga	0,6	3,3	7,3	8,8	9,3	9,1	7,7
Yalutorovsk	0,2	2,9	7,3	8,5	9,1	7,0	4,3
Yarkovsk	...	2,6	7,6	8,9	8,9	10,3	6,8

Note: ... – less than 0,1%.

Source: [6].

References

1. Annual demography (2001 – 2005): Stat. in 2 vol. Vol. 1. / Territorial department of all – Russian statistics in Tyumen region. Tyumen, 2005. 508p.

2. Annual demography (2003 – 2013): Stat. in 4 vol. Vol. 4. Tyumen region without authonomous districts / Territorial department of all – Russian statistics in Tyumen region. Tyumen, 2015. 315p.

3. Annual demography (2013 – 2017): Stat. in 4 vol. Vol. 4. Tyumen region without authonomous districts / Territorial department of all – Russian statistics in Tyumen region. Tyumen, 2017. 309p.

4. The official site of marriage status of citizens of Tyumen region http://admtyumen.ru/ogv_ru/society/registry_office/registry_to/2017.htm (last seen: 02.04.2017).

5. Federal state statistics – central database // municipal database http://www.gks.ru/scripts/db_inet2/passport/table.aspx?opt=716100002011 (last seen; 20.08.2019)

6. The results of all – Russian population census 2010. The birth rate in Tyumen region. Tyumen region and Tyumen region without autonomous districts. Territorial department of all – Russian statistics in Tyumen region. Tyumen, 2013. 169p.

KURUMS OF SOUTH URAL

Smirnov Alexander Ilyich
Candidate of Geologo-Mineralogical Sciences
Senior Research Officer
Institute of Geology, Ufa Federal Research Center
of Russian Academy of Sciences

Abstract. The composition and morphology of the kurums of the South Urals are characterized, patterns of spreading of stone seas and rivers are established, the speed of movement of stone rivers is determined, the degree of influence of the process of kurum formation on socio-economic objects is estimated.

Keywords: Southern Urals, kurums, stone seas, stone rivers, the nature of the distribution of kurums, the lithological composition of kurums, the age of kurums, the speed of stone rivers.

Introduction

Kurums (ancient Türkic gorum - "stony placers", "piles of sharp stones", "rock fragments") is the general name for the manifestation of the exogenous geological process of kurum formation, due to the action of gravitational forces, which manifests itself in the form of stone seas and stone rivers or streams (kurum or kurumnik)

The stone seas are placers of clumps and debris of bedrock covering the tops of the mountains, upland terraces and slopes of ridges with a continuous cover. Stone rivers are moving accumulations of clumpy-clastic-gravelly material along the generally elongated hollow-like depressions of the earth's surface.

Stone seas and rivers are the most remarkable landforms of the Southern Urals, which will certainly attract interest from researchers and tourists. Meanwhile, the information on them for today, in our opinion, is not fully characterized, especially in terms of the laws of their formation, distribution and development dynamics.

Initial data

The initial data for the study were the decryption materials of large-scale (1:25 000) aerial photographs and field studies, as well as modern data on the natural and geological-geomorphological conditions for the development of the process of kurum formation [Smirnov, 2005; Smirnov, Tkachev, 2005; Kozlov, 2014].

Research results

Manifestations of the process of kurum formation. Modern forms of kurum formation in the Southern Urals are represented by stone seas and stone rivers (Fig. 1 and 2). They are distributed mainly in the midlands in the range of absolute elevations of 1000-1640 m. Very rarely, the process of kurum formation is developed in the low mountains at absolute elevations below 1000 m, where it is represented solely by single stone rivers.

