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SEEBURGSTRASSE 7,  
5201 SEEKIRCHEN AM WALLERSEE,  
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[PUBLISHER@DOAJ.NET](mailto:PUBLISHER@DOAJ.NET)

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## FEATURES OF MODERN FOREIGN POLICY DEVELOPMENT OF GEORGIA

The urgency of the researched problem is caused by the fact that small states play a special role in modern world politics and interest in them is rapidly growing. The purpose of the article is to study the features of small post-Soviet states integration (on the example of Georgia) into the system of international relations against the background of the ongoing transformational processes. The leading approach to the study of this problem was the institutional method, which enabled us to show the forms of international legitimization of small states. The special role of the UN in the statehood formation of new subjects of political interaction. It is concluded that small states need to strive for a realistic understanding of their place in the regional and global space of world politics. The materials of the article may be useful as analytical material for the relevant departments, and for practical use by departments and organizations involved in foreign policy formulation.

### Keywords

transformation processes, international relations, geopolitics,  
national interests, international organizations

### AUTHORS

#### **Zeynab Z. Bakhturidze**

Doctor of Political Sciences, Professor of the Department of International Relations  
Peter the Great St.Petersburg Polytechnic University (SPbPU),  
29, St.Petersburg, Polytechnicheskaya str., 195251, Russia.  
E-mail: zeinabb1000@list.ru

#### **Natalia A. Vasilyeva**

Doctor of Philosophy, Professor of the Department of World Politics,  
Faculty of International Relations, St Petersburg State University,  
11, Lieutenant Shmidt Emb., St Petersburg 199034, Russia.  
E-mail: n52basil@gmail.com

### **The role of small states in contemporary international relations**

The intricate "segmentation" of international relations sphere in the 21st century leads to a number of difficulties, for example, in understanding the nature and ways of the world community development. 51 states joined the UN in 1945, and today 193 states are members of this universal organization. In addition, a segment of large states with large population dominated on the political map of the world not long ago, but now most states can be classified as small in size and population sovereign entities. In 2012, Georgia participated in a solemn reception in New York on the occasion of the 20th anniversary of the former Soviet republics joining the United Nations, which gave grounds for analyzing the foreign policy results of those decades. First of all, it should be noted that the UN has become an important platform for Georgia, as a small state, on which it could engage in diplomatic activities.

Georgian political scientist A. Rondeli is right noting: "In our politicized world, where it is still very important to have economic and military power, that primarily determine the" weight "and influence of this or that state in international relations, small states take a special place and interest in them is growing rapidly". According to Alexander Rondeli, "the viability

and "vitality" of small countries, their functions in the international political and economic systems, as well as the processes and peculiarities of young independent states statehood formation are of particular interest "(Rondeli). Indeed, one of the most urgent problems for new members of the international community is the problem of acquiring real international recognition, which is especially difficult for small states that first enter the international scene. The democratic character of the United Nations Charter principles established a unique opportunity for small states, along with the world's leading states, to discuss and make decisions on the most important problems of our time. Thus, a certain disappointment of the United States in the activities of the United Nations is also due to the fact that often most of the member countries do not support their position (for example, about a military operation in Iraq in 2003), and small states hold the majority. It is important to understand that strengthening of the small states role in world politics is associated with strengthening of international organizations positions, which provide conditions for the non-discriminatory nature of the interactions of all participants within the framework of international law. In addition, a great influence on the importance of small countries have "geographical, political, ethnic and economic conditions and factors, as well as the interest of strong countries in the existence of small states. Small countries help maintain a balance of power at the global and regional levels, and their existence is determined by a functional need "(რონდელი, 2003).

For example, the new independent states of the South Caucasus (Azerbaijan, Armenia, Georgia) have found themselves at the center of geopolitical interests of world powers - the US, Russia, EU, and Turkey, that created difficult conditions for their foreign policy line. The situation was complicated by the intricate system of relations between the former Soviet republics, interethnic conflicts, and the problem of disputable territories belonging. It is worth noting that the Transcaucasian republics "used integration ties in the formation of their statehood very actively ", since "many of them saw the path to their own success in cooperation with other, often more powerful states" (*Pototskaya, 2014*). In this regard, we should note the activity of international organizations such as the EU and NATO, which began to draw small states of the South Caucasus into their areas of influence gradually (programs: "Greater Europe - Neighbors: A New Basis for Relations with the Eastern and Southern EU neighbors" and "Partnership for peace ").

### **Features of Georgia's entry into the system of international relations**

It is difficult to argue with A. Rondeli's conclusion that "the national interests and priorities of the small country foreign policy sometimes go beyond the regional dimension. This is because small states find themselves in the sphere of major powers interests' intersection. Political and economic opportunities and actions of small countries, neighboring large states, acquire special significance" (*Pototskaya, 2014*). On the one hand, small states often play a big role in history, and on the other hand, they "can really serve as a kind of bargaining chip in the politics of world powers" (Huseynov). Moreover, "there are often great powers competing for economic and political influence behind the back of local conflicting parties..." (*Arbatov, 2012*).

In this regard, the history of Georgia's entry into the system of international relations is very indicative. It was this small state that turned out to be in the center of geopolitical interests of the major world politics players who had a desire to drive out their competitors from the foreign policy priorities of Georgia and its neighbors in the South Caucasus region. Georgia became the member of the UN and OSCE and the associated member of the North Atlantic Alliance under Shevardnadze, when the country's leadership "set their hopes on cooperation with NATO" (*Gudiashvili, 2014*). Georgia joined the CSCE (now OSCE) on March 24, 1992. In May 1992, Georgia acceded to the Treaty on Conventional Armed Forces in Europe, and on July 31, 1992, two weeks before the war with Abkhazia, Georgia became the 179th member of the United Nations.

In March 1993, at the NATO Headquarters in Brussels, the Georgian parliamentary delegation held talks with the leadership of the North Atlantic Alliance. Then a delegation of the Georgian Defense Ministry arrived there and took part in the meeting of the defense ministers of the North Atlantic Cooperation Council. All these diplomatic efforts of the Georgian leadership were aimed at getting international support for their actions in the conflict with Abkhazia. However, "having lost hope for the UN peacekeeping operation in Abkhazia, the Georgian leadership appealed to the heads of the CIS members with the same request. The decision was made and peacekeeping forces of the CIS were deployed in the conflict zone."<sup>1</sup> Thus, the defeat of government troops in Abkhazia and the escalation of the civil war forced the Georgian leadership to adjust the foreign policy course in autumn of 1993. It was a situation when no longer the West, but Russia played the role of peacekeeper, which significantly strengthened its position in the Caucasus region. The two-year stage of rapprochement with Russia began. However, guided by pragmatic considerations, Georgian diplomacy tried to establish useful contacts in all possible directions, and did not reject a multi-vector foreign policy.

When a dilemma arose before Georgia in the 1990s - to direct its efforts toward integration with Russia or towards the EU, the reason for choosing a pro-Western policy in Tbilisi was the need to solve economic problems, the problem of preserving territorial integrity and the security problem. Without receiving the expected support from Russia, Georgia set its hopes for Western countries. In search of more effective and mutually beneficial schemes for regional cooperation, Georgia actively participates in a new model of regional cooperation – GUAM (Organization for Democracy and Economic Development). As a result, there was a situation when the United States and the EU began to help Georgia actively, and Russia supported Abkhazia and South Ossetia. It is important to emphasize that in this dispute between Russia and the West regarding Georgian statehood, both sides turned to international law. The parties appealed to various provisions prescribed in the UN Charter. In one case, emphasizing the advantage of the provision about the right of nations to self-determination; in the other, the provision about the inviolability of states' sovereignty<sup>2</sup>.

Recognition of South Ossetia and Abkhazia independence by Russia has once again demonstrated a wide range of possibilities for interpreting UN regulations. Despite the fact that when Georgia joined the UN, Abkhazia and South Ossetia were officially parts of its territory, Russian President Dmitry Medvedev issued a decree recognizing their independence, appealing to the UN Charter, the 1970 Declaration, the 1975 Helsinki Final Act of the CSCE and other fundamental international documents. The work of the OSCE and UN missions in Transcaucasian region did not help (as in many other situations) to find a compromise, peaceful solution of the conflict lasting over a decade and a half (*Zagladin, 2010*).

### **Current trends in foreign policy of Georgia**

In fact, the internal political conflict that developed into separation of Abkhazia and South Ossetia from Georgia determined Georgia's current positions in international relations. Unfortunately, Georgia often acts not as a subject of international relations, but as an object of geopolitical struggle between Russia and the West. In a sense, the political postulate is that small states are always under the geopolitical influence of world leaders. Virtually all of their policies are determined by the decision: whose side they would take in the disputes of these states. Since "the role of a bargaining chip brings a certain benefit to small states: financial injections, the construction of industrial facilities on their territory and the training of national personnel with the help of great powers" (*Komleva, 2010*).

However, in the conditions of the second decade end of the 21st century, Georgia demonstrates a number of new approaches to the old problems. Thus, the current leadership of the republic proceeds from the premise that small states are to make every effort to use all possible diplomatic forms for the peaceful resolution of internal political conflicts, and to strive for a balanced realistic understanding of their place both in the



regional South Caucasus space and in the space of world politics. In the opinion of Zurab Abashidze, the special representative of the Georgian prime minister for relations with Moscow, the diplomatic "method of small steps" has come to the fore recently, which allows finding solutions in areas not related to conflict issues. In this regard, the results of the meeting of Georgia and Russia special representatives on trade issues in Prague in 2017 are very promising. They decided to bring new life to the Agreement on Trade Corridors (2011), according to which the contracting parties can trade and develop transport communications through Abkhazia and South Ossetia without touching on the status of former Georgian autonomies<sup>3</sup>.

This agreement became possible thanks to the mediation mission of Switzerland, which made a proposal in 2011 to create an electronic system for tracking the movement of goods in the Abkhazia and South Ossetia sections of the border. This option made it possible to avoid Moscow's formal recognition of these operations status as Russian-Georgian trade, that is, without formal recognition of South Ossetia and Abkhazia as parts of Georgia. However, the agreement was not implemented at that time, so "defrosting" of the document in 2017 inspires great hopes for the development of a pragmatic line in relations between Georgia and Russia.

It should be noted that, despite the declared foreign policy goals of cooperation in various fields (economic, social, and legal), Georgia focuses its main efforts on the sphere of security. According to the German expert of the Science and Politics Foundation, Uwe Halbach, NATO membership is a priority of Georgia's foreign policy. "68% of 2017 poll respondents approved the country's joining the alliance, 21% - opposed it. Most of those who said "yes" expected that NATO membership would provide greater security for the country, the rest - that it would improve the chances of restoring territorial integrity and protect Georgia from Russia. Most of those who opposed the North Atlantic integration thought it would cause a conflict with Russia."<sup>4</sup> Thus, one cannot say that the position of the Georgian leadership is fully supported by the population of the country. Moreover, there is no clear timetable for the country's joining the alliance. New approaches emerged, such as the recent plan of the Heritage Foundation, which discussed an alternative scenario for Georgia joining the alliance without applying collective defense - Article 5 of the charter - to Abkhazia and South Ossetia. But in this case, according to the Georgian expert Arno Khidirbegishvili, both republics will immediately become part of the Russian Federation.<sup>5</sup>

The position of Russian side concerning Georgia's joining NATO was commented on by the project director for Asian Security at the PIR Center, Vadim Kozyulin, who noted that NATO encourages the Georgian leadership to fulfill the requirements necessary for implementing the procedure for admission to the alliance. According to him, formal joining NATO for Georgia is currently difficult even theoretically - this is due to the existing territorial dispute, but the authorities are trying to enlist the support of NATO. In reality, the desire of Georgia to join the alliance has become one of the main causes of the conflict with Russia. This conflict of interests will not disappear. Therefore, probably, it is not necessary to hurry, if the authorities of the country want to develop relations with Moscow.<sup>6</sup>

Georgia turned out to be an important territory in the geopolitical struggle not only in the military-political sphere, but also in the economy, primarily in the energy sector. This struggle developed between Russia and the West for the transportation routes of energy resources from the Caspian fields. The construction and use of pipelines passing through Georgian territory promises Georgia economic stability and support of the West. Its transit potential in the implementation of the Eurasian trade and transport corridor project, bypassing Iran and Russia, worsens the geoeconomic positions of these counterparties of the United States and the EU. Due to the possibility of conducting the most profitable overpasses for the transportation of oil and gas from the countries of Central Asia and the Caspian region to Europe through Georgia, foreign policy actions of this insignificant in the world politics country, began to influence the situation in both the South Caucasus and the



whole post-Soviet territory. Thus, Georgia's geopolitical position had a significant impact on its entry into the system of international relations, characterizing Georgia as a battlefield between the US and Russia.

American expert Dmitry Simes notes the mistakes made by Georgian, American and Russian governments, which led to increased tensions in the region:

- The United States has shown interest, primarily related to Caspian oil access, and here their economic and political interests collide with the interests of the Russian Federation;

- European countries are also interested in the energy resources of the region, but at the same time, they hope to use Georgia as a connecting link between Europe and Asia, bypassing Russia (*Simes, 2007*).

Thus, the current foreign policy of Georgia retains the previous contradictions: on the one hand, there is an objective need for pragmatic negotiations with Russia on socio-economic and cultural issues, and on the other hand, the close military-political and economic ties with Western countries do not allow the Georgian leadership to make serious compromise decisions. The rhetoric of the Georgian authorities, unfortunately, is "devoid of logic", as noted Georgian expert Arno Khidirbegishvili. As an example, the expert cited the situation when the exclusively peaceful solution of Georgia-Abkhazia-South Ossetia problem is constantly being declared, and the new initiative of the Prime Minister of Georgia "Step to a better future" is widely discussed where the benefits for the residents of Abkhazia and South Ossetia. This document states at the same time that Russia is the main danger for Georgia, which conducts a hybrid war against it in all possible ways.<sup>7</sup>

In this connection, the discussion of Russian and Georgian experts during the video bridge "Russia and Georgia in a New International Context" (2017) was interesting. The participants of the meeting noted that the absence of diplomatic relations between Russia and Georgia does not create obstacles for trade, tourism and cultural exchange. At the same time, the international context of relations is changing: the European Union is going through a crisis, including that related to the migration and withdrawal of the UK from the EU. According to the Georgian professor Joseph Archvadze, the knots of contradictions between Russia and Georgia may be tightened from the political point of view, but there are attempts to loosen these knots from the economic point of view, as it is evidenced by the growth of the foreign trade turnover with Russia. And on this indicator, Russia approached the leader of the trade turnover with Georgia - Turkey. Geographically, Georgia could play a key role in the distribution of Russian goods, not only in the Caucasus, but also in Asia. Moreover, Georgia itself can offer its goods to Moscow - and they are not just food products. The expert noted that, for example, only during last four months Georgia supplied ferroalloys to Russia for an amount that exceeds the amount of wine and mineral water supplies. In his turn, independent Georgian expert Zaal Andzhaparidze added that there is a tangible progress in the economic sphere, trade and tourism. In 2016, Russia was included in the top three foreign trade partners of Georgia.