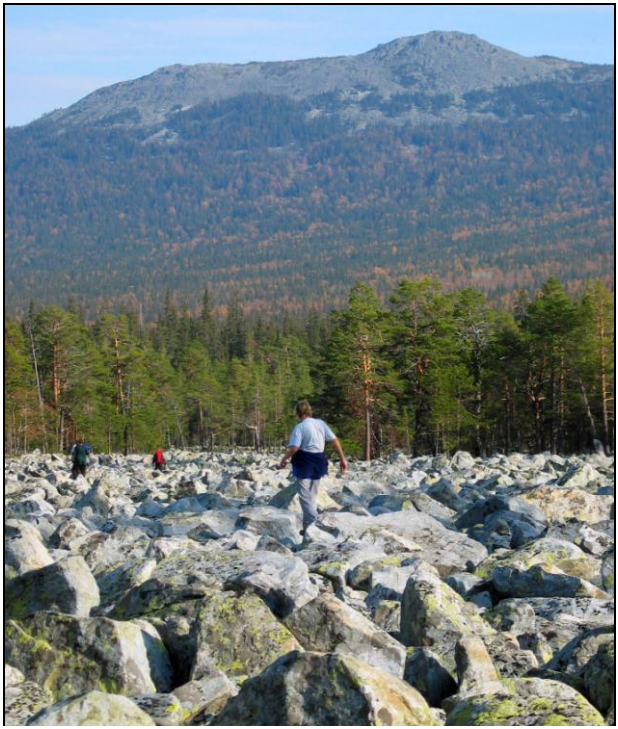


Fig. 1. Stone cover on the Kumardak ridge. Photo by N. Arzamastsev

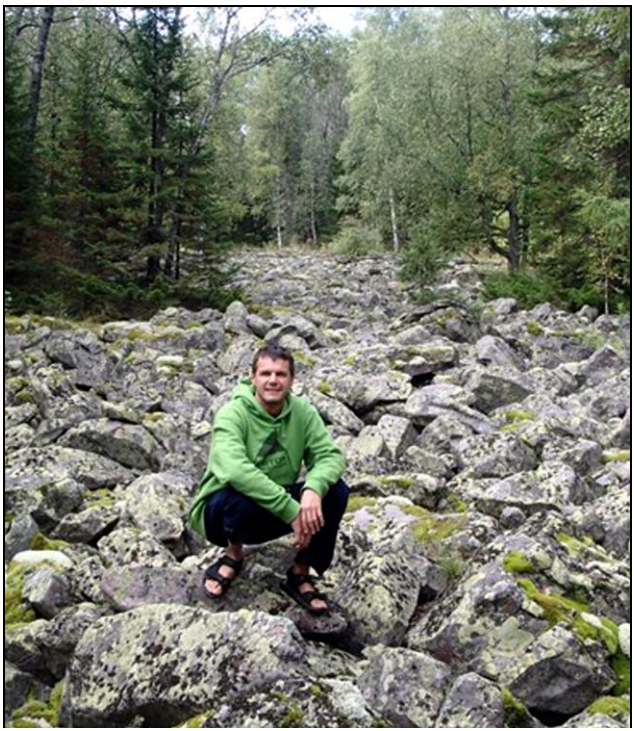


Fig. 2. Stone river on the Mashak ridge. Photo by A. Baranov

The source of the formation and distribution of Kurums. The source of the formation of stone seas in the mid-mountain part of the western slope of the Southern Urals is mainly rocky outcrops of quartzites and quartzitic sandstones of the Zigalgin Formation of the Middle Riphean (R2 zg). They are also connected here with the outcrops of similar lithological layers contained in other Riphean suites: Zilmerdak (R3 zl), Mashak (R2 mš), Yushinskaya (R1 jš) etc. The emergence of the stone seas here is promoted by the high hypsometric position of the watershed ridges, where processes of physical weathering dominate, under the influence of which the destruction of rock outcrops of bedrock occurs.

In the low-mountain part of the western slope of the Southern Urals, the process of kumum formation is mainly represented by stone rivers,

which are extremely rare, and stone seas are not found. Single kurumniks are developed here on the slopes of ridges and mountains composed of arkose sandstones and conglomerates of the first (Biryansky) sub-formation of the Zilmerdak Formation (R3 zl1). The absolute elevations of mountain peaks with kurumniks are usually higher than 900 m. The nature of distribution, the mechanism of their formation and development are similar to those in the midlands, with the only difference being that the size of the fragments in the stone rivers is much smaller (Fig. 3).

Stone seas are distributed mainly on mountain terraces, steep (25°or more) parts of the slopes of ridges and mountains, the absolute elevations of which are higher than 1000-1100 m: ridges: Nary, Zigalga, Mashak, Kumurdak, Yusha; mountains of Yamantau, Big And Small Iremel, Big Shelom, Shiktash, Karatash, etc.

The lower boundary of the distribution of the stone seas does not usually fall hypsometrically below 850-900 m. They are confined to the loach belt (zone), the formation of which, according to N.V. Bashinina [Bashinina, 1948], began at the end of the Pliocene – the beginning of the Pleistocene.

At this time, the era of glaciation in most of Russia led to a sharp cooling in the Southern Urals, which caused a peculiar cycle of relief formation here in a sharply continental climate (above the forest border). Glaciation was followed by warming, during which the climate became similar to modern. In the Pleistocene against the backdrop of repeated neotectonic uplift, interrupted by periods of rest [Rozhdestvensky, 1982], a number of ice ages followed in the territory under consideration, which caused the development of permafrost at the highest absolute elevations of the Southern Urals and the intensification of frost weathering, which contributed to the further formation of the loam belt [Bashenina, 1948].

The shape and size of the stone seas are directly dependent on the height and shape of the ranges and mountains on which they are developed. The upper boundary of the stone seas often reaches the tops of ridges and mountains, and the lower one is controlled by the bends of their surfaces when the slopes change from larger to smaller. The more pronounced the change in the angle of inclination is, the smoother the lower boundary of the block-clastic cover and, conversely, when there are more

smooth transitions of their surfaces with different slopes, the outer contour of the stone seas is often complicated by tongue-like protrusions. The stone seas most significant in area (5-7 km^2) are distributed on the higher mountains of Yamantau and Big and Small Iremel, Big Shalom, absolute elevations of the peaks, which are more than 1400 m (see Fig. 3).