However, Nikolai Silaev, Russian participant of the discussion, reminded that trade would develop, but more complex joint economic projects, including energy programs, would require political rapprochement. Moreover, a moderate rapprochement, which would not require the parties to renounce their principle political positions. First, this concerns the status of Abkhazia and South Ossetia. At the same time, according to Vadim Kozyulin, there is obvious warming in the relations between the peoples of Russia and Georgia today. Georgia has become a place of attraction for Russian tourists, Georgian wines are popular in our country. It seems that a new model of consumer good-neighborliness develops with relatively cool political relations. Russians enjoy Georgian hospitality, and Georgian businesspersons have the opportunity to make profits on Russian tourism and food market. This is a good trend.<sup>8</sup>

Thus, the experience of Georgia's participation in the system of international relations testifies that small states need, on the one hand, to bend every effort to the use of all possible diplomatic forms for the peaceful resolution of internal political conflicts. On the other hand, they must strive for a balanced realistic understanding of their place, both in the regional space and in the global space of world politics, using the diplomatic method of "small steps" and the model of consumer good-neighborliness.

<sup>1</sup>From the speech of the President of Georgia Eduard Shevardnadze at the meeting of the UN Security Council. URL: <http://www.apsny.ge/notes/1128652210.php>

<sup>2</sup>See more details: UN Charter. URL: <http://www.un.org/en/charter-united-nations/index.html>

<sup>3</sup>Relations between Russia and Georgia lead to corridors. - <https://www.kommersant.ru/doc/3212988>

<sup>4</sup>The issue of Georgia's admission to NATO does not have a simple and quick solution - international experts. - <https://penzanews.ru/analysis/125861-2018>

<sup>5</sup>Ibid.

<sup>6</sup>Politics does not keep up with the economy: experts about Russia-Georgia relations. - <https://ria.ru/world/20170425/1493098583.html>

<sup>7</sup>The issue of Georgia's admission to NATO does not have a simple and quick solution - international experts. - <https://penzanews.ru/analysis/125861-2018>

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## DEVELOPMENT OF INFORMATION AND COMMUNICATION INFRASTRUCTURE OF RELATIONSHIP MARKETING BASED ON MODERN MOBILE TECHNOLOGIES

The relevance of the problem is due to the fact that the influence of the digital economy transforms consumer behavior and determines the development of information and communication infrastructure of relationship marketing in the activities of companies. The purpose of the article is to justify the use of mobile technologies in the framework of improving the quality of individual relationships between the company and the target consumer. The leading approach to the study was a generalization of scientific and practical study of the specifics of mobile marketing, conducted by modern Russian scientists and practitioners. The article discusses various options for the use of mobile marketing in practice: the creation of a mobile version of the corporate site, an adaptive version or the development and promotion of mobile applications. The advantages and disadvantages of each option are presented and it is proved that the use of mobile technologies for the company is an instant connection with the consumer, the solution of his problems, the provision of information, goods, services in the place where it is most convenient for him. The article can be useful in the marketing activities of companies in the formation of online strategy to attract and retain consumers through the use of mobile devices in order to develop mutually beneficial long-term cooperation.

### Keywords

information and communication technologies,  
relationship marketing, mobile marketing

### AUTHORS

#### **Victoria A. Bondarenko**

Doctor of Economics, head of the Department of Marketing and advertising,  
Rostov state University of Economics (RINH), Rostov-on-Don,  
Rostov State University of Economics,  
69, Bolshaya Sadovaya str., Rostov-on-Don, 344002, Russia.  
E-mail: b14v@yandex.ru

#### **Olesya V. Ivanchenko**

Candidate of Economics, head of the Department of Marketing and advertising,  
Rostov state University of Economics (RINH), Rostov-on-Don,  
69, Bolshaya Sadovaya str., Rostov-on-Don, 344002, Russia.  
E-mail: iovkmr@mail.ru

## Introduction

At present, the development of digital economy and globalization of the information and communication space have a significant impact on the behavior of goods and services consumers. In turn, the transformation of consumer behavior actualizes the development of information and communication infrastructure for relationship marketing in the activities of companies.

Within the consumer orientation, such elements of the information and communication infrastructure of relationship marketing as Internet advertising, search promotion, digital TV, promotion in social media and blogs, creation of mobile applications for smartphones, tablets and other media, provide competitive advantages by improving the quality of individual relationships between the company and the ultimate consumer (*Ivanchenko, 2017*). At the same time, mobile technologies, which are one of the key tools of Digital Marketing, form the company's online strategy for attracting and retaining consumers on the basis of mutually beneficial long-term cooperation with the help of mobile devices.

## Materials and Methods

Internet technologies have become an integral part of modern society and have penetrated into all spheres of social interaction. Almost all their free time consumers spend with gadgets, accelerating an already rapid rhythm of life and enabling instant information exchange. All these factors result in omnichannel buyers who buy both in offline stores, and via their mobile phones, tablets, computers (*Ponomareva, 2016*).

This trend can be confirmed by the data of the All-Russia Omnibus GfK, according to which by early 2018 the level of Internet penetration in Russia grew from 70.4% to 72.8%, and the mobile Internet audience grew by 20% - from 47% to 56%. As a result of 2017, the audience of Internet users was 67 million people. First of all, the growth of the mobile Internet audience is connected with the growth of smartphone penetration - at the beginning of 2018 more than half of the Russian population (51.5%) used Internet access from smartphones. Most of the increase of Runet users is provided by the older generation, as the level of network use among young people reached the maximum levels as far back as 2016. According to GfK, 36% of Russians over 55 use the Internet. In the 30-54 age group, this figure is 83%, and among the youth - 98% (*GfK, 2018*).

The development of mobile technologies leads to an online trading sales increase. Mobile devices simplify the process of buying and selecting goods, enable you to compare prices and choose the best option while away from home. For example, mobile online price aggregators are sites that collect and systematize data on products presented in catalogs of online stores registered in the system and prices set for each product. These sites accumulate prices, consumers' feedback, provide a complete description of the goods, services, photographs, which makes the search for information easy, saves time and, as a result, significantly helps to make a purchasing decision, including that via mobile devices (*Bondarenko, Ivanchenko, Mirgorodskaya, Dadayan 2016*).

In this regard, producers of goods and services should take into account the behavior of the Internet-dependent generation Z, which will replace the millennials.

Due to their compactness and Internet access, smart phones and tablets have gained special consumers attention, 87% of the world's population uses mobile phones. Already in 2016, the number of Internet visits from mobile and tablet devices outperformed those from PCs. Bearing it in mind companies are to develop mobile marketing and modify companies' Web sites.

An important component of mobile marketing is the site's design for smart phones and mobile phones, its convenience for mobile users of all kinds of smart phones and tablets, though it usually having been designed and developed exclusively for users of ordinary desktop computers with a large screen. Now, the share of so-called mobile site users in many site's categories is approaching the share of ordinary users and even exceeds them (*Popov, 2015*).

## Discussions

Moreover, according to the latest data, in the near future more than 90% of all Internet traffic will fall to the mobile users share. It causes a number of problems (the site looks ugly, the text is small and uncomfortable for reading, problems with pages scrolling, site navigation problems, etc.), which must be solved. Mobile marketing involves three options: the creation of a mobile version of the corporate company's website, an adaptive version, or the development and promotion of a mobile application.

A mobile site version is a separate full-fledged project with the a special design, optimized content and usability. This version designer's task is to convey the meaning and basic ideas of the company correctly using a small screen and just one column. The content is shortened, if necessary, by removing less important information blocks and leaving the most important ones. The organization of the site and functions are completely changed, only the style of the site, some of its categories and the content are repeated, so that the user knows that he is on the same site (*Popov, 2015*).

Such version of the site is able to tackle with all complex and sensitive issues. Mobile site is created using flexible technologies: mobile structure, mobile images and the possibility of using specific device functions.

Besides the fact that adapting the site for smart phones gives access to a very wide audience, there are other reasons for creating a mobile version of the site. First, a mobile version of the site makes life easier for its "mobile" visitors, that is, potential buyers. There is no need for horizontal scrolling, everything is displayed and functions the right way. Secondly, a mobile version is easier, so it loads faster than the full version of the site. It means that the visitor will not close the page and go to another site. And thirdly, search engines use mobile search for phones, so the mobile version of the site will be ranked higher, and there will be more redirections onto the site, which is to increase a number of possible visitors (*Garaev, 2015*).

Besides the site's mobile version, an adaptive version of the site - a special design of web pages, through which the site is conveniently and clearly displayed on various devices that have access to the Internet - can be used. To adapt a site for mobile devices and tablets means to implement a special layout thanks to which the site will look properly on different screens. The "weight" of the site's adaptive version is not less than that of the main one, but due to adaptive design technologies the functionality of the site does not suffer at all.

Advantages of adaptive design are:

- Relevant display of web pages and all site elements on any devices due to adaptation of styles to mobile browsers;
- Meets Google's requirements for viewing convenience on mobile devices;
- Convenient to develop, the cost is lower than the creation of a mobile version;
- One url for a regular site version and an adaptive one, so users are not to be redirected and visitors need not to remember an individual subdomain address (*Voitishek, 2016*).



Another element of mobile marketing is creation and promotion of a special mobile application. We'll consider the merits of applications for smartphones and tablets from a technical point of view and in terms of marketing.

1. **Functionality.** Mobile applications are very rich in functionality, they have access to the mobile device's navigation and camera, as a result they have a lot of functions that will be useful to any entrepreneur.

A mobile site is limited in its functions and features, it is actually the same site, only convenient for viewing from a mobile device.

Mobile applications are only for target consumers. A user sets any application only when he is interested in this service or information, he will never install the app if he is not interested. Besides applications tailored to a specific platform, for example, IOS or Android.

A mobile site is used not only by targeted consumers, it is not designed specially for this or that device. Its information is available for a significantly greater number of people, but the conversion of views and buyers is ten times lower than that of an application.

2. **Usability and integration with services.**

Mobile applications perfectly interact with all integrated services: social networks, GPS - navigation, notifications. A high-quality and intuitive interface makes the application as user-friendly as possible.

A mobile site does not always interact well with various services, and it is not always displayed correctly on mobile devices and personal computers.

3. **Promotion.**

Mobile applications are located in Appstore and Googleplay stores, users can find them there. It can be promoted together with a personal brand of an institution or a company that uses the application for its commercial and non-commercial purposes.

A mobile site has own advantages in promotion, and can be promoted using search engines.

Applications for smartphones and tablets are one of the ways to access a website. A mobile version of the resource performs a similar function, so they are similar to each other. However, mobile applications have key advantages, the main ones being the following:

1. Applications support functions that are vitally important for mobile gadgets owners. For example, they enable to enter data using the "SWYPE" technology.

2. Applications are traffic efficient, which is extremely important because of the high cost of mobile Internet.

According to Clutch, a leading research center for the mobile applications development, small and medium-sized business owners distinguish three main goals of mobile applications (*Gothankar, 2016*):

1. **Improve the quality of customer service.**

Applications can be used for communication with company's potential customers and starting a direct two-way communication. Using such applications the brand can award coupons and loyalty programs to its customers, motivating them to come back again and again. Since customers are constantly moving somewhere and are not at their PC most of the time, an application will give them the opportunity to communicate with an operator, wherever they are.

2. **Increase in sales.**

One of the ways to increase sales is to offer a real incentive to download applications to new potential customers. Special offers, promotions or competitions can be considered as such motivational drive. Accessibility for customers. For example, information about store's novelties or offers can be sent using push notifications. It will also be possible to



use another popular mobile tool to increase sales - a loyalty program that encourages regular customers.

### 3. Successfully compete with large companies

Today's availability of such solutions enables more and more small businesses to create applications that will help them to become one level with larger competitors. Mobile applications also contribute to the understanding of individual markets. The young audience is completely mobile and an app is one of the opportunities to enter the market the company is striving for.

As a result all these three goals work together: excellent customer service helps to increase sales, thereby enabling to function better in a competitive market.

Regardless of the initial reasons for creating applications, most small businesses note that their applications provide a unique way to create brand loyalty by building one-to-one relationships with customers (*Gothankar, 2016*).

In general, we can distinguish the following features of the mobile application in comparison with other channels:

1. Expansion of the client base due to active users of mobile devices
2. Investments in the creation of a mobile application is more profitable compared to investing in other advertising channels. A mobile application is characterized by a fast payback period. Clear analytics gives an opportunity to monitor the effectiveness of the action in real time and instantly make changes
3. Mobile applications are an indicator of the company's image, which firmly gains a foothold in the minds of customers, creating a clear advantage over competitors.
4. Companies that have implemented mobile applications note an average increase of 50% in secondary sales (*Kataev, 2017*).
5. Mobile applications are a possibility of instant (ongoing) interaction with customers. Push-messages sent via mobile applications are characterized by the highest percentage of openness among all other types of mailings.
6. Mobile applications provide an interesting and rare opportunity to introduce loyalty programs with the help of GPS coupons and QR coupons. Such programs increase the physical flow of customers into the business space significantly.

## Conclusion

Summarizing the foregoing, we point out that mobile technologies open up new opportunities for modern consumers (instant information search, the ability to connect with other users, access to social media, one-click-purchase facilities), and in this regard, the latter become very dependent on them. For a company such use of mobile technologies is not just a mobile advertising. It is an instant connection with the user, solving his problems, providing information anywhere it is convenient for him. Therefore, a mobile site or an application is mandatory in the development of information and communication infrastructure for relationship marketing in companies' activities.

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## SUFFICIENCY OF SEVEN SIMULTANEOUS INTERACTION WAYS OF TWO OPPOSITES FOR THE EMERGENCE OF AN INFINITE SET OF IRREDUCIBLE DEVELOPMENT POSSIBILITIES

### Abstract

The actuality of contradiction category as an issue of dialectical logic is due to the fact that contradiction is the proper cause of development but, being a form of inventive (creative) task, it rarely becomes the object and purpose of invention. The purpose of this article is to invent a new idea of contradiction. The leading approach to achieve this goal is dialectical logic and the algorithm for solving inventive tasks. The article establishes a conceptual isomorphism, with an accuracy up to a number of parameters, of a dialectical problem of inherent simultaneous methods of interaction of two opposites and a minimax problem solved by mathematicians, in which, beginning with seven parameters, an infinite set of irreducible types of discrete structures emerges, arising within a continuous environment and stable in relation to small changes. The proposed idea of a new categorical structure of dialectical contradiction differs from its traditional understanding and the concept of multipolarity, which reduces the interaction of opposites to unity and struggle, because it reveals seven inherent simultaneous methods of interaction of two opposites, necessary and sufficient for the emergence of an infinite set of irreducible development possibilities. The article contains a description of this alternative idea pedagogical implementation in the form of a self-referent structure of a creative seminar on the system of the continuous development of creative thinking with the active use of inventive tasks solving theory. The materials of the article may prove to be useful not only for further theoretical development of dialectical contradiction category, but also for improving the creative methodology of TRIZ pedagogy.

**Keywords**

dialectical contradiction, stable non-equilibrium of self-denial,  
seven-parameter interaction of two opposites,  
reflective determinateness of contradiction,  
infinite set of irreducible development possibilities,  
algorithm for solving inventive tasks, creative seminar,

**AUTHOR****Alexander Grigoriev**

PhD, Associate Professor, Philosophy and Social Sciences Chair,  
Institute of Social Engineering, Siberian State University of Science and Technologies  
named after academician M.F. Reshetnev, Krasnoyarsk, Russia  
31, Krasnoyarsky Rabochy Av., Krasnoyarsk, 660037, Russia  
E-mail: grigoriev.sibstu@yandex.ru

**1. Introduction**

The purpose of this work is to substantiate a new idea of dialectical contradiction, and its task is to establish conceptual links between theories that were previously thought to be essentially unconnected with each other. The work refers to the field of "Philosophy", "Dialectics" section.

At what minimum number of simultaneous different ways (degrees of freedom, parameters) of interaction of two opposite sides does an infinite set of irreducible development opportunities (tendencies) emerge?

The expression "degrees of interaction freedom" is used here in a sense analogous to the one in which the phrase "degrees of quantum strings movement freedom" is used in modern physics (Klyagin, 2011). The phrase "degree of interaction freedom" is used as the semantic equivalent to the term "parameter" in order to establish in one respect the possibility of obtaining the physical meaning of a dialectical contradiction, and in another, the conceptual connection of dialectics with the theory of differentiable reflections features in order to bring substantiation of the necessity and sufficiency of seven simultaneous ways of opposites interaction for the emergence of an infinite set of irreducible to each other development possibilities up to the stage of accurate proof.

**1.1. Topicality of the problem**

We discuss such a transformation of traditional categorical structure of dialectical contradiction, which would, without unnecessary complicating this structure, led to an increase of its effectiveness as its own form of creative thinking and would make it possible to fine-tune it every time to a new subject area, and discovering new knowledge, and not to the past experience and ready-made knowledge.

In order to gain the right to propose a new idea of contradiction, it is necessary, within the framework of dialectical tradition, to identify a task that cannot be solved by means of this tradition.

**1.2. Substantiation of the insolubility of contradiction antinomial formulation problem within the framework of traditional dialectics**

Starting with what minimal systemic interaction of opposites, does the contradiction become the cause, which cannot but generate new itself and everything else? Dialectical contradiction, in its essence, is such a stable and unbalanced open interaction of inseparably related opposites, which cannot but lead to the emergence of its ever newer forms. The more acute is the conflict between opposites, the more intensive and organized becomes their next arrangement (resolution of the contradiction). But is there enough only unity and mutual negation between opposites in order for their interaction to lead to the emergence of a new one and serve as the driving force of development?

### *1.2.1. Zenon's aporia "Arrow"*

The dialectical interpretation of aporia by Zenon of Elay "Arrow" (Zenon, 1991) should seemingly lead to the conclusion that the flying arrow is different from the resting one by contradiction in its location: it partially loses determinateness of its position which it would have at rest, so the flying arrow is and is not in the same place at the same time. This contradiction is seemingly solved by the fact that the arrow moves in a certain time to another nearest place, in which the contradiction is reproduced, but in the same unchanged form.

Impossibility of resolving this form of contradiction, within the two-parameter interaction of opposites, is something obvious, but perhaps this insolubility of this form of contradiction arose from the unsuccessfully selected object of analysis - simple mechanical movement, which is only quantitative determinateness of the independent forms of substance motion and is not capable of qualitative changes in itself.

To clarify this, let us turn to subject fields beyond mechanics, but, first, we will show a way beyond the two-parameter interaction of opposites and the possibility of obtaining the physical meaning of opposites interaction with the "number of freedom degrees" more than two on the material of the quantum strings physical theory and the modern concept of the universe origin. As it is shown in the works of Sh. Yau, the "singularity" (from which disintegration the universe came into existence) occurred as a result of the mutual projection (that is, the interaction) of two, opposing in the phase processes going on in them, three-dimensional spheres of being (Yau, 2013; Klyagin, 2011).

It is precisely because the singular origin of the universe arose as a result of the seven-parameter interaction of the two opposite to each other spheres of being that everything new in it arises from the same "septenary" interaction of two opposites in three-dimensional space.

### *1.2.2. Antinomy of Marx's surplus value*

In order to find out whether the antinomian formulation of the unity and struggle of opposites can be a reliable theoretical criterion in the search for a concrete fact that is the real solution of the contradiction indicated by the antinomy, let us turn to the paradigmatic example, which is generally referred to by the principal opponents of dialectics in general, and by the supporters of traditional dialectics in particular.

In his task about discovering the source of surplus (new) value, Marx noted that surplus value (capital) had to appear in circulation and, at the same time, not in circulation (Marx, 1960). To resolve this antinomy (a sharp contradiction), it is necessary to discover in reality such a commodity, the very consumption of which is production at the same time. Such a commodity, in which the process of production and consumption mutual transformation takes place, seems to be a labor force.

However, the ability to work is not an innate ability of a human body, but only consequence of knowledge. Now knowledge claims to be such a product, the consumption of which is productive, but knowledge cannot be the cause of its emergence and is not innate information (instinct) for the person. It is clear that the antinomial formulation of contradiction, both of affirmation and negation in the same respect, cannot be an exact theoretical criterion in search of precisely that fact, which is a resolution of the contradiction (a new combination of opposites that have come into acute conflict). It is also clear that something new is created by a man as a result of creative activity that does not fit into the two-parameter scheme of traditional dialectics. For a creative act and its understanding, it is necessary to have seven of its own characteristics, revealed by G.S. Batishchev as final conclusions from an analysis of creativity dialectics (*Batishchev, 1997*).

### *1.2.3. Paradox of conditioned reflex behavior inheritance*

Let us show how the antinomial formulation of contradiction conceals not always realizable forms of creative thinking, which are always real, in one instructive example from evolutionary theory.

At a certain evolutionary stage of development, there is a need for such behavior, which would be reconstructed not only in accordance with the innate species information, but also with the use of information coming from a change in the very individual situation of the living being. There appears an evolutionary need to acquire the life conditioned reflex experience and pass it on to the next generation.

If we do not take into account all the necessary parameters of the evolution driving force, then the conditioned reflex acquires the characteristic of a hopeless antinomy: conditioned reflex behavior must be inherited and programmed in the genotype, but at the same time it should not be programmed (and it should be conditioned reflex dynamic reflection of volatile circumstances). Conditioned-reflex life experience should be passed on to the next generation within the genetic program and at the same time beyond it. Such an antinomial formulation looks like self destructive absurdity, because this evolutionary situation is described abstractly from the systemic nature of the evolution itself.

Life is a self-referral, self-organizing, stable, non-equilibrium open structure, therefore adaptation is a volatile interaction of living beings aggregate number and the surrounding inorganic environment, penetrating and encompassing both of these opposite, complementary sides. The disequilibrium is stable due to the hereditary program of individual development, but the realization of the latter in the process of adaptation of living beings to the environment leads to changes not presumed by this program. Unprogrammed (random) variability of the hereditary program is a condition of the possibility of adapting to unpredictability of environmental changes. The method of random hereditary variability is the extended self-reproduction of living beings, which comes into conflict with the limited number of necessary for this substances, which leads to the need for natural selection. The action of natural selection is removed by circulation of substances, otherwise evolutionarily perspective carriers of mutations that differ in their weakened adaptability to the current situation would be impossible. The impossibility of an accurate assessment of the mutated living beings evolutionary perspective within the mechanisms of biosphere self-regulation is an indicator of the insolvability of each living individuality in relation to the entire biosphere system as a whole. But it is this impossibility of complete solvability and predetermination of each individuality in the biosphere system that leads to the development of the driving cause of development (the evolution of the laws of evolution) and, ultimately, to the informational overcoming of the inherent predetermination of a living body behavior.



The instinct of imitation makes it possible to pass conditioned reflex behavior on to the next generation, but does not contain a criterion for assessing benefits or harms of the imitated behavior, which can lead to the complete extinction of a rather highly organized life form. This explanation is the most plausible model of dinosaurs' extinction, as evidenced by the facts of paleontology (*Shimansky, Soloviev & Danilchenko et al., 1978; Karamyan, 1970*).

The evolutionary development of motor and affective behaviors inhibition instinct made it possible to overcome the pandemic of imitative forms of behavior which had led preceding mammals highly organized form of life to complete extinction.

The inhibition instinct, which suppresses any deviations from the herd behavior stereotype, was the reason for the evolutionary depression of primary mammals, which lasted for about million years, but was surmounted by the emergence of an innate ability to replace by means of signals one type of behavior with another, actively imposing the latter on all surrounding relatives (*Porshnev 1974*). On the one hand, the instinctive suggestion made it possible to carry out such extremely indirect but effective way of interacting with the environment as objective (tool) manipulation, but on the other hand, it also allowed active imposition on associate beings the most pernicious form of behavior, leading to the accelerated extinction of all beings implementing instinctive form of tool activity.

The solution to this extremely acute contradiction of natural evolution was the complete blockage of that part of the genetic program which predetermined behavior and activity (*Roginsky, 1977*).

Thus, the analysis of the evolutionary theory material makes it possible to answer reasonably the question of nature structure, which allows not only the possibility, but also the necessity for the emergence of a free, rational and social being in it, but for this it was necessary to take into account all the essential parameters of the stable unbalanced interaction of all living creatures and inorganic environment: adaptation, heredity, accidental hereditary variability, extended self-reproduction, natural selection, circulation of substances and the biospheric impossibility of predetermining every living individuality.

#### 1.2.4. Self-referent dispute about the law of unity and struggle of opposites

An illustrative and self-referent example of the fact that a contradiction, understood as the unity and struggle of opposites, does not lead, in its discussion and following its logic, to development, but to the state of self-compensated balance of the opposites of a closed and self-destructing system, is the extremely sharp dispute of the 60s-70s about the category of dialectical contradiction in the collection of articles "Dialectical contradiction" (1979). Even philosophical encyclopedia of the Soviet period published two articles referred to "Contradiction dialectical" expressing directly opposite main points of view (*Batishchev & Vyakkerev & Narsky, 1967*). The participants of this dispute, in which unity and struggle were its exhaustive degrees of freedom, remained on the opposite sides of the same position, which did not change as a result. G.S. Batishchev overcame later the traditional understanding of contradiction, simply leaving the circle of disputants and turning to the problems of communication culture (*Batishchev, 1995*).

But what prevents unity and struggle of opposites to be a closed whirl of one and the same unchanging contradiction in itself? From the point of view of J.-M. Benoist (*Benoist, 1972*), who argued with L. Althusser (*Althusser, 2006*) at the same time for the same reason, it can only be the recognition of the fact that contradiction can be multipolar one consisting of an indefinitely large number of opposing sides that are in unity and struggle with each other. However, J.-M. Benoist, when referring to the physics of elementary



particles (the number of opposite quark charges is four), did not take into account the fact that there are no irreversible events in the microcosm (there is no basic condition for the applicability of the development principle in it, since development is primarily an irreversible qualitative change). In addition, polarity describes not the proper process of the developing and non-equilibrium interaction of opposites, but the state of self-compensated equilibrium between them. Complicating a closed equilibrium macro system with an increase in the number of its opposing interacting sides leads to its chaos and self-destruction due to an increase in the probability of accidental failure in its functioning.

Even in its most developed version, the concept of multipolarity has a significant drawback. It lacks the criterion of necessary and sufficient number of poles - it all comes down to endless increase in their number and combinatorial construction of multipolar systems (*Lensky & Kochnev, 1986*).

A productive way out of the self-referent dispute about dialectical contradiction is such a conversation about it, the relations between the participants of which are not reduced to unity and struggle. G.S. Batishchev distinguished seven "universals" in the concept of communication culture (*Batishchev, 1995*), allowing its technological realization in creative communication, creative thinking and learning through the use of seven elementary rhetorical techniques to rethink the usual meaning of the words according to classification by M.L. Gasparov (*Gasparov, 2000*). However, seven-parameters nature of creative communication, generating new meanings, can be found on the material of seven classical ancient Indian darshans (views), performing the role of simultaneous irreducible to each other functions necessary for potentially infinite production of new meanings in the ancient traditional ritual of philosophical discussion (*Silberman, 1998*).

## 2. Methodological basis

In philosophy, the requirements for justifying a new idea are more stringent than in other scientific fields, since they imply not only some new thought as a general principle of explanation, but an expressive and accurate picture of the meaning, on which the meaning looks like it really is, clarifying itself and everything else that cannot be done without rethinking and analytical specification of the established traditional terminology of dialectical logic, which was introduced in the second chapter of the second book "Science of Logic" by G. V. F. Hegel as reflexive definitions of essence (*Hegel, 1971*) and applied by M.B. Turovsky in his presentation of reflective determinateness system of the generating interaction of opposites (*Turovsky, 1997*).

The terminological apparatus for transformation with the purpose of presenting a new categorical structure of contradiction: "denialism", complementarity, "withdrawal", "supposition", "assumption", "extraneousness", system insolvability of individuation. All terms, with the exception of "complementarity" and "system insolvability of individuation", are taken from Hegel's "Science of Logic" and mainly refer to the context of his essence doctrine, except for the term "extraneousness" referring to the doctrine of being (*Hegel, 1970*). The term "complementarity" is given in the version of its universalization that exists in the modern theory of quantum strings, in which not only mass, energy, space and time are interchangeable, but also extremely large and extremely small scales. The phrase "system insolvability of individuation" partly connotes insolvability in mathematical logic, in which not all statements that can be expressed in the formally strict language of a certain logical system of the first kind can at the same time be proved (or refuted) by formalized means of this system.

Without changing the stable denotation of terms that have developed in the dialectical tradition, we will change this most unstable part of their denotation as a

meaning, concretizing it in the context of the dialectics basic problem, which is formulated and solved by G.S. Altshuller's short algorithm for solving the inventive tasks (Altshuller, 2017).

### *2.1. The main objectives of the study*

1. Under what condition cannot something new fail to emerge?
2. Under what condition does an infinite set of irreducible development possibilities emerge?
3. What should be done to ensure inevitability of creating something new?
4. How can one discover the very logic of discovery?
5. How can one discover new knowledge in the process of studying something old?
6. How can one invent a new way of inventing and teach it the others?
7. How can we motivate every educator and student to find such a task that only he can set and solve for the first time?

### *2.2. Algorithm for solving inventive tasks as a method of invention and substantiation of a dialectical contradiction new idea*

Since two simultaneous necessary opposite sides are given in a dialectical contradiction, the question arises which side to choose to start formulating a contradiction. The question about the rational basis of this choice is solved in a technical contradiction: two opposites are equally important with respect to natural systems, but they are far from being equivalent concerning human actions (and artificial systems). One of the two opposites will be the main production function, and the other will be the necessary auxiliary one. In our case of inventing a dialectical contradiction new idea, we will need technical contradiction not for choosing between two stably objective opposite sides, but for determining the essential sequence of describing simultaneous and inalienable ways of interaction between them with the definition of such a primary function of contradiction as creation (emergence) of something new. It is necessary to distinguish between opposites and such ways of interaction between them as unity and mutual denial. Opposite's interaction parameters are of greater importance than the opposite sides themselves, and denial has priority over unity in terms of the main function of contradiction - to be the cause of development.