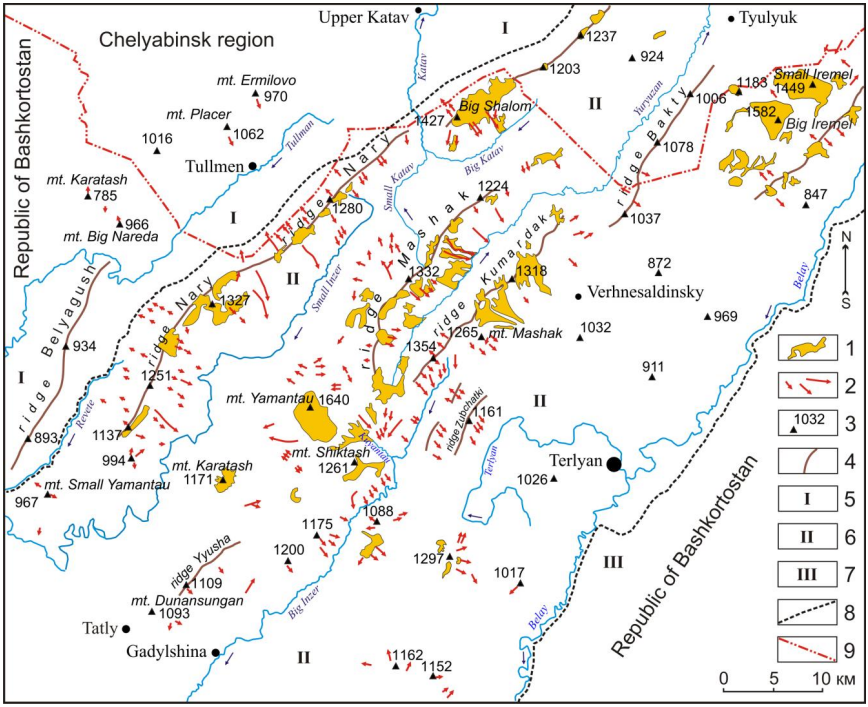


Fig. 3. Distribution scheme of Kurums in the Southern Urals

Legend: forms of manifestation of kumum formation: 1– stone seas, 2 – stone rivers; 3 –absolute elevations of mountain peaks, m; 4 – axial lines of mountain ranges; the orographic regions of the Southern Urals: 5 – low-mountain ranges of the western slope, 6 – mid-mountain ranges of the western slope, 7 – Uraltau ridge; borders: 8 - orographic regions, 9 – subjects of the Russian Federation

The stone seas, with a thickness of up to 10 m, are represented by block-clastic material, consisting mainly of quartzite and quartzite sandstones. The sizes of debris and blocks in them range from 0.2-0.3 to 4-7 m, rarely larger. There is no clear pattern in the distribution of block-clastic material in a single stone cover, however, larger clumps and debris are more common along rocky ridges, ledges, and around peak-like outliers. On the slopes of ridges and mountains, stone covers are mainly with free gaps, which make up to 30% of their total volume. On mountainous terraces, with angles of inclination of 5-10°, clumpy-clastic seas with sandy loamy aggregate are covered with a grassy-mossy cover, and puddles of water are frequent in the free spaces. The stone seas in such areas form charred terraces described in the area of Big Iremel by L.O. Tyulina and A.A. Tsvetaev [Tyulina, 1931; Tsvetaev, 1960].

At the outer borders of the upland terraces, we detected separation cracks, which are ditches in the grass-moss cover. They are developed across the extension of terraces at the headwaters of stone rivers descending from them down the slopes. The length of the ditches reaches 30 m (rarely more) with a width of 0.1-0.3 m and a depth of 0.2-0.3 m. Lumps are exposed along the ditches, which are offset along an inclined plane relative to each other (above and below the ditch slope), which is clearly fixed by the fresh, unaffected weathering and uncovered lichen and moss parts of the underlying blocks.

Stone rivers are distributed mainly in the same areas as the stone seas and are developed lower along the slopes of the ranges and mountains from them, on more flattened (up to 10°) parts of the slopes. They are confined here mainly to hollows and hollow-shaped depressions originating on upland terraces or resting upstream in block-clastic covers on slopes. At the same time, on the mountain terraces at the tops of the hollows in the relief, very gentle inclined circus depressions are observed. The length of stone rivers ranges from 100-500 m to 5 km and a width of 20-50 to 200-250 m. The estuaries of the Kurums descend down the slopes, usually to an absolute mark of 600 m, less often 550 m, reaching the rear parts of the floodplain terraces of river valleys.

A characteristic feature of the distribution of stone streams in the Southern Urals is that the longest and most powerful stone rivers are developed on the eastern and southeastern slopes of the submeridionally elongated ridges of Zigalga (Big Shalom), Mashak, Nary, and Kumardak. On the western and northwestern slopes of these ridges, stone streams are shorter and narrower. They are found on them and to a much lesser extent.

The composition of the stone rivers – blocky-clastic-gravelly, composed mainly of quartzites and quartzitic sandstones. The size of the blocks reaches 2-3 m across, less often more, with their gradual decrease downstream, which is typical for the longest kurums and not typical for short ones. The upper parts of the stone streams and the small laths that are located at high hypsometric levels, as a rule, have clastic material with free gaps. A fine-grained aggregate is often present in their estuarine parts, and brooks and even small rivers often flow out from under the debris (the source of the Kuyantau River is the right tributary of the Big Inzer River). River water is ultra-fresh with a salinity of not more than 0.02 g/dm^3 with a calcium-magnesium hydrocarbonate composition.

Kurum formation activity. The process of kurum formation at the present stage of the formation of the relief of the Southern Urals is active and is currently due to climatic and geological-geomophological factors. The first, first of all, includes physical weathering, and the second - geological processes. In the current state of the study of the process of Kurum formation in the South Urals, the activity of its development can be estimated through the speed of movement of its manifestation forms.

The primary geological factors affecting the speed of movement of the stone seas and streams, first of all, should be noted the modern epheirogenic movements of the earth's crust and earthquakes.

Modern tectonic movements in the region under consideration are estimated by positive uplifts of +4.4 – +6.5 mm per year [Rozhdestvensky, 1982]. Earthquakes are the transient discharge of large stresses in the earth's crust. In the Southern Urals, weak earthquakes of magnitude 1-2 points are a fairly common occurrence, but often their magnitude is 3-4 points, and sometimes reaches 6 points. The last significant earthquake

in the territory of the Southern Urals with a magnitude of 5.9 points was recorded ~ 5 km southeast of the village of Upper Katav on the night of September 5, 2018.