How can one create a universal conceptual system for the continuous invention of it and everything else again?

1. Conceptual system for creating, discovering, inventing something new and continuous development of creative thinking
2. includes two opposing sides, as well as unity and mutual denial.
3. The first undesirable effect is in the fact that the traditional understanding of contradiction as the unity and mutual denial of two opposites, does not reflect the actual cause of the emergence of something new (see 1.2.1, 1.2.2).
4. The most obvious means of eliminating the first undesirable effect is to increase the number of interacting opposites (as in the concept of multipolarity) in hope that this quantitative change of contradiction will result in the emergence of such a quality as its ability to generate something new.
5. The second undesirable effect, the main drawback of the traditional conceptual system of dialectical contradiction: such two ways (parameters) of opposites' interaction, as their unity and mutual denial, cannot ensure the emergence of something new.

6. An obvious means of eliminating the second undesirable effect is to increase the number of opposites' interaction freedom degrees (without increasing the number of opposites) to provide an infinite variety of development possibilities.

7. Reappearance of the intensified second undesirable effect: an increase in the number of simultaneous ways of opposites' interaction leads to a loss of the criterion of their necessary and sufficient variety.

8. The first technical contradiction.

If we increase the number and variety of parameters (simultaneous ways) of interaction of two opposites, then this will make the concept of contradiction unbalanced, dynamic and more creative, but lead to loss of opposites' interaction determinateness and will result in the loss of the minimum necessary set of parameters criterion. Two parameters of the traditional dialectical interaction of opposites - unity and mutual denial, are the simplest, minimal variety of simultaneous ways of interaction, but they are clearly not enough to ensure development.

9. The second technical contradiction

If we increase the number of opposites in contradiction, then this will make the description of objective conflicts of real systems more accurate and detailed - multi-polar, but this description does not refer to the process of something new emergence, but to an isolated condition of self-compensated balance between opposites. Whereas the main methodological function of dialectical contradiction category is the discovery of something new, simulating, in an essential sense, the process of this something new emergence in reality. And what is the point of increasing the number of interacting opposing sides if we reduce the interaction between them to unity and struggle?

10. The main technical contradiction

The traditional and extremely simple conceptual system of dialectical contradiction is not an adequate reflection of the genuine cause of something new emergence and development, but its complication does not lead to this problem situation solution, but turns into regression and self-destruction.

11. Intensified technical contradiction

The traditional concept of dialectical contradiction is to be changed, but it is extremely simple - any change means its complication. It is necessary to increase the degree of systemic nature and its internal diversity so as to simplify it and to increase its effectiveness at the same time.

12. The model of the problem

It is necessary to remove the unity of opposites as the dominant beginning of contradiction, leaving only their negative, stable, non-equilibrium interaction.

13. It is necessary to create an infinite set of irreducible development possibilities, provided that the structure of the contradiction is then simple and finite (open non-equilibrium discrete structure).

14. The choice of the technical contradiction resolution of dialectical contradiction category

Improves - 35: adaptation, universality

Worsens - 13: stability of the object composition

Mode No. 14: principle of spheroidality - to transit from rectilinear to rotational motion.

15. Consideration of recommendations

The transition from rectilinear to rotational motion means, in this context, a transition from a straightforward understanding of the interaction between opposites as attraction (unity) and repulsion (mutual denial) to the logic of self-referent open non-equilibrium systems capable of self-organization and self-development. The principle of self-referencing as another "me" was used, apart from Hegel, in the presentation of the

reflective determinants of opposites' interaction by M.B. Turovsky (*Turovsky, 1997*). But how many simultaneously given parameters of the interaction of the two opposites are necessary to cause the emergence of something new and to become the driving force of potentially infinite development?

#### 16. Ideas

"What minimum number of simultaneous ways of two opposite sides' interaction is necessary to generate infinite set of irreducible development possibilities?" - this question coincides in its meaning with the mathematical minimax question: "At what minimum number of parameters in the problem of finding extremums there is an infinite set of irreducible to each other singularities? "

As V.I. Arnold noted, "starting from 7 parameters, the number of irreducible singularities types becomes infinite", whereas for "3, 4, 5 and 6 parameters the number of different singularities is 5, 8, 12 and 17, respectively" (*Arnold, 2016*). The proof of this fact is available in the works of V.I. Arnold, A.N. Varchenko, S.M. Huseyn-Zade (*Arnold & Varchenko & Huseyn-Zade, 2009*), L.N. Bryzgalova (*Bryzgalova, 1977*), V.I. Matov (*Matov, 1982*). The term "singularity" in this context means a discrete structure that arises within a continuous structure and is resistant to small changes.

Confirmation of this fact of providing an infinite number of singularities on the basis of seven-parametric interaction of two opposites, as well as a joint theoretical-empirical evidence of its physical feasibility and practical realizability, is available in rhetoric (*Gasparov, 2000*), dialectics of creativity (*Batishchev, 1997*), the concept of communication culture (*Batishchev, 1995*), evolutionary theory (in the works of this article author on the philosophical and methodological issues of the evolutionary theory published since 1983), psychology (*Zinchenko, 2010*), history of ancient Indian philosophy (*Zilberman, 1998*).

If the system of two opposites' interaction had not 7, but at least 6 initial parameters, then a number of possible special ways of development, that could not be reduced to each other, would not exceed 17, but their number is much more, as can be seen when we look at the "tree" of increasingly divergent ways of living beings species evolution, cultural and historical types of development (each with its own criteria for progress), multitude of literary styles, philosophical schools, scientific directions and a table of the use of technical contradictions resolution methods (principles).

At the same time, there is an equally accurate but less time consuming way of determining the real possibility of an infinite number of different distinct types of sustainable development: if the system can simultaneously contain 7 different parameters, then it has an infinite number of different irreducible possibilities for sustainable development.

We can stop considering the "hypothetical scheme" of the heterarchic seven-link personal development, structure of consciousness and creative act, designed by an outstanding psychologist and philosopher V.P. Zinchenko, to be only a metaphorical hypothesis and recognize it as a discovered new idea of creativity psychology and infinite number of its essentially different possibilities (*Zinchenko, 2010*).

In connection with this justification, the meaning of highlighting seven main blocks and emphasizing the variable nature of the 8th one in the structure of creative training according to innovative pedagogical system of continuous creative thinking formation by M.M. Zinovkina (*Zinovkina, 2008*) becomes clear. The first seven blocks lead to an infinite number of possible irreducible to each other special resumes and the relevance of the unique individual characteristics of each student and teacher. Besides, those distinctive features of creative tasks that have been investigated by developers of open-type learning tasks become understandable.

The authors of creative tasks collections (*Zinovkina, Gareyev & Gorev & Utemov, 2013*) turned to the fact established in psychology that psychological discomfort appears with simultaneous perception of 7-10 different objects. But from the perception of seven contradiction parameters simultaneously (the form of the creative task), the psychological barrier is just beginning, which one does not need to overcome, since the basic condition of an infinite number of different possibilities for solving inventive task and development has been achieved. The beginning of psychological discomfort, as dissatisfaction with oneself, is a necessary subjective condition for the very possibility of creativity - creative thinking and new ideas arise only at the limit of all possibilities (but not beyond these limits).

An idea is an entity that shows itself exactly as it really is. The idea of a creative act, according to A.F. Losev, is that it cannot help but create itself, cannot help but discover itself directly, cannot help but describe itself, cannot help but justify itself and, ultimately, this is something unique that is given the power to reject itself (Losev, 1982). Let us proceed with its depiction on the basis of dialectical logic.

17. Final idea - a new idea of dialectical contradiction, which differs from traditional category of dialectical contradiction (*Batishchev & Vyakkerev & Nara, 1967*) and modern concept of multipolarity (*Lensky & Kochnev, 1986*) by the fact that, without increasing the number of interacting opposites, it identifies seven simultaneous inalienable ways of two opposites' interaction, necessary and sufficient for the emergence of an infinite number of irreducible possibilities for the emergence of something new and for development.

Since the interaction of opposites is the cause of development and emergence of something new only when all seven of its reflective definitenesses (self-referral ways of this interaction) are given simultaneously, then the principle of transition from one determinateness to another can be only the principle of reflective directness into oneself as another self (which corresponds to the nonlinearity of open self-organizing non-equilibrium systems). Separate reflective definiteness is a completely non-equilibrium possibility brought to extremes.

Self-denialism is the first self-reinforcing stable non-equilibrium of random variability. It is different from traditional dialectical self-denial because if the latter is an integral result of a particular type development, when its possibility has been exhausted, denialism acts as a stable non-equilibrium fluctuations in any arbitrarily small spatial-temporal neighborhood of occurrence. In order to express non-equilibrium overcoming itself indefiniteness of the contradiction beginning, it is necessary to add suffix to traditional term "denial" (that implements the original idea of Hegel more adequately than his "specific identity").

B.M. Turovsky was right when he noted the important fact that to start presentation of dialectical contradiction category not with non-equilibrium indefiniteness, but with the system would mean to construct one more closed preformed structure and to follow the dogmatic way and not dialectical one. Adequate formula of denialism is not antinomy as a clash between two equal and opposite statements (on the one hand - on the other hand), or even self-referral negative statement, but self-referral question, overcoming its own indefiniteness. The spontaneous disintegration of denialism, left to itself, is its only action, apart from its own non-stop auto-fluctuations.

Denialism is directed into itself as complementarity between indefinitely many random, alternative and equally probable differences. Complementarity is the ability to be defined each time by something essentially external to itself. Denialism and complementarity cannot form polar equilibrium according to the "positive-negative" scheme, because they are non-equilibrium chances themselves, directed into themselves



as their other selves. So, doubled reflective definitions (like "denial of denial") are impossible, and not at all due to the change of the self-ordering process hierarchical type.

Complementarity is not self-applicable and provides actively the possibility for everything else to define it. The two stable opposing sides are parts of the generating relationship not by themselves, but only by their complementarity to each other.

Complementarity, being always its own shortcoming, needs to be supplemented by other, alien to it and to denialism, reflective definiteness. The complementarity between external even to themselves indefinite varieties is a random transition from the external prerequisites of the arising order to the reproduction of them as the variable results of the emerging system. The direction of complementarity to itself is defined as withdrawal (but not as a result of "denial of denial").

Withdrawal does not deprive independence of its external prerequisites, but on the contrary, it helps their individual prerequisites to overcome those limitations which, after self-disintegration of denialism, imposes on them the external character of their pre-system interaction, which aligns the essential diversity in its indifferent unity.

In the withdrawal of its external prerequisites' limitation, each random individuality acquires independence, reaching the possibility of a complete break with others so that unique randomnesses each time suppose their organic connection with each other and predetermine the form of their unification.

The breakdown of supposing is a condition for its spontaneous restoration, and its restoration again gives the possibility of every unique randomness to reach complete independence and a break with everything else. In this cyclical crisis, active supposing by the individual separate parts of their own organic system of connections is already presupposed itself in this system. An organic system, reflected into itself, seems to be hopeless spinning around the crisis cycle of its own emergence prerequisites supposed and reproduced by it, and this would indeed be true if supposition itself did not turn out to be an essential extraneousness to each other and to entire whole of unique individualities. Hegel used the term "extraneousness" in philosophy of nature to denote only something insignificantly external and spatially existing, but in this context, extraneousness means insurmountable and incompletely reproduced inorganic moment of the organic system itself, through which it becomes open and capable of changing.

The universality of the systemic whole turns out to be the self-directness of each concrete-single uniqueness that actively removes itself from its all-pervasive interaction with the systemic whole.

System-wide order, due to its own disequilibrium, reduces itself to the position of the minor side of each unique event. Each individuality contains in inimitable form all the definitions of the systemic whole, but goes beyond the essential limits of any resulted whole by its indefinite variability.

The essential irreducibility of individualities to each other and to the whole systemic whole forms insolvability and impossibility of complete predetermination of events by system-wide laws, which leads to the need for the development of the very cause of development, which has just been described in the form of a seven-fold hypercomplex system of reflective determinatenesses of two opposites' generating dialectical interaction: self-denialism, withdrawal, supposing, supposition, extraneousness and, finally, individual systemic insolvability that gives the dialectical interaction structure its openness to its own variability and at the same time the capacity for renewed self-organization.

So, a dialectical contradiction is non-equilibrium self-denialism of the opposites that are complementary to each other, taken in an organic system, that supposes in itself its own inorganic moment opened by supposition of individualities, extraneous to each other and to the whole, that are unsolvable relative to any equilibrium closed system.



### 3. Results and implementation

Based on the new idea of dialectical contradiction, four pedagogical inventions were made in the fields "General Philosophy Issues" and "General Pedagogy", marked by the diplomas of the winner and laureate of All-Russian Contests of Pedagogical Inventions and Innovative Educational Technologies "Modern School" (2015-2018). This idea of dialectical contradiction was defended by the author at the Moscow State University Academic Council on February 9, 1990. The author's works on this issue have been published since 1983. They are implemented in the fields: dialectical logic of scientific discovery, evolutionary theory, inventive tasks solution theory, rhetoric and theory of literary style, TRIZ-pedagogy.

3.1. The self-referent discovery of the way discoveries themselves are made begins with the formulation of 1) a heuristic question that is exacerbated to the extent of 2) a contradiction pointing to its own 3) solution showing, at the limits of its capabilities, 4) a problem that can be posed, but cannot be solved within these limits.

The subject of philosophy. 1) What cannot become of itself without man's effort in this world? 2) The contradiction between freedom and reality: everything, that is real, is not free, but everything free is not real, whereas philosophy needs such laws that exist in reality and are released in their action from insurmountable restrictions. 3) Labor is a real solution to the contradiction between freedom (universality) and reality. 4) Mystery of personality.

The phenomenon of a human being. 1) How can an imperfect and at the same time a free being exist? 2) A free and perfect being would not have internal conflict with himself, but a human is both imperfect and free. 3) The key to explaining the structure of the human body is the study of nature evolution as self-development of its contradiction: natural systems become more complex on the basis of their own random variability, but the more complex the system, the greater is the probability of its self-destruction due to random variability. Sooner or later the result of nature progressive evolution comes into conflict with its own basis, so that this conflict can be resolved only by the "blockade" of that part of the genetic program that organizes pragmatic behavior. In this case, such living beings will have to create their own behavioral programs and in the unlimited complicating (development) of this artificial program they will not depend on random variability. 4) We explained the structure of the human body, but not a human himself. A human differs from his own body because he is inexplicable.

Ancient philosophy: the mind in the image and likeness of the human body 1) How are the parts and the living whole possible? 2) If the right to life of any natural part is less than the rights of the whole, then such a part perishes (and all the rest of the whole also perishes with it), and if the rights of some part exceed the rights of the rest of the whole, then such part supplants the diversity of other parts, leading the whole and itself to death. 3) The whole and each of its natural parts are possible only as equal to each other. 4) In view of the equality of the whole and each of its natural parts, each part tends to separate from the whole, until the body disintegrates into further indivisible components: living bodies live for the same reason they die. The same fate of "atomization" awaits civilization, which builds itself following the example of the body only.

Medieval philosophy: mind by conscience. 1) How to be according to conscience? 2) The world created by the perfect Master would look exactly like the one which was not created (both would not be able to "break"). 3) The idea of Revelation: people learn about the Author of the world existence to the same extent that they learn, that they are not surrounded just by other human bodies, but by individuals - to that extent they are frank with each other. 4) The unsolvable problem of medieval civilization was the unique character of chance and human individuality.

Philosophy of the Renaissance as an image of universal art. 1) How can each person's own dignity be possible? 2) Human dignity is impossible without freedom, but it is impossible only in freedom, since one is free just like any other, and this overall interchangeability of people excludes the dignity of each person. 3) To be real means to be infinitely unique. 4) An infinite ability to create something new - genius is possible only on the basis of one's own individual uniqueness of the person, but individual uniqueness and talent based on it can not be conveyed as a certain experience of creativity to the next generations.

Modern times philosophy as an experimental-mathematical science of the 17th century. 1) How is it possible to discover new knowledge continuously? 2) Only the repetition of the same can be continuous, and something new arises in an accidental, inimitable way through the interruption of continuously acting regularity, but if something new arises in an unrepeatably random manner, then, once it arises, it disappears forever for all that follows. It is necessary to create a way of interconversion of continuity and emergence of something new. 3) An experiment is practical experience with controlled conditions isolated from the outside world, which is conducted to obtain unpredictable, new facts. On the basis of complete controllability of such experiment conditions, one can repeat once-accidentally obtained new result many times. 4) The experimenter can cognize everything, but not himself.

Science as a continuous production of new knowledge is impossible without the mass attraction of people with equal rights. But how can equality be possible?

The Enlightenment Age philosophy as the universal pedagogy of the 18th century. 1) Is a human worthy by nature of any rights, and if he is worthy, what are they? 2) A human is kind by nature, but acts against his own nature. 3) A human, unlike a beast, does not have innate knowledge of his nature, so he acts against it. Only by enlightening people about their own good nature one can nonviolently correct their morals in accordance with their own nature. 4) Blind faith in the unlimited opportunities of science and enlightenment is not scientific and unreasonable.

German classical philosophy as a study of the very ability to scientific research: Kant, Fichte, Schelling, Hegel.

Kant 1) How are infinite and at the same time true generalizations possible? 2) Beyond science, all infinite generalizations are false, and all true generalizations are limited. 3) Science studies not so much the results of human experience as prerequisites that make human experience itself possible, therefore all objects that might contradict scientific generalizations go beyond the limits of human capabilities to have any experience concerning them. 4) Things exist independently of us insofar as we do not know anything about them. Objective things exist by themselves, but it is impossible to have knowledge and idea about them.

Fichte 1) How is it possible to have the subjective image of something that is independent of consciousness? 2) An image of the object should reflect such property of the object as the property to be independent of consciousness, and also, like the object itself, it should not depend on consciousness, but the image itself is the result of subjective activity. 3) Subjective images of things are the results of unconscious creativity that do not depend on consciousness, therefore subjective images can model the basic property of objective reality. 4) Creativity itself is not clear: unconscious creativity cannot cognize itself, because it is unconscious, and consciousness cannot cognize creativity because consciousness is not capable of creativity.

Schelling 1) How is something eternally and continuously new possible? 2) On the one hand, something new can only arise chaotically and through violation of the existing order, and on the other hand, this something new needs order, so that having arisen once, to exist forever. This makes us think that 3) the unity and struggle of equal opposites is the

working reason for its own continuous self-renewal. 4) In the traditional formal two-valued logic, it is forbidden to express a contradiction in the form of concepts. Schelling refused to reform logic, therefore he considered contradiction and development fundamentally incomprehensible to science.

Hegel 1) Why is something new simply cannot not help but arise continuously? 2) According to the plan, the contradiction is the reason for the development of itself and everything else, therefore the problem of contradiction and its solution must be stated in the form of contradiction itself. On the one hand, we have to recognize the contradiction as unsolvable - it is incapable of disappearing eternal reason for the emergence of everything new, and on the other, just the same hand, we have to include uncontradictoriness in the contradiction itself (because it is unity and struggle of opposites), presenting it as disappearing in itself. 3) The mode of contradiction existence is not a state of equilibrium, but a process of continuous generation of ever new forms of its resolution, when the contradiction is resolved (disappears), but arises again at a higher level and in a more acute form. 4) That unequally distributed social practice, which Hegel considered to be the criterion of truth, needed its correction, because it spoiled the human essence.

Philosophy of Marx's creative practice 1) How can we build a social order that does not divide people into lower and upper classes? 2) On the one hand, the essence of a human is the whole complex of all social relations, and on the other hand, a human differs substantially from a social animal by the fact that he separates and distinguishes himself from the system of all social relations: he is not this social system. 3) In creative practice, people create themselves and their consciousness in the same way as they simultaneously create their external material circumstances. 4) It is impossible to plan the production of such a fair form of communication as conscience and talent.

Modern philosophy of equitably ordered communication as text philosophy 1) How is possible an order without domination and subordination? 2) Order and equality exclude each other and, at the same time, are impossible without each other. 3) An indicative example of this contradiction resolution is the Russian language, which includes both subordination of all communicative and semantic elements and all means of overcoming this subordination without losing its own harmony. 4) The drawback of this example is its limitedness to only one area: we speak and write only from time to time, and we live almost continuously in a society that is arranged as an irony over our own language.

Social Philosophy: 1) In response to what question does the society itself meet the questioner as an unexpectedly new and, at the same time, clearly accurate discovery? - In response to the question: "How can an imperfect and, at the same time, a free being exist?" 2) The contradiction between social security and economic efficiency is formulated in the form of two technical contradictions. 3) It is solved according to the algorithm of inventor with the transformation of TRIZ pedagogical system. 4) The theoretically unsolvable problem (but practically solved inventive task) of society is the problem of its unity.

*3.2. Correspondence of seven elementary rhetorical parameters (tropes of usual words meaning rethinking) of creative thinking to the degrees of its categorical forms development freedom*

With regard to the sequence of elementary rhetorical rethinking techniques according to classification by M.L. Gasparov (*Gasparov, 2000*), we must take here the advantage of self-referent description, when statements are good examples of what they report about. Irony is the first in the tropes sequence on rhetorical axis line of creative thinking: the shift of meaning to itself as the opposite to itself - self-irony, disintegrating into a number of its own adjacent to each other, complementary to each other and maximally differing particulars of metonymy - the shift of meaning due to adjacency (that

will unite any of the most remote opposites, since it is always possible to select such a vast class that all of them will be adjacent in it). Metonymy corresponds not only to pair antinomy (thesis-antithesis), but to the multipolar "polynomial folding" of D.B. Zilberman (Zilberman, 1998). This indefinite situation of multiplying neighboring "poles of equal forces" is solved by the interpretation of neighborhood adjacency as partial intersection, growing to the scale of the whole - metaphor, which, in its turn, intersects with synecdoche as the shift of meaning of the whole on its own part, but only in order to be assisted in the performance of a function beyond its power by a whole system of interrelated words of periphrasis, replacing the meaning of word that is released from the statement for a well-deserved rest. Finally, periphrasis, with its increasingly complex and detailed expression of released word meaning, exaggerating to huge hyperbole, takes risks to collapse and destroy it in a situation, where the more detailed and more thorough explanation is the less listeners and readers understand things they understood before this explanation. There comes the legitimate turn of meaning condensation through its narrowing - emphasis.

As you can see, all the other tropes can be reflected on each trope of rethinking, but this methodological case just represents the thinking world of rhetoric, fully reflected in its every detail, capable of working independently as a "technical system" of producing an undetermined yet possibility of meaning emergence. And now imagine, that a dialectical dimension is added to this yet one-dimensional and only potentially thinking world in the form of consecutive formulae of creative thinking (question-contradiction-solution-insolvability), resulting in the following table, which makes it possible for both the researcher and the student to design the semantic topology of their individual way of cognition.

**TABLE 1. - CORRESPONDENCE OF SEVEN RHETORICAL PARAMETERS OF CREATIVE THINKING TO THE DEGREES OF ITS CATEGORICAL FORMS DEVELOPMENT FREEDOM**

Category	Heuristic question	Dialectical contradiction	Contradiction solution	Insolvability
Parameter				
Irony	How is the question possible?	Denialism	Self-denialism paradox solution in multiciphered logic	How to solve self-denialism paradox in the framework of two-valued logic?
Metonymy	What question neighbors with all others?	Complementarity	Universalization of overall complementarity principle.	Impossibility to determine measure in the framework of complementarity poles multiplication
Metaphor	What question is its own answer at the same time?	Withdrawal	The system produces conditions for the unlimited activity of each of its individual prerequisites.	The problem of order without subordination and without crisis at the same time.
Synecdoche	What does this very «what?» mean?	Supposing	Interaction of the prerequisites leads to the emergence of a self-reproducing system.	The unique randomness of any regularity emergence circumstances.
Periphrasis	The question of what words replace the question mark itself	Supposition	The prerequisites of the system are produced by it as its results in the cycle.	The cycle cannot be completely closed.

Hyperbole	What is less than Nothing itself?	Extraneousness	The unique character of individuality.	Irreplaceable incompleteness of any individuality
Emphasis	How is questioner possible?	Insolvability of individuality	Development of the law of development.	Anti-emphasis as the meaning of silence.

*3.3. Pedagogical realization of alternative idea of contradiction in the form of the creative seminar block structure on the topic "Dialectical contradiction" (based on the system of continuous creative thinking formation by M.M. Zinovkina)*

#### Block 1. Motivation

The principle of denialism, as opposed to denial implies a more organic form of its introduction into the educational process than formal, precise and shocking self-referral negative statements like the following: [This sentence, taken in square brackets, is impossible]. Meanwhile, you can find the relevant facts for such statements. M.K. Mamardashvili revealed philosophy as a fact, showing its own impossibility, and overcoming all the conditions of its own impossibility at the same time (*Mamardashvili, 2000*).

The meaning of denialism opens with the question of how the question and the questioner himself can be possible. From the philosophical question of how emergence of something new is possible, and the question of why something new cannot help but emerge, we should go further to inventive problem: what must be done to ensure that it would be impossible to stop creating something new.

#### Block 2. The first content part

It is advisable to reveal complementarity, which makes up the content of the second block, through examples which show how the sense emerges in the mutual reflection of two opposite sides to each other (K.Godel turned negative self-referral proposition into constructive principle of proof thanks to mutual transformation of propositional calculus logic and arithmetic computations). Complementarity is revealed more fully in the fact of the universe singular beginning origin as a result of the interaction of two spheres of being opposite in phase of physical processes, taking place in them.

#### Block 3. Psychological relaxation

Relaxation block corresponds to such a parameter of opposites' interaction as withdrawal by emerging system of few prerequisites limitedness of its emergence, which was characteristic to the stage of pre-systemic isolation. This is most easily verified in familiar meanings of words rethinking game, using the ancient system of elementary methods of rethinking (from irony to periphrasis).

#### Block 4. Puzzles

Supposing interconnection by unique isolated elements of the system is modeled by obvious self-referencing judgments of L. Henkin, asserting their own provability and representing their own proof or instructions for proving themselves (*Hofstadter, 2001; Podnieks, 1992*). [This sentence, stating that it is possible, is proved by its direct reading].

For all its ineradicable self-affirmation, supposing is one of the parameters of non-equilibrium opposites' interaction and has the fourth degree of the original self-denialism modification. [This sentence, stating that it is impossible and self-denying at the same time, is proved by its direct reading].

#### Block 5. Intellectual warming-up

This block corresponds to supposition, but if we used this term in its objective meaning in the construction of reflective definitions of opposites' interaction, then in this



case supposition means creation of a number of alternative hypotheses at the initial stage of discovery and cognition due to the existence of science as a system generating new knowledge. We exercise in creating alternative hypotheses about how and why it is possible to create many new alternative hypotheses about the same thing. In spite of all self-referencing, this will not become a self-isolated circle, since we speak about an open, non-equilibrium self-organizing structure.

#### Block 6. The second content part

Corresponds to extraneousness as a parameter of opposites' interaction. Its physical meaning is revealed: two opposite spheres of existence, the interaction of which led to the emergence of the universe, are beyond its borders, neighboring with it and influencing it - they change the direction of their impact on the world's three-dimensional surface of the universe, as a result of which "folds" appear on it in the form of virtual, short-lived particles, quantum strings (Klyagin, 2011). Extraneousness is expressed in the form of non-obvious judgments of Henkin, which contain only an indication of the possibility of their own proof, realized only through the use of the super system (in relation to the judgment itself as a system). [This sentence, stating that an infinite number of irreducible to each other types of singularities arises starting with only seven parameters in the task of finding extrema of functions, is provable by methods of differentiable reflections singularities theory].

#### Block 7. Computer intellectual support of thinking

This unit organically contributes to revealing of the productive meaning of each individuality insolvability with respect to any equilibrium closed system. It is carried out by the programs "Algorithm of the inventor" (AlgMIP) and "Determinator of the search for basic methods" (TabDtmr). The search is conducted until finding such technical contradiction (from the inventive task) for which the "Search Determinator" program issues "No method" and from which the individual creative search for the solution begins.

#### Block 8. Summary

Invite the students to check themselves the idea of seven-parameter contradiction as a result of attempts to create the maximum number of all possible irreducible to each other summaries of the seminar, assuming different numbers of its blocks:

At the end of the seminar, the task is given to find, by the "Algorithm of Creativity", a variant of solving the problem of dialectical contradiction using compulsory and additional sources of information on dialectics.

Thus, the reflection of self-referral non-equilibrium open structure of the creative seminar, consisting of seven main blocks, leads to the realization of the infinity of the number of irreducible possibilities for personal development. The irreducibility of individualities to each other only makes them essential for each other: an individually unsolvable problem of one is a completely solvable task for another (and vice versa).

### **4. Conclusion**

The novelty of the proposed solution to the problem of dialectical contradiction is a consequence of its new posing: so far no one has set a goal to re-invent this very form of inventive task and creative thinking. Category of dialectical contradiction was used only in the final and unchanged form taken from traditional dialectics, as a form of inventive (creative) tasks posing. The main "tool" of creativity did not become the object and purpose of creativity. In addition, the formal report about own form of creative thinking diverged substantially from its actual form, acting unconsciously, accidentally and rarely.



And if excessive attention was given to the opposite parts, no attention at all was given to the simultaneous ways (parameters, degrees of freedom) of interaction between them.