Earthquakes undoubtedly contribute to the movement of the Kurums. Meanwhile, in the author's opinion, "sub-block" water flows are of key importance for the movement of stone rivers in the middle mountains of the Southern Urals – they freeze in the cold season, and gradually thaw at the beginning of the warm season, and the kurumniks begin to move down the hollows through water-ice lubrication. That is, in conjunction with endogenous geological processes, the climatic conditions of the region are decisive in the dynamics of the movement of stone rivers at the present stage. Similarly, apparently, there is a movement of stone cover on the mountain terraces, slopes of ranges and mountains.

Together with periodically recurring weak earthquakes, meteorological factors are decisive for the movement of the Kurums.

The speed of movement of the stone seas and rivers is different and is directly dependent on the angle of inclination of the surfaces on which they are developed.

According to our data, the speed of movement of stone coverings on mountain terraces is 0.05-0.1 m per year. Significantly higher is the speed of movement of stone rivers, which can reach 0.5-0.7 m per year, and we found that short stone streams move more quickly than long ones. The lowest speed of movement is characteristic of stone covers developed on the slopes of any steepness, but abutting against the rear of gentle sloping terraces or in excesses of the surface of slopes with a sharp change in their slope angles from steep (20-30°) to gentle (5-7°). Meanwhile, on smooth long and steep slopes, the speed of movement of stone covers is the highest and can reach 1.0 m (possibly up to 1.5 m) per year.

Conclusions

Kurums in the Southern Urals are distributed mainly in the mid-mountain (most elevated) part of it. They are represented by stone seas and stone rivers, the formation of which began at the end of the Pliocene - the beginning of the Pleistocene (~ 2.6 million years ago) and, along with the high hypsometric position of the territory, was caused by climatic factors. The climatic and landscape conditions in the Quaternary and the lithological composition that compose the territory of the rock region contributed to the further development of kurum formation, which continues to this day, and its manifestations are in motion. The speed of movement of the stone seas and stone rivers is determined by geomorphological conditions and meteorological factors and reaches 0.1 m and 1.5 m per year, respectively.

The process of Kurum formation is one of the most powerful exogenous geological processes in the formation of the highest, modern upper regional leveling surface of the Southern Urals and is currently the main process of forming the relief of the region. It is advisable to direct further study of the kurums of the Southern Urals to the organization and monitoring of the state, mechanism and speed of movement of the kurums. This will be useful for clarifying the current patterns of the formation of leveling surfaces, both in the Southern Urals and in other mountainous regions of Eurasia.

In conclusion, it should be noted that kurum formation in the South Urals is developing in its very poorly developed parts and does not have a negative impact on socio-economic facilities and engineering structures, however, studying it is very important for understanding the formation of the modern relief of the region under consideration.

This work was carried out in the framework of State budget theme No 0246-2019-0086

References

1. Bashenina H.B. The origin of the relief of the Southern Urals. - M.: State publishing house of geo. literature., 1948. 232 P.

2. Methodological recommendations for a special engineering and geological survey and mapping of areas of potentially dangerous and prone to landslides, landslips and other exogenous geological processes. - M.: VOEGINGEO, 1979. 65 P.

3. Methodological recommendations for a special engineering-geological survey of the territory. - M.: VOEGINGEO, 1981. 64 P.

4. Kozlov V.I. Geological map of the South Ural State Nature Reserve. Scale 1:100,000. Explanatory note. Edited by Corr. RAS V.N. Puchkova. - Ufa, 2014. 48 P.

5. Rozhdestvenskiy A.P. Type and age of the Ural Mountains // History of the geological and geomorphological development of the Urals. - Ufa 1982. 111 P.

6. Smirnov A.I. Genetic types and landforms // Atlas of the Republic of Bashkortostan. Government of the Republic of Bashkortostan. - Ufa, 2005. P. 65.

7. Smirnov A.I., Tkachev V.F. Engineering-geological conditions of construction // Atlas of the Republic of Bashkortostan. Government of the Republic of Bashkortostan. – Ufa, 2005. P. 66-68.

8. Tyulina L.O. On phenomena associated with soil permafrost and frosty weathering on Iremel Mountains (Southern Urals) // Bulletin of the Geographical Society, 1931. V.43, Issue #2-3. P. 124-144.

9. Tsvetaev A.A. Iremel Mountains (Southern Urals), physical-geographical essay. Ufa: Pub. H. BF GO USSR, 1960. 82 P.

ABOUT THE HARDWARE DESIGN OF THE CDU AS A FUNCTION OF RAW MATERIALS

Khabibrakhmanova Oksana Valerievna
Candidate of Chemical Sciences, Associate Professor
Popov Sergey Vasilyevich
Candidate of Technical Sciences, Associate Professor
Bukhantsova Svetlana Aleksandrovna
Master
Samara State Technical University, Novokuybyshevsk branch

Abstract. The raw material database was formalized in the form of a set-theoretic model, reflecting the main components, their dependencies and the impact on the technological and hardware design of the primary raw material preparation process. The fundamental possibility of constructing a methodology for integrated assessment of the influence of quality indicators of raw materials on the technological design of the primary preparation of raw materials is shown.

Keywords: primary oil preparation, mathematical model, set-theoretical model, database of raw materials (oil), methodology for choosing the hardware design of the primary preparation of raw materials.

The constantly growing competition in the global economy and the transition to new standards of energy and resource saving, quality and environmental safety create the need for continuous tightening of the requirements for primary oil refining processes, determines the need for new system approaches to increase production efficiency in the oil industry, optimizing the management of the main processes and, as a result, improving the quality of oil products. The pronounced systemic nature of this problem determines the need to solve it on the basis of system stud-

ies using modern methods and tools of the theory of modeling, control and optimization of systems [1], while mathematical models should describe the logical and chemical-technological features of the production process, trace the quality indicators of finished products from the quality indicators of raw materials.

Undoubtedly, the great variety of oils in chemical composition is explained by the geological conditions of their occurrence and formation. As an object of study, oils of the Orenburg oblast were selected - light, with low viscosity, low sulfur, low resinous, paraffinic. They consist of kerosene and diesel fractions. Petroleum hydrocarbons with such properties are observed in the southern regions of the Orenburg oblast. The formation of such oil is associated with the migration of hydrocarbons with sedimentary waters from the Caspian Depression and the Ural marginal trough towards the Sol-Iletsky arch. In the Orenburg oil and gas region, in the subsalt oil and gas complex, oil has a slight difference in physicochemical composition [2]. Nevertheless, even insignificant differences in the physicochemical properties of oil play an important role in making design and technological decisions for the production and transportation of petroleum hydrocarbons and their refined products.

For the analysis of the physicochemical properties of oils, several fields were selected associated with various geostructural elements of the Orenburg oil and gas region. The selected fields are Pokrovskaya and Sorochinsk-Nikolskaya groups.

The physical and chemical properties of oil (raw materials) are determined by the technological conditions and the range of marketable products of its processing. At the same time, her initial processing is important.

A set of research works is carried out to determine the physicochemical properties of the produced oil, the results of which are used for its technological classification. The technological classification of OST 38.1197-80 [3] is based on the sulfur content in oils and light oil products, the yield of fractions boiling up to 350 ° C, the potential content, as well as the viscosity index of base oils and the paraffin content in oils. According to the requirements of GOST 51858 [4], oil is classified into:

- classes – by sulfur content;
- types – by density;
- groups – by to the degree of field treatment;
- form - by mass fraction of hydrogen sulfide and ethyl methyl mercaptans.

Considered oils, based on their characteristics, can be attributed to:

Pokrovskaya - Class 2 (sulfur oil, maximum sulfur content 1.52% wt.), Type 3 (heavy oil, density at a temperature of 20° C equal to 877.7 kg/m^3)

Sorochinsk-Nikolskaya – Class 2 (sulfur oil, maximum sulfur content 0.95% wt.), type 1 (light oil, density at a temperature of 20 ° C is 846.6 kg / m^3).

The results of oil testing can be used both for research purposes, and to determine the main directions of possible options for its initial preparation and improve the appropriate hardware design of the CDU installation as a function of raw materials. To build a methodology for integrated assessment of the impact of quality indicators of raw materials on the technological design of the primary preparation of raw materials, it is advisable to formalize the process [5]. To this end, we consider the set-theoretical description of the information base of raw materials.

Let B – be a finite set of physico-chemical indicators of the composition of raw materials (information elements), P - be a finite set of information attributes (grouped indicators from set B, that define classes, types, groups, forms of raw materials, etc.). It is possible to construct (develop an algorithm, methodology, etc.) an injective (linguistic) mapping

$$\alpha : B \to P, \tag{1}$$

which we call the classification function of elements of the set B. Similarly, we can construct another (hardware-technological) mapping

$$\beta : P \to B_{\text{new}} \cup D, \tag{2}$$

where $B_{\text{new}} \cup D \subseteq B$.

The mapping β leads to specified (for example, technological conditions) indicators of the composition of the raw material.

By *record* k – th type of raw materials Z^k we mean an ordered set

$$Z^k = (b_1^k, b_2^k, \ldots, b_m^k),\ b_j^k \in B,\ j = \overline{1,\ m} \tag{3}$$

where m - the number of information elements (IE) in the *record*,

k - index of relevant raw materials. *Record* Z^l *and* Z^r are of the same type (having equivalent semantic meaning) if

$$a)\ \forall\, l \neq r \quad |Z^l| = |Z^r|$$
$$b)\ \forall\, l \neq r \ \forall j \quad \left|b_j^l\right| = \left|b_j^r\right|, \tag{4}$$

where, by symbols | | certain semantic meaning is indicated.

Let *N* be the number of *records* of the same type, then

$$B \subseteq Z,\ Z = \bigcup_{k=1}^{N} Z^k, \tag{5}$$

where *k* - diversity index of raw materials (oils). The set Z is a raw material database information file.

We introduce the notion of IE, descriptions, record, and file. The description of the information element $b_j^k \in B$ is the set

$$s_j = s_j^1 \cup s_j^2 \vee s_j^1 \vee s_j^2, \tag{6}$$

where
$$s_j^1 = (P_j, t_j, d_j, h_j) \tag{7}$$

- characteristics of the main elements of information,

$$s_j^2 = (P_i, t_j, \alpha_j, \beta_j) \tag{8}$$

- characteristics of additional information elements,

$$i \geq m;\ P_i \in P, P_j \in P;$$

t_j - IE format; d_j - character range of b_j^k ; h_j - range of values that b_j^k can take; α_j and β_j - addresses of the modules of hardware and technical nodes serving the conversion b_j^k to $b_{\text{new},j}^k \in B_{\text{new}}$.

Description of the record is the matrix $S_z = (s_1, s_2, \ldots s_m)^T$, where *T* – transpose symbol.

By file description we mean aggregate $S = S_o \cup S_z$,
where $S_o = (I,\ D_z, D_B,\ R)$ - file characteristics in general:

I – file identifier (e.g. field name),

$D_z = |Z^k|$ - record length,

$D_B = nD_z$ - block length (*n* –positive integer),

R - additional characteristics.

The sets *Z, P, S,* B_{new}, *D* and the functions (mappings) α and β define a certain informational database of raw materials (hereinafter, the IDRM).