Rationale of two opposites' seven-parameter interaction is brought to the stage of exact proof through establishing semantic isomorphism of philosophical problem, underlying cause of potentially infinite development and mathematical minimax problem for a given number of initial parameters. And if it is still possible to ignore both theoretical and empirical evidences from different areas of the humanities and the natural sciences, relating them to unimportant specifics of random empirical particulars conditional description, one cannot dispute the mathematical proof as well as isomorphism of philosophical and mathematical problems any longer, one cannot be able to notice it.

The new idea of dialectical contradiction proposed and substantiated in this paper is the third, along with the traditional category of contradiction and its understanding in the concept of multipolarity.

Further promising works in this direction are related to its moderate (partial) formalization and the use of "multidimensional logic" idea by N.A. Vasiliev (*Vasiliev, 1989*).

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## DIALOGICAL SPEECH DEVELOPMENT IN SENIOR PRESCHOOL AGE CHILDREN BY MEANS OF THEATRICAL ACTIVITY

### Abstract

The article presents theoretical analysis of the dialogical speech development problem in children of the senior preschool age in the process of theatrical activity. In addition, an experimental study of dialogical speech development in children of senior preschool age is presented. Development conditions are revealed by the authors from the viewpoint of organizing joint theatrical activities of children and adults, creating an educational theatrical and gaming environment and using the pieces of oral folk art in order to work through intonational expressiveness, loudness, tempo, correct pronunciation of sounds, and the development of clear and distinct speech.

The purpose of the article is to justify the conditions that determine the effectiveness of dialogical speech development in senior preschool age children in the process of theatrical activity.

The materials of the article can be used for thematic planning of the work aimed at the development of dialogical speech in children of the senior preschool age in the process of theatrical activity.

### Keywords

development, dialogical speech, senior preschool age,  
conditions, theatrical activity,

### AUTHORS

#### Natalia V. Karpova

Ph.D. (Psychology), Associate Professor,  
Federal State Autonomous Educational Institution of Higher Education  
"Tyumen State University", Tyumen, Russia.  
6 Volodarskogo Street, 625003 Tyumen, Russia  
E-mail.ru: ntverdohlebova@mail.ru

#### Lyayli A. Sadinova

student, Finance Faculty  
Federal State Autonomous Educational Institution of Higher Education  
"Tyumen State University", Tyumen, Russia.  
6 Volodarskogo Street, 625003 Tyumen, Russia  
E-mail.ru: sadinova.73@mail.ru

## 1. Introduction

### 1.1. Relevance of the problem

Currently, personal contacts are among the main factors of mutual understanding between people, therefore the culture of speech behavior is important for all people whose activities, in one way or another, are connected with communication. By the way a person speaks or writes, one can judge about the level of his spiritual development, his inner culture (Yakubinsky, 2007).

However, many authors note increase in the number of children entering school who do not demonstrate the skills of dialogical speech at a sufficient level for this age. It is very difficult for children to start and maintain a dialogue, their vocabulary is not rich, the words are repetitive, and the language is inexpressive (*Karpova, Elantseva, 2013*)

The development of dialogical speech is one of the important tasks of speech development in a kindergarten already, because speech centers in the cerebral cortex responsible for speech are actively maturing in children (Brock center: articulation, motor skills, Wernicke center: phonemic hearing); there occurs anatomical and physiological maturation of the articulatory apparatus (*Vinogradova, 2009*).

One of the dialogical speech development means among senior preschoolers is theatrical activity. At preschool age, theatrical activity is performed through theatrical games. Classes using elements of theatrical activity may include both dramatization games and stage effective games.

### *1.2. Importance of the problem research*

The approach to speech as a form of activity is characteristic for sociolinguistic and psycholinguistic research, studying the processes and mechanisms of speech formation, the occurrence of speech errors and speech disorders (neurolinguistics), the relation of speech actions to other types of social activity of a person (the works of N.I. Zhinkin, A.R. Luria, A.N. Leontiev, A.A. Leontiev, et al.), the role of speech in the formation of consciousness and subconsciousness manifestations, inner speech, the development of children's speech (L.S. Vygotsky, A.N. Leontiev), etc.

The senior preschool age is a sensitive period for the development of dialogical speech. The urgency of dialogical speech development increases at this age in connection with the preparation for school.

In addition, despite the attention of educators and psychologists to this problem, it is possible to note at the present time the lack of pedagogical conditions for the development of dialogical speech in pre-school children in theatrical activities.

The purpose of the research: to substantiate theoretically and to study experimentally the pedagogical conditions for the development of dialogical speech in children of the senior preschool age in the process of theatrical activity.

### *Analysis of the current state of research on the scientific issue of the article*

In the psychological science, the problems of dialogical speech study such scientists as U. Demjanenko, J. Gorvic, C. Garvey, J. Newson, K. Price, J. Yanoushek, L.A. Karpenko, A.V. Petrovsky, M.G. Yaroshevsky, A.G. Ruzskaya, J. Piaget, T. Slama-Kazaku, D.B. Elkonin, O.V. Troshin, M.I. Lisina, I.V. Nikanorova, L.G. Shadrina, E. Tsuranova, Z.G. Gadzhibekova, R.A. Azizkhanova and Z.A. Gadzhikhanov, N.N. Bartosh, A.V. Chulkova et al. (*Bartosh, 2016; Demjanenko, Gorvic, 1992; Newson, 1978*). Children learn the main features of the dialogue only in the senior preschool age, this is evidenced by the works of N.Ya. Mikhaylenko, N.A. Korotkov, T.V. Korshikova, T.A. Volkova, I.V. Nikanorova et al (*Mikhailenko, Korotkova, 2015*). The role of theatrical activity in the development of dialogical speech was investigated by Yu.A. Tsapkova, A.P. Nikolaicheva, L.S. Furmina (*Tsapkova, 2012; Furmina, 2012; Karpinskaya, 2012*).

The issues related to the justification of a conditions set contributing to the dialogical speech development in children of the senior preschool age in the process of theatrical activity will be discussed for the first time in our study.

### *1.3. Research Hypothesis*

The research was based on the hypothesis that the development of dialogical speech in children of the senior preschool age in the process of theatrical activity will be effective in the following pedagogical conditions: organized joint theatrical activity of children and adults; developed theatrical-gaming environment; in the classroom we use pieces of oral folk art with the aim of working through intonational expressiveness, loudness, tempo, correct pronunciation of sounds, and development of clear and distinct speech.

## *2. Research methods*

### *2.1. Objectives of the research*

In the course of the research the following tasks were solved: 1) studying the level of dialogical speech development in children of senior preschool age; 2) realization of pedagogical conditions for dialogical speech development in children of senior preschool age in the process of theatrical activity; 3) repeated diagnostics of the dialogical speech development level in children of senior preschool age in order to test the effectiveness of the hypothesis put forward at the beginning of the research.

### *2.2. Theoretical and empirical methods*

To check the hypothesis and solve the problems posed, the following methods were used:

- theoretical (analysis of psychological and pedagogical literature, normative documents about education on the problem of the research, formulation of hypotheses, synthesis, comparison, classification, systematization);
- empirical (observation, conversation, problem-playing situations, analysis of educational products, experiment);
- methods of processing results (qualitative and quantitative analysis of the research results, a method for visualizing the results, methods of mathematical and statistical processing).

### *2.3. Research base*

The presented research was conducted on the basis of kindergarten "Rodnichok" of Yuzhno-Dubrovinskaya secondary school in the village Armizonskoe, Armizonsky district of Tyumen region. The study involved 60 children of senior preschool age. They were divided into two groups: an experimental and a control group of 30 people each.

### *2.4. Evaluation criteria and indicators*

As a result of theoretical analysis, we determined the criteria and levels of dialogical speech development in children of senior preschool age.

To identify the level of dialogical speech development in children of senior preschool age, the following criteria and indicators were used: culture of speech communication, information request, replication, initiating a dialogue.

According to the degree of the revealed indicators manifestations, three levels of dialogical speech development in children of senior preschool age were determined.

High level - senior preschoolers have a good command of everyday speech etiquette, use different forms of it depending on the situation, use different types of sentences,

including addressing to an interlocutor and phrases of politeness; they address to unfamiliar adults using the words "sorry", "please tell me". Children themselves ask three or more different types of questions, keeping to succession and consistency, they have wide enough information field of questions. Preschoolers actively and willingly come into contact with an interlocutor; quickly respond to replicas in a conversation, use their various types, including those, encouraging partner to speech action; at the request of the interlocutor, they can for some time maintain a conversation on the proposed topic, micro dialogues include three to seven or more dialogical unities. Dialogues, compiled by children describing a picture, have complex structure; when giving a dialogue, children use direct speech; the speech is correct, only few syntactic and grammatical errors occur.

Average level - senior preschoolers use speech etiquette only in well-learned situations of greetings, farewells, requests; their speech clichés are repetitive, replicas in such situations include only a speech cliché without addressing to an interlocutor; children respond with indirect speech, often with mistakes or solve a speech problem, using the available experience, because they do not know the necessary speech cliché appropriate for the given situation. Senior preschoolers ask questions only with the help of an adult, the questions are not diverse, they are simple, narrowly focused; children find it difficult to maintain succession and consistency. These children talk with an adult willingly, but they do not strike a conversation up themselves; they are often distracted, do not know how to carry on a conversation, use few replicas that stimulate an interlocutor to a conversation; their replicas-reactions are short, one-word sentences or complex structures; micro dialogues of preschool children consist of 1-3 dialogical units. Children find it difficult to come up with the content of the conversation, they do not know how to start and end the dialogue; replicas consist of one phrase; sentences used are either simple, single-word or complex structures; dialogs are insipid, constructed according to the plot of the picture or reflect the thoughts and expressions of adults; children make many syntactic and grammatical mistakes due to the use of complex sentence constructions.

Low level - children use a limited number of speech etiquette phrases, which they were taught earlier (greeting, request, apology), although they often mix them up; they use only one common form and cannot replace it with a similar phrase, find it difficult to come into contact with adults and peers; these children do not borrow phrases of speech etiquette from the speech of adults, they use the same forms of addressing to a child and to an adult. Children find it difficult to ask questions even with the help of an adult. These children join to a dialogue passively; they show weak speech activity and make long pauses, they have no interest in conversation, they do not use replicas-stimuli; replicas-reactions are concise and one-word; a conversation lasts until an adult takes the initiative, and the children's micro dialogues consist of only one dialogical unity, having a simple structure. Children cannot come up with dialogs on the picture, they make up individual replicas or define only the topic of the conversation, which reflects the content of the picture.

## *2.5. Course and description of the experiment*

In the process of ascertaining experiment, the level of dialogical speech development in children of the senior preschool age of the control and experimental groups was diagnosed. To do this, the following diagnostic techniques were used: Methodology "Speech etiquette" (N.A. Starodubova); Methodology "Interview" (O.V. Dybina); Methodology "Replication" (T.A. Repina); Methodology "Making Dialogues" (N.A. Starodubova)



An analysis of the ascertaining experiment results showed that the majority of respondents are on average and low level of dialogical speech development. The obtained results made it possible to come to the conclusion that it is necessary to realize the conditions contributing to dialogical speech development in children of senior preschool age.

Only preschoolers of the experimental group took part in the forming experiment.

The purpose of this stage: the implementation of pedagogical conditions for the development of dialogical speech in children of senior preschool age in the process of theatrical activities.

Objectives: to teach children the rules of dialogue and speech etiquette; to form an ability to formulate questions properly, to stimulate independence in the conduct of inquiry; to stimulate the use addressing as a way of complicating the sentence, a verbal reaction in the conversation; to improve the skills of independent dialogues compilation according to the proposed situation.

In line with the hypothesis of the research, the process of dialogical speech development in children of senior preschool age in the process of theatrical activities was carried out through: organization of joint theatrical activities of children and adults; creation of educational theatrical-gaming environment; use of pieces of oral folk art at the lessons in order to work through the intonational expressiveness, loudness, tempo, correct pronunciation of sounds, the development of clear and distinct speech.

The zone of theatrical games at the grounds of "Rodnichok" kindergarten of Yuzhno-Dubrovinskaya secondary school has a special place. Here, a pavilion as a zone of theatrical games is used, as it is easily turned up into a children's theater, a puppet theater or animals theater. The shape of the pavilion allows you to arrange it accordingly. If this is a theater, then at the entrance to the pavilion you can hang theater masks, if this is a circus - an image of a smiling clown. There are benches in the inner part of the pavilion - seats for spectators. A bright screen with sliding curtains is installed in front of them. There is a ticket office at the entrance. In winter, the winter recreation palace is made from the pavilion, which is a good addition to the decoration of the ground in accordance with the time of the year and causes delight in children with its entertaining and somewhat unusual design. The zone of theatrical games in the group room has a sliding screen, slightly above the average height of a child of this age, a flannelegraph (inclined fleecy plane on which cardboard figures are mounted), a table for playing table-top theater. There are boxes with toys of different kinds of theater, masks and other equipment on the shelves. Children can use them freely when they need them. A costumier's room is an element of this zone in which there are toilet articles, costume elements, old-fashioned things. This equipment is used for interesting games with dressing.

There is no possibility to arrange the theatrical zone in the group classroom permanently, so it is integrated with the book corner.

Thematic plan of classes using theatrical activity:

Lesson 1. "Magic of the theater", the goal: to expand children's ideas about the theater, to bring up interest in the theater, theatrical games.

Lesson 2. Game-dramatization "Miraculous transformations", the goal: to instill elementary ethical norms of behavior, to develop dialogical speech, to teach expressively pronounce phrases bearing various emotional coloring.

Lesson 3. Game-dramatization of the fairy tale "Zayushkina izba", the goal: to improve the dialogical form of speech, to expand the vocabulary; to teach children to render emotional conditions, to use figurative expressions and intonation-shaped speech.

Lesson 4. Preparation for the play "Zayushkina izba" performance, the goal: to consolidate the knowledge of children about different types of theater, to stimulate the

participation in theatrical activities; development of dialogical speech and replication skills.

Lesson 5. "Magic clew", the goal: to develop dialogical and coherent speech, to establish replication skills; to contribute to the creation of emotional mood; to develop the ability to formulate questions properly, to ask questions independently.

Lesson 6. Game-dramatization "How the fox offended the bull," the goal: to develop the skills of starting a dialogue, to ask questions; to promote the development of speech intonational expressiveness, to follow the rules of dialogue and speech etiquette.

Lesson 7. Stage-game "Mishka's Birthday", the goal: to develop dialogical speech, replication skills; to contribute to the creation of emotional mood; to develop the ability to formulate questions properly, to ask questions independently.

Lesson 8. Game-dramatization "Who said" meow "?", the goal: to develop dialogical speech, to use addressing as a way of complicating the sentence, speech reaction in the conversation; to form the skills of independent compilation of dialogues according to the proposed situation.

Lesson 9. Stage-game "Cinderella", the goal: to develop dialogical speech, to use addressing as a way of complicating the sentence, speech reaction in the conversation; to form the skills of independent compilation of dialogues according to the proposed situation.

Lesson 10. Game-dramatization "The Living Hat", the goal: to develop dialogical speech, replication skills; to contribute to the creation of emotional mood; to develop the ability to formulate questions properly, to ask questions independently.