Using the presented set-theoretic model of the raw material database, one can describe the algorithm (methodology) for choosing the hardware design of the primary preparation of raw materials and evaluate the economic efficiency of applying various technological solutions to the initial preparation before the operation of the processes for obtaining marketable products.

In particular, based on the requirements for the final marketable petroleum products, the status (mandatory or undesirable) of impurities in the feed was determined (mapping α) and, accordingly, a list of acceptable methods for dehydration and desalting of the feed (mapping β) was selected. For the industrial implementation of the preparation of Pokrovskaya oil, it is shown that it is advisable to use three 2EG-200-10 electric dehydrators at each of the three stages of processing, and for the Sorochinsk-Nikolsky oil preparation, three 2EG-200-10 electric dehydrators at each of the two stages of processing should be used. Pokrovskaya and Sorochinsk-Nikolskaya oils, which underwent dehydration and desalination at the described CDU block, can be mixed and fed into the system of trunk pipelines for the purpose of their transportation to oil refineries.

The performed IDRM analysis shows a direct dependence of the influence of the physicochemical properties of the raw material on the technical and economic indicators of the processes of its preparation on CDU.

References

1. Analysis and synthesis of chemical-technological systems: [Textbook] / V.V. Kafarov, V.P. Meshalkin. - M.: Chemistry, 1991. - 432 P.: Ill. - ISBN 5-7245-0366 (Trans.).

2. Myazina N.G., Kuzmina V.V. Comparative characteristics of oil properties in deposits of the Orenburg oblast // Bulletin of Perm University. Geology. 2015. P. 57-64.

3. The industry standard of the USSR Oil. Technological indexation OST 38/01197-80 (app. 12.06.1980)

4. GOST R 51858-2002 Oil. General technical conditions (with Changes N 1, 2) (date of the last change 12.09.2018)

5. Kafarov V.V. System analysis of processes of chemical technology: the method of fuzzy sets: monograph / V.V. Kafarov, I.N. Dorokhov, E.P. Markov; under the general. ed. N.M. Zhavoronkov. – 2nd ed., Revised. and add. – M.: Yurayt Publishing House, 2019. – 360 P.

ELECTROMECHANICAL DISPERSANTS. THEORY AND TECHNOLOGICAL OPPORTUNITIES

Bezzubtseva Marina Mikhailovna
Doctor of Technical Sciences, Head of Department
Volkov Vladimir Sergeevich
Candidate of Technical Sciences, Associate Professor
Kolosovsky Vladislav Vladimirovich
Candidate of Technical Sciences, Full Professor
Saint-Petersburg State Agrarian University

Abstract. The article presents the results of studies of a new type of apparatus - Electromechanical Dispersants (EMD). The devices for grinding materials with a moving ferrodynamic medium are analyzed, their advantages and disadvantages are shown. It is noted that the modernization of traditional types of grinders does not provide a qualitative transition to the creation of apparatuses that reduce the energy intensity of products. A wide range of technological capabilities of EMD is presented and substantiated. The novelty of the structural forms of EMD is confirmed by patents for inventions. A mathematical model for calculating the power characteristics in the magnetically fluidized frotel layer during the formation of dispersing loads is presented. EMD calculation algorithms have been tested in the design of reliable devices with high energy efficiency.

Keywords: electromechanical dispersants, ferrodynamic medium, technological capabilities

Based on the analysis of devices for grinding materials based on the use of electrophysical methods of forming dispersing loads in the magnetically fluidized layer of ferrotels (grinding elements of various configu-

rations), the following groups of apparatuses were identified: mills with a quasi-stationary alternating current magnetic field; shredders with a static magnetic field of permanent magnets; dispersants with a stationary magnetic field of a direct current [1]. As practice has shown, mills with a quasi-stationary magnetic field of alternating current (vortex electromagnetic devices - VED and electromagnetic grinders- EMG [2]) contribute to the intensification of the grinding process and reduce processing time due to the complex effect of high local pressures, cavitation, friction and mixing on the material over the entire volume of the working chamber of material processing. Meanwhile, in the apparatuses of this group, the formation of dispersing loads is due to the randomness of the physicomechanical processes in the layer of grinding elements, which makes it difficult to introduce the process of effective grinding quality control into production technology to obtain selectivity indices specified by the standards.

In order to eliminate stagnant zones, static magnetic fields of permanent magnets are introduced into the design of the working chambers of traditional ball mills, which contribute to the intensification of the process by activating the movement of grinding elements during the formation of dispersing loads. Such a measure allows to intensify the processing of the material, but does not solve the basic drawback of traditional type mills – reduction of the energy intensity of the grinding process.

On the basis of numerous theoretical and experimental studies carried out in the framework of the leading scientific school "Energy Efficiency, Intensification of Electrotechnological Processes" registered in St. Petersburg (supervisor Prof. M. Bezzubtseva), a new class of electromechanical dispersants (EMD) has been developed [1]. The technological purpose of EMD is shown in Figure 1.

EMD structural diagrams are the subject of inventions (table 1).