Lesson 11. Stage-game "Geese-swans", the goal: to stimulate following the rules of dialogue and speech etiquette, to use addressing as a way of complicating the sentence, speech reaction in the conversation; to form the skills of independent compilation of dialogues according to the proposed situation.

Lesson 12. Game-dramatization "Cucumbers", the goal: to stimulate following the rules of dialogue and speech etiquette, to use addressing as a way of complicating the sentence, speech reaction in the conversation; to form the skills of independent compilation of dialogues according to the proposed situation; to develop the ability to formulate questions properly, to ask questions independently.

6 games-dramatizations and 5 stage-games were performed with children during five weeks. Preparation and performance included: reading a fairy tale (story); conversation on the content; games on the pronunciation of replicas, intonations; selection of the features for the characters of a fairy tale (story) and their actions; re-telling a fairy tale (story); discussion of roles; reading a fairy tale (story) by roles; retelling of a fairy tale (story) along a chain with subject pictures support; game "Present a character from a fairy tale (story) ..."; selection of costumes, masks for a fairy tale (story); dramatization of a fairy tale (story); Shadow theater, puppet theater, using toys "bi-bi-boo".

We took for our games the fairy tales already familiar to children. Teaching children dialogue, we used as the base the following methods: creation of communication environment; organization of activities beyond reading classes frameworks; use of undisciplined methods of attracting and retaining attention; creation the condition of emotional comfort, creative atmosphere.

Educators created informative theatrical-gaming environment in the group classroom in order to attract children's attention to the different works of art. At the first stage, the main task was to expand and increase the speech experience of children with various types of replicas and dialogues. In this case, we used the ability of children to imitate and borrow speech models. Reading of stories to children as a rule occurred at the lessons of speech development or literature. In the course of work on dialogical speech development in children, the questions concerning every read story were prepared in advance, the

questions were posed in such a way that they presumed full and detailed answers from children. After reading the story, discussions were held. After children had given answers to the questions, collective and individual work was conducted, during which the question was asked of the certain child. Then the children were offered to play a situation, which they analyzed. Each situation had to be played 2-3 times, both individually and collectively. We tried to ensure that every child answered with a full sentence. In addition, children were taught to ask questions correctly, paying attention to the correctness of their construction. This form of work was used at each lesson of speech development. Then the children were offered didactic tasks. Within the framework of these tasks a child was given the role of an adult, where he had to ask either a peer or a tutor about the events in the story. Teaching children the ability to make a conversation went in parallel with the teaching the speech etiquette and behavior culture: children learned polite words, listened attentively to the one who spoke, learned not to distract and interrupt the interlocutor, to restrain their immediate desire to answer the question immediately, without waiting for a call. They brought up reticence, politeness and general culture of speech communication in a conversation. During a walk as well as other free time, an educator worked with senior preschoolers individually, referring to the illustrations from the books, asked a preschooler about the content of the conversation, and then offered to play a dialogue in roles. By memorizing literary dialogues, transferring them to the dramatization of stories, children borrowed various forms of dialogical remarks: You should not have done that. Who gave you permission? The shame on you! etc. Playing ready dialogues helps children not only to learn the forms of dialogical replicas, interrogative, narrative intonations, but also to follow the basic rules of dialogue: the order, carrying on and developing the topic of conversation. Before the staging of dialogues, preschoolers were reminded the rules of behavior: to listen to the question to the end; not to cry out, not to interrupt. The children received a petal from a flower for the right answers - the mark. For the dramatization, simple dialogues, consisting of a small number of short sentences, were chosen.

So, they organized games-dramatizations of tales and stories as well as stage-games during five weeks with preschoolers. The following methods were used in the work: playing situations with the heroes of stories and fairy tales participation; staging of small dialogues; drawing up dialogues based on illustrations. Then followed the game-dramatization.

A vivid reflection of social reality and natural phenomena characteristic for a game-dramatization makes it possible to acquaint children with the surrounding world in all its diversity. And competently posed questions in the process of preparation for the game prompt them to think, analyze rather complicated situations, draw conclusions and generalizations. This contributes to the improvement of mental development and closely related to it speech perfection. In the process of making characters' replicas expressive, the child's own vocabulary becomes richer, the sound side of speech is improved. A new role, especially the characters' dialogue, makes the child to speak clearly, plainly, distinctly. He improves his dialogical speech, its grammatical structure, the child begins to use the vocabulary more actively and enrich it.

Thus, dialogical speech is improved in the theatrical activity, and its expressiveness increases. In theatrical activity, the child seeks to learn about his own possibilities in reincarnation, in the search for new and in the combinations of the familiar things. This is a feature of theatrical activity as creative activity, the activity that contributes to the development of children's speech. The task is to teach children not only represent the characters, but also speak for them, be engaged in sketches and exercises.

To develop the ability of children to use intonational expressiveness in narration, a lesson was conducted on the development of speech with the elements of theatrical

activity "How the fox offended the bull ". The name of the fairy tale surprised children greatly, but in the process of acquaintance with the fairy tale, the children had various feelings. Subject No. 7 condemned the fox for offensive words, and subject No. 5, on the contrary, condemned the bull-calf: "You must not call names, you had to answer the fox in another way, and it would apologize." To show the children the need to use expressiveness in the storytelling, we read the fairy tale without expression for the first time, and for the second time we did it with a pronounced intonational coloring. The children chose the second option for their story. After the discussion of the fairy tale content, the children retold it in pairs. After listening to two pairs of children, they were suggested to stage the fairy tale.

It is important to note, that it is in theatrical activity that children have the opportunity to expand their initiative and independence in choosing the character of their hero (or even a whole performance). In connection with the fact that the content of activities is expanding (on the basis of their creativity), children have the desire to use expressive means in everyday speech or, conversely, to use the events of real life in dialogues in theatrical activity.

### **3. Results**

At the control stage of the experiment, quantitative data about levels of dialogical speech development in children of older preschool age showed some difference from the results of the ascertaining experiment: in the experimental group, the number of subjects with high level increased by 30%, with average level - did not change, the number of subjects with low level decreased by 30 %; in the control group, the number of subjects with high level decreased by 10%, with average level - did not change, the number of subjects with low level increased by 10%.

Thus, there are obvious significant changes in the level of dialogical speech development among children in the experimental group, and we can observe insignificant changes in the direction of lowering the level of dialogical speech development in children of the control group. So, the effectiveness of the research hypothesis was confirmed.

### **4. Discussion**

The development of dialogical speech is one of the important issues of speech development in a kindergarten already, because speech centers in the cerebral cortex responsible for speech are actively maturing in children; and the senior preschool age is a sensitive period for the development of dialogical speech. The urgency of dialogical speech development increases at this age in connection with the preparation for school.

Following Z.G. Hajibeckova, R.A. Azizkhanova and Z.A. Gadzhikhanov, we understood under dialogical speech in this article the dynamic and natural process of speech interaction of two or more interlocutors, which essential features are spontaneity, addressing, supportability and situation dependence (Z.G. Hajibeyova, R.A. Azizkhanova, Z.A. Gadzhikhanov).

Our study makes it possible to confirm that the development of dialogical speech among children of the senior preschool age in the process of theatrical activity will be effective in the following pedagogical conditions: the joint theatrical activity of children and adults is organized; the theatrical-gaming environment is created; the pieces of oral folk art are used in the classroom with the aim of working through intonational expressiveness, loudness, tempo, correct pronunciation of sounds, and development of clear and distinct speech.

## 5. Conclusion

It is confirmed in the course of the study that the development of dialogical speech in pre-school children in the process of theatrical activities will be effective in the following pedagogical conditions: the joint theatrical activity of children and adults is organized; the theatrical-gaming environment is created; the pieces of oral folk art are used in the classroom with the aim of working through intonational expressiveness, loudness, tempo, correct pronunciation of sounds, and development of clear and distinct speech.

## 6. Recommendations

The materials of the article may be useful for teachers of preschool educational organizations, that is:

- they will allow to scientifically justify and select forms, methods and tools that promote the development of dialogical speech in children of older preschool age;
- the developed criterial diagnostic tool may be used as one of the pedagogical diagnostics methods of dialogical speech development effectiveness in the period of preschool childhood;
- they may be used in the development and implementation of the basic educational program for pre-school education, formed by the participants in the educational process.

In addition, the scientific and methodological materials presented in the article will enrich the content of the course "Preschool Pedagogy" for students of secondary and higher educational organizations.

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## THE ROLE OF TEAMBUILDING IN IMPROVING THE EFFECTIVENESS OF A MODERN ORGANIZATION

### Abstract

The urgency of the problem under investigation is due to the fact that teambuilding in modern social organizations is aimed at increasing their effectiveness and should be considered as a social technology, in the fullness of its scientific conditionality, systemic interdependence of social effects and consequences.

The purpose of the article is to generalize and analyze the results of an experimental study of teambuilding role in improving the modern organization effectiveness.

The article considers the main approaches to teambuilding understanding, presents the results of experimental work, and suggests technologies for the formation of effective management teams.

The materials of the article may be useful for administrators, managers and psychologists dealing with personnel management.

### Keywords

team, teambuilding, technology and model of teambuilding

### AUTHOR

**Tatyana I. Kulikova**

Ph.D., Associate Professor, Department of Psychology and Pedagogy,  
Tula State Lev Tolstoy Pedagogical University, Tula, Russia.

125, Lenin avenue, Tula, 300026, Russia.

E-mail: [tativkul@gmail.com](mailto:tativkul@gmail.com)

### Introduction

Working with teams in all spheres of activity is of great importance in modern society. Teams are an integral part of any person's life and accompany his/her activity all the time. Scientific literature devoted to the problems of management persistently endorses the idea that the main tool of the mankind development at globalization stage is the improvement of "organizational structure" - the mechanism of uniting separate and inefficient individually persons into effective groups. One of these groups in the modern organization is a team.

The first studies of teamwork, published in the early 1960s, were devoted to finding the ways to improve managerial work in order to increase general effectiveness of the organization. Management technologies play a leading role in the teambuilding of this kind. Such technologies "are the most closely guarded commercial secret of almost any corporation, because the technology of production can be purchased or invented, and the management technology of a sufficiently large organization can only be grown as a living being together with the organization itself" (Karyakin, 2014). In due course with the expansion of activity spheres, the concept of "team" was highly distorted, and its boundaries are very blurred.

Even taking into account the fact that teamwork is associated with some difficulties, it is hardly possible to meet a person who did not have to participate in teamwork at least once in his life. Teams are created to solve specific problems, and good



teams are the result of carefully planned and painstaking work. Careful design of the team is a profession. To achieve accurate and harmonious work of the team, it is necessary to understand comprehensively the processes taking place in it. This comprehension of the teamwork reasons often leads to the creation of more efficient and united teams.

All this allows us to conclude that teambuilding in modern social organizations, aimed at increasing their effectiveness, should be considered as a social technology, in the fullness of its scientific conditionality, systemic interdependence of social effects and consequences (Doroshenko, Zotova, 2010).

A somewhat different approach for analyzing the problem of teambuilding gives the phenomenon of organizational culture. Category basis for studying organizational culture within the frameworks of management sociology is presented in the works of Russian sociologists: L.Ya. Averyanov, D.S. Klementyev, L.I. Pankova, G.S. Batygin, S.A. Belanovsky, V.I. Dobrenkov, G.T. Zhuravlev, A.I. Kravchenko, V.P. Kulygin, N.I. Lapin, G.V. Osipov, V.A. Yadov, S.T. Guryanov and others.

One can distinguish the following approaches to building a team in foreign social psychology (Belbin, 2014, Lewis, 2004, Parker, Kroll, 2012):

- an approach based on working out and coordination of team goals (teambuilding is defined as the development of the ability of a group of people to achieve their goals);
- an interpersonal approach or an approach that focuses on the analysis of processes and improvement of interpersonal relations (the process of teambuilding is aimed at increasing interpersonal relations in the group, and it is based on the assumption that because of this the team will be able to function more efficiently);
- representatives of a role approach to teambuilding state that this process improves the work of the team, clarifying the roles (as a result of the teambuilding, each member of the team knows his own role and those of the others, what expectations he has for others and others for him);
- an approach to teambuilding based on problem solving (in the opinion of the of this approach representatives, the team becomes more effective as a result of joint problem solving by all the team members, that is, in the process of forming the team, the team members determine the main problems, deal with them and actively plan their activities).

The last of these approaches is the most common in the interpretation of teambuilding, incorporating all previous approaches.

In general, foreign social psychology has broad experience in the development of theoretical concepts, principles and technologies of teambuilding. Recently, the development of these issues does not take place only within the frameworks of this or that approach. There are three levels of socio-psychological analysis of the team dynamics and structure:

1) level of a particular team member (improvement and development of skills important in teamwork);

2) actual team level (training of the team);

3) level of the organization in which the team works. The further development of the issue is probably connected with determining the links between these three levels.

To date, there is a situation when the term "team" is used more and more often in scientific (sociological, psychological, economic, etc.) literature and in business. And since this term was included in the scientific lexicon very recently, there is still no clear, unified understanding of this term meaning, its accurate axiomatic definition.

A team is usually called a small number of people (usually 5-7, rarely 15-20), who share the goals, values and common approaches to the team-work, have complementary skills; take responsibility for the final results, can change the functional-role correlation (perform any roles within the group); have mutually determining affiliation of their own

and partners to this community (group) (Zhukov, Pavlova, Zhuravlev, 2014).

The essence of the team is common responsibility for all its members. For this kind of responsibility, a specific goal is required, the mission in which all members of the team believe. The mission of the team should include an element related to victory, primacy, progress. There is a difference between the goals of the team and its mission: the goals of the team allow you to monitor your progress towards success, and the mission as more global in its essence gives sense and energy to all specific goals.

Team relations, which traditionally include such concepts as a feeling of fellowship, a spirit of partnership, can manifest themselves only in the business sphere, without influencing the personal life of team members. There exist many examples where successful business partners cannot bear each other when it comes to other areas of communication.

When considering the definition of a team, there may be some misunderstanding of what exactly the difference is between the team and the usual group. Such confusion can occur because people in organizations often consider the groups they belong to as teams, but it is not actually so. Despite this, there are several important differences between a group and a team (Zinkevich-Evstigneeva, 2013).

First, in a group, the work execution usually depends on the individual activities of its members. The result of the team's work depends on the personal contribution of each member to the achievement of the goal, in close cooperation.

The second difference is related to the role of the responsibility for the work. Usually, members of groups unite their resources to achieve the goal, although this is simultaneously the work many individuals, which is taken into account when calculating bonuses. Groups members most often do not bear responsibility for the overall result of the work, but are only responsible for their personal activities. Teams, however, give great importance to the individual work of each member, as well as to the overall result. Team members work together to achieve the result (for example, goods production, service delivery, or solution development), which is the joint contribution of the team to the work, and each team member shares responsibility for the result. The main difference is as follows: in groups, people who control the organization require a personal report on the work done by everyone, while team members exercise self-control (Kapitonov, Zinchenko, 2012).