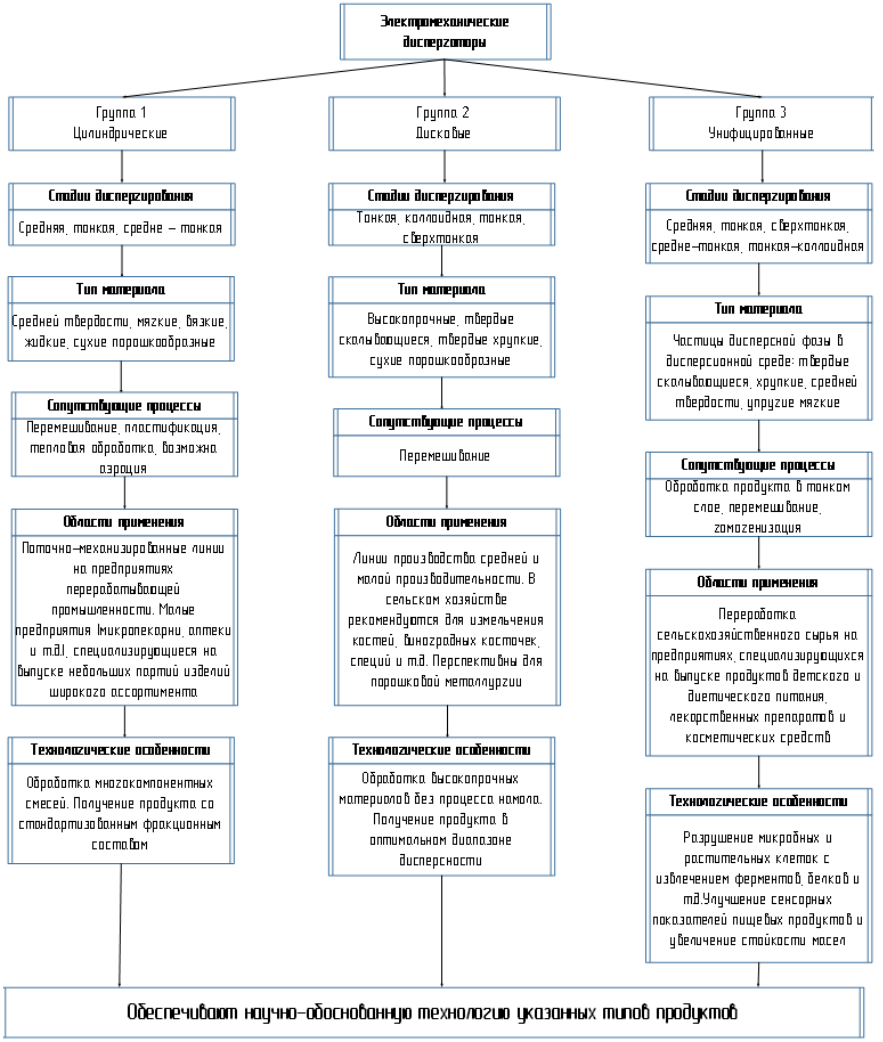
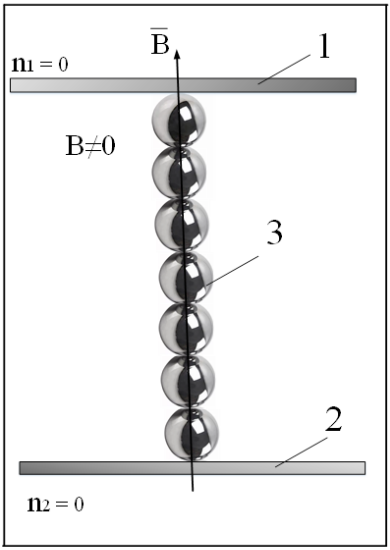


Figure 1 - Technological purpose of electromechanical dispersants

Table 1 –Intellectual Property Objects

Cylindrical EMD	Disk EMD	Unified EMD
Intellectual Property Objects		
RF patent No 1457881; RF patent No 2007094; RF patent No 2033729; RF patent No 2040185; RF patent No 2038024; RF patent No 2038023; RF patent No 2045194; RF patent No 2031593; RF patent No 2066958; RF patent 1785635; RF patent 1729383; RF Utility model 653; RF utility model 770; RF utility model 779; RF utility model No 78692; RF utility model No 86493.	RF patent No 2045195; RF patent 93050194; RF utility model No 771; RF utility model No 84263.	RF patent No 2007095; RF patent No 2043727; RF patent No 93021682; RF patent No 1546050; RF utility model No 772.



a

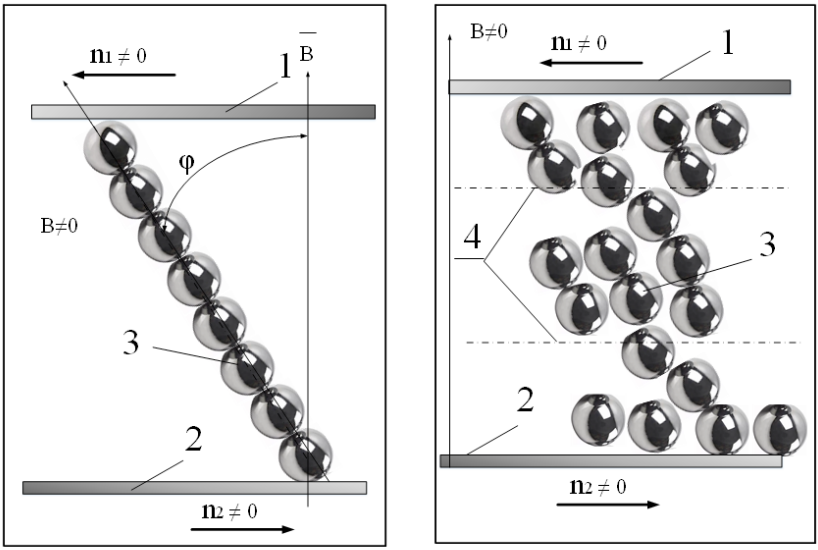


Figure 2 - Cluster of the formation of dispersive loads in a ferrodynamic medium of the working volume of the EMD:

1, 2 – surfaces bounding the grinding chamber; 3 – ferroballs (elements of a magnetically fluidized bed); 4 – the boundary layer of the reorientation of ferroballs; $\overline{A}$ – induction vector of the electromagnetic field; n_1, n_2 - the frequency of displacement (or rotation when using the surfaces of coaxial cylinders) of the surfaces (respectively of the outer and inner) of the working chamber; **j** - the angle of deformation of the chain of ferrobodies:
a – intermediate structure of the formation of compressive loads in a ferrodynamic medium (under $B \neq 0$, $n_1 = 0, n_2 = 0$); b - intermediate structure of the formation of compressive-abrasive loads in a ferrodynamic medium; c – structure of formation of shock-compressive-abrasive loads in a ferrodynamic medium.

The cluster of the formation of dispersive loads (shock, compressive and abrasive) in a ferrodynamic medium from spherical grinding bodies under the action of two energy flows (constant electromagnetic field energy and energy from a drive electric motor) in EMD working volumes is shown in Figure 2a, b and c.

Mathematical modeling of force contacts in a ferrodynamic medium was carried out on the basis of the development of Maxwell's physical model on the interaction of metal balls in a magnetic field [3]. Given the Maxwell dipole model, the force $\bar{F} = (F_X, F_y, F_Z)$ is determined by expressions [4]

$$\left.\begin{aligned} F_X &= \frac{1}{2}\frac{\mu-1}{\mu+2}R_0^3\frac{\partial H^2}{\partial x};\\ F_y &= \frac{1}{2}\frac{\mu-1}{\mu+2}R_0^3\frac{\partial H^2}{\partial y};\\ F_Z &= \frac{1}{2}\frac{\mu-1}{\mu+2}R_0^3\frac{\partial H^2}{\partial z}. \end{aligned}\right\} \quad (1)$$

where m – magnetic permeability; H – electromagnetic field strength.

The force of interaction in the contact system of two ferroballs of radius R_0 in the ferrodynamic medium under consideration

$$Fr = \frac{1}{2}\frac{\mu-1}{\mu+2}R_0^3\left.\frac{\partial H^2}{\partial r}\right|r = 2R_0 \quad (2)$$

Given the fact that the scalar magnetic potential that describes the field outside the ball in a uniform magnetic field is determined by the formula

$$\Phi e = H_0\left(r - \frac{\mu-1}{\mu+2}\frac{R_0^3}{r^2}\right)\cos\nu\ , \quad (3)$$

and at a point with spherical coordinates r,n,j the magnetic field strength caused by this potential has the form:

$$\left.\begin{aligned} Hr &= \frac{\partial \Phi e}{\partial r} = H_0\left(1+2\frac{\mu-1}{\mu+2}\frac{R_0^3}{r^3}\right)\cos\nu; \\ H\nu &= \frac{1}{r}\frac{\partial \Phi e}{\partial \nu} = -H_0\left(1-\frac{\mu-1}{\mu+2}\frac{R_0^3}{r^3}\right)\sin\nu \\ H\varphi &= 0 \\ H^2 &= Hr^2 + H\nu^2 + H\varphi^2 \end{aligned}\right\} \quad (4)$$

then the force of interaction of the ferroballs (or the force of action of the ferrodynamic medium on the processed product) can be determined by the formula

$$Fr = \frac{1}{2}\frac{\mu-1}{\mu+2}R_0^3\left.\frac{\partial H^2}{\partial r}\right|r = 2R_0$$

Or .

$$Fr = -\frac{3}{256}H_0^2R_0^2\frac{(\mu-1)^2}{(\mu+2)^3}\left[(13\mu+11)+9(3\mu+5)\cos 2\nu\right]. \quad (5)$$

The momentum of interaction forces of the field with elements of a ferrodynamic medium has the form

$$M_U = -\frac{3}{128}H_0^2R_0^2\frac{(\mu-1)^2}{(\mu+2)^3}(17\mu+31)\sin 2\nu \quad (6)$$

where n – the angle of deformation of the structural group of ferrospheres.

Value of angle n determines the strength of the interaction between the elements and characterizes the process of organization and destruction of structural combinations in the cluster of the formation of dispersive loads in the magnetically fluidized bed of a ferrodynamic medium.

The presented mathematical model for calculating the forces and moments acting on the ferrodynamic medium in the working volumes of EMD was tested in the design of reliable and highly energy-efficient devices for agricultural enterprises [5].

References

1. Bezzubtseva M.M., Volkov V.S. Mechanical activators of the agro-industrial complex. Analysis, innovation, invention: monograph. - SPb.: SPbSAU, 2014. - 161 P.

2. Logvinenko D. D., Shelyakov O. P. Intensification of technological processes in devices with a vortex layer. – Kiev: Technics, 1976. – 144 P.

3. Maxwell J. K. Treatise on electricity and magnetism. Vol 1. – M. – Science, 1989. – 416 P.

4. Bezzubtseva M.M., Volkov V.S. Applied research of electromagnetic mechanical activators: monograph. LAP LAMBERT Academic Publishing. – 2016. – 174 P.

5. Bezzubtseva M.M., Volkov V.S., Obukhov K.N. The scientific rationale for the introduction of the import-substituting method of electromagnetic mechanical activation in the hardware-technological systems of chocolate production: monograph. – SPb.: SPbSAU, 2016. –197 P.

Scientific publication

International Conference
"Process Management and Scientific Developments"

Birmingham, United Kingdom
(Novotel Birmingham Centre, November 14, 2019)

Signed in print 18.11.2019 г. 60x84/16.
Ed. No. 2. Order 182. Circulation of 500 copies.
Scientific publishing house Infinity, 2019.