Third, when group members may only share a common goal, team members, among other things, share the same general responsibility to achieve the goal. Moreover, these goals are often considered as an opportunity to win the realization of a goal (to be first or best in something). For example, the team's work at the company's plant, which has financial difficulties, may seek to make this company a leader in its industry. The team of one of the private general education schools may try to prepare their graduates in accordance with higher standards of knowledge than any other school in the area. Team members concentrate on joint achievement of higher goals, which in combination with the specifics of the tasks makes them deeply interested in the results of their activities. You can say that teams have a "right to own" goals and usually spend a lot of time setting them up. Like groups, teams tend to demonstrate their level of skills and knowledge through the goals set. They set themselves broader goals, which are a significant source of emotional energy, a stimulus for their active realization.

Last, teams differ from groups by the nature of their communication with the management. Usually the management sets a goal before the team and does not interfere with the planning process in the framework of teamwork, that is, teams must have different levels of autonomy. They must have a high degree of freedom and be able to set intermediate goals independently, to plan the work time and be able to bring the results as close as possible to the goal (Shkuratova, 2001).

The systematic approach is fundamental in the work to create an effective team. It is based on the following principles: a principle of fundamental values - the desire to subordinate personal goals to a common goal is shared by all team members; a principle of harmony - the distribution of roles according to personal and professional competences and characteristics of its members, the ability to reach consensus, constructively resolve conflicts; a principle of trust - each member of the team is adequately open and honest with respect to others, has access to strategic information important for obtaining the positive result; a principle of equality - all members of the team are subject to uniform norms and rules and have equal rights, including the right to express their own opinion; a principle of adaptability - redistribution of roles, including the change of a leader, preparation of successors; a principle of additionality - the weak qualities of one team member are compensated with the strong qualities of another in the same aspect.

### **Materials and Methods**

To determine the psychological climate in a group and to assess the strengths and weaknesses of communication development within a company, we conducted a diagnostic survey on the basis of one of the project institutes branch in Tula. This branch had been working in the market of planning organizations for more than 50 years, due to the current economic situation in the country, it was bought by a businessman in November 2014. An interesting phenomenon was noted at the time when this Tula branch was changing hands. Employees were deprived of wages for more than 4 months, rent for premises was not paid - and people had to take work at home. But only 5 people out of 110 employees of the branch resigned at their own will.

During initial interviews with employees, it was revealed that one of the main factors that kept people at this job was "a good friendly team." Among other equal factors, the work in a friendly team and favorable psychological atmosphere allowed the organization to survive and overcome the crisis situation. The study involved 40 people: 28 women and 12 men aged 22 to 56 years. The average age of the subjects was 39 years.

Our research included 4 stages. The theoretical stage involves determining the criterial base of the research, determining goals and objectives, as well as studying literature concerning this issue. This stage included comprehensive study of the researched problem, concepts and phenomena. Studying the mechanisms of teambuilding, as well as revealing the influence of the team's role on the effectiveness of the modern organization. The differences between work collective and team were determined, as well as criteria for determining the level of team solidarity.

At the methodological stage, the general research plan was drawn up. We selected research methods, determined the procedure of the research. The procedure of the ascertaining experiment and the methods of processing the results were determined. The procedure for conducting the ascertaining experiment was clearly aligned with the existing base.

The experimental stage included the preparatory part and the actual experiment itself. During the preparatory part, an individual conversation with the director of the planning institute took place. During this conversation, the interests of management were determined and the peculiarities of the employees' labor process were revealed. Conducting of the actual experiment included the use of pre-selected methods. The survey itself was conducted separately in each department. The staff was provided with handouts, which included certain forms and a brief instruction. The purpose of the ascertaining experiment was to determine the level of team solidarity as an efficiency factor.

The following criteria for team solidarity are distinguished in the modern literature:

1) solidarity and organization of the structure; 2) presence of a common idea and focus on its realization; 3) high level of interaction and the presence of intensive communication between all parts of the team.

Based on the above mentioned criteria, we developed a diagnostic program, which is presented in Table 1.

The methods presented in the diagnostic program (Akimov, 2008) make it possible to obtain quantitative and qualitative data, subjective and objective indicators of the team solidarity level in the organization.

**TABLE 1. DIAGNOSTIC PROGRAM OF THE RESEARCH**

<b>№</b>	<b>Method name and author</b>	<b>Purpose of the methodology</b>
<b>1</b>	Test "Determination of psychological climate in a team"	Determination of the psychological climate in a team
<b>2</b>	The method of personality orientation diagnosis by B. Bass	Determination of personality orientation prevailing type
<b>3</b>	Daniel Dennison's questionnaire for the diagnosis of organizational culture	Evaluation of the strong and weak points of communication development within the company
<b>4</b>	The method "Distribution of roles in a team" (by Belbin)	Defining the roles of team members

## Results

During the ascertaining phase of the experiment, we diagnosed the psychological climate in the team and evaluated the strong and weak points of the communication development within the company.

According to the results of the questionnaire "Determining psychological climate in a team", such indicators as "responsibility" (19%), "organization" (16%) and "awareness" (16%) are "ideal". This may be due to the specifics of the organization's work. The employees of the branch are criminally liable for the work they do. High indicators of "responsibility" criterion are also connected with this, besides, projects must be submitted within a certain period of time and all activities are regulated. The high levels of "organization" and "awareness" indicators are due to the system of relationships in the organization. Since the company carries out large orders, all the work is divided not only among departments, but also within them. No one action can be performed without agreement. Therefore, the company has well-established communication and information exchange processes.

According to the results of the personality orientation diagnosis by B. Bass, it can be stated that most employees are orientated to business - 40%. This indicator tells that more than a third of all subjects are interested in solving business problems, in doing the work as well as possible, they are interested in business cooperation. Such employees are able to defend their own opinion, which is useful for achieving common goals.

35% of the respondents focused on communication. This indicates the desire to maintain relations with people under any conditions. Such employees are often focused on joint activities, they are also characterized by dependence on the group and desire for approval. Such emotional attachment has a beneficial effect on the overall psychological climate in the team.

Only 25% of the subjects were focused on themselves. People who have such an orientation want direct rewards. They are aggressive in achieving status and are prone to

rivalry. At the same time, the 25% indicator is not critical.

This percentage ratio indicates a healthy team that is focused on the result, on common goal. At the same time, the importance of the collective itself is great. And healthy competition shows the presence of ambitions among employees who are able to realize themselves in this organization.

According to the results of Daniel Dennison's questionnaire, it was revealed that 36% of the respondents believe this team to have clear understanding of corporate objectives and strategic goals. A clear understanding about the company's strategy by employees provides an understanding of how the members of the organization can contribute to the implementation of the strategy.

22% of the total number of respondents tell about sufficiently developed level of involvement. The company is actively developing a sense of participation and responsibility among its employees. Employees have the right, necessary authority, initiative and ability to manage their own working process.

Analysis of the results of the methodology "Distribution of roles in a team" (by Belbin) allows us to conclude that there are all possible roles in this team. The presence of all types may indicate a well-coordinated teamwork and the existing positive relationships in this team. This distribution of roles has a positive effect on solving problem situations and on the speed of work execution and decision making. Each employee is valuable at different stages of work. Also, this distribution of roles is due to the fact that employees of different departments took part in the experiment (Belbin, 2013).

Most of the employees played the role of "executor" (22%). Executors are very effective organizers and administrators. They may have a lack of flexibility and dislike unverified ideas. The main quality of Executors is discipline; While all other natural abilities or intelligence are almost always secondary. The main function of the Executor in the team is organization of work. Executors are reliable, conservative and efficient. They have high internal stability and a low level of anxiety. Executors mainly work for the team, and not for the sake of satisfying their own interests. They perfectly realize ideas in practical actions.

The second in number was the role of "fine finisher" (18%). Such employees are very diligent and honest. They always look for errors and shortcomings, they assume control over the terms of assignments execution. Finishers are people who have this gift in full measure. They are characterized by attention to details and ability to keep in mind the planned things, missing nothing until the work is done. The presence of such people in this organization is really very important. Each planned object must be issued in accordance with all the rules and in due time. Such employees are the basis of the organization.

Approximately the same was the number of "formers" (17%). Formers always act as drivers for action, and if the team is inclined to inertness or complacency, the presence of a Former will remove it from this state. Such a person is always dynamic, easily challenges and exerts pressure. The style of Former's leadership is to motivate, to succeed. The presence of Formers in the team brings new ways of working and solving the set tasks.

The number of employees with the role of "collectivist" was 13%. Collectivists are very soft, receptive and diplomatic people. Collectivist plays a relationship-oriented, supportive role in a team. If team members are difficult to communicate, Collectivists can have a soft impact on the situation and prevent possible conflicts, thereby assisting the formal team leader to carry out the task. Representatives of this type are often found among the top management of organizations. They are excellent instructors for young managers.

Equal percentage of employees were determined with the roles of "thinker" and "chairman" (10% each role). Employees with such a role are inventive, have a rich



imagination. Thinkers act alone, sitting in their corner and contemplating different options. They have high intelligence and a very high level of creativity. The presence of Thinkers in a team is necessary during periods of stagnation and crisis situations. Chairman is strong domination and devotion to the goals of the team. This is usually a mature, confident, self-disciplined employee. He can clearly formulate goals, promote decisions, and delegate authority. He has a clear idea of the strengths and weaknesses of the team and maximizes the potential of each team member.

Equal percentage of employees were also determined with the roles of "appraiser" and "scout" (5% respectively). Appraisers are sensible, discerning people with strategic thinking. They see all the alternatives, they weigh everything. Representatives of this role clearly do not show themselves in a team until the time comes to make important decisions. Appraisers are characterized by a high intellectual level, high criticality of thinking, especially with regard to their ability to put forward counterarguments. Appraisers are slow enough in their reasoning and always prefer to think cautiously. Appraisers may lack inspiration or the ability to motivate others. Scouts are inclined not so much to offer original ideas, but "to collect" fragments of others' ideas and to develop them. Scouts are particularly skilled in studying resources outside the team. With average indices of intellectual level and creativity, they are sociable, curious and socially oriented. Thanks to these qualities and the ability to use resources, Scouts are easier than Thinkers integrate into the team.

## Discussions

The analytical stage included the processing of data obtained during the ascertaining phase of the experiment using mathematical statistics and correlation analysis based on Pearson criterion in order to establish the relationship between team building and the modern organization effectiveness. We numbered among teambuilding criteria the focus on communication, adaptability and involvement, responsibility, organization and interaction. Among effectiveness criteria - focus on business, mission and coordination, organization, collectivity and solidarity. The indicator ( $r = 0,7$ ) shows direct relationship between team building and the effectiveness of modern organization. This suggests that the higher is the level of team solidarity, the higher is the effectiveness of this organization.

On the basis of the theoretical and methodological analysis of the existing models of team building and empirical research data, we developed and proposed a model for the team building in modern organization and described in detail teambuilding technology (Figure 1).



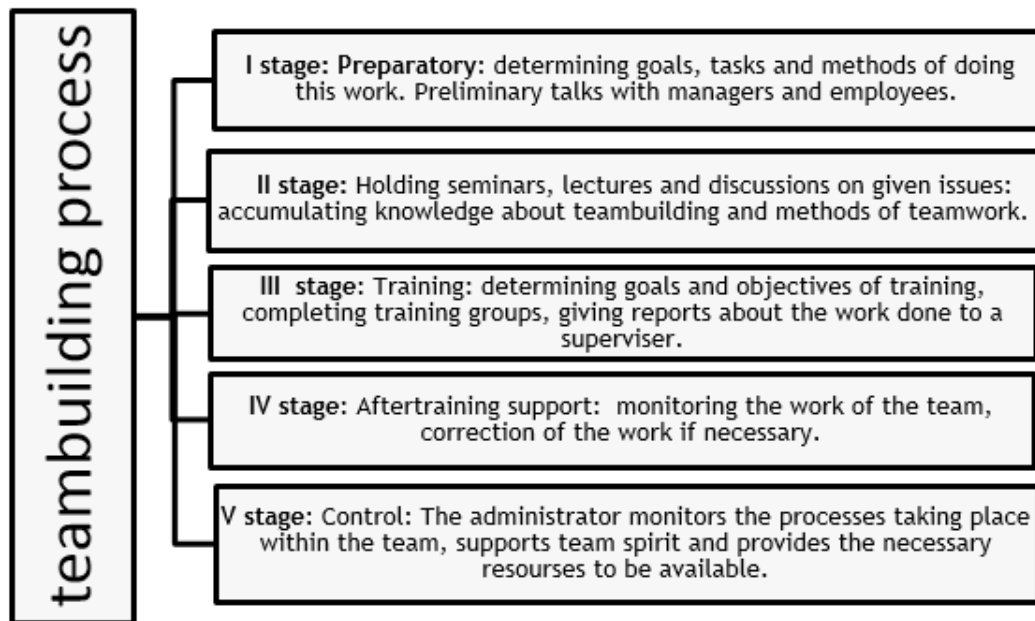


FIGURE 1 - MODEL OF TEAMBUILDING IN A MODERN ORGANIZATION

This model allows us to present the technology of teambuilding, which can be divided into several stages (Kulikova, 2011).

**I stage** - preparatory. At this stage, a thorough analysis of the organization, its specifics, characteristics and working conditions is made. Preliminary discussions, interviews with management and employees are conducted to determine the goals and tasks of the following work. It is necessary to define the desired final result clearly, and to build further work accordingly. We also conduct psychological diagnostic research at this stage to identify the level of team solidarity, determine the presence or absence of intragroup relations, and determine the personal characteristics of employees.

**II stage** - educational. Discussions in this case will serve as a feedback mechanism, you can see whether the received information is understood correctly by the employees of the organization, what is their attitude to this work. Delivering thematic lectures, leading discussions on a given issue. This work is carried out to expand and deepen knowledge about teamwork. Understanding the mechanisms of team interaction by the employees of the organization will contribute to the formation of a favorable "territory" for further training. In addition, the discussion is a kind of feedback mechanism and allows you to understand how employees are disposed to teambuilding.

**III stage** - preparation of the plan for training teambuilding. Goals, objectives and training plan are coordinated with the head of the organization. The final list of the training participants and the organizational moments of the training are specified: duration, routine, place, necessary equipment, etc.

According to most experts, the most popular team-building (group) events for today are active trainings with elements of role-playing games. The technique of teambuilding is often realized in the process of playing various situations by creating the game reality where participants can easily be absorbed in the process of doing exercises. During the training, participants can go through all the stages of group dynamics, including aggression and feedback. The task of the psychologist-instructor is to help the participants to analyze the experience effectively and apply it to real working situations. The result of the trainings is improvement of the overall team work efficiency - the level of trust to the organization is raised, the team is built, united around a common goal with a real leader. A new type of relationship within the team, based on a deep acceptance and

understanding of each other, increases the personal responsibility of team members for achieving a common goal. The conflict level is reduced, the constructiveness of the employees and the creative activity of the team increases, which creates conditions for personal development.

**IV stage** - after-training support with the purpose of adapting the built team and its work in the conditions of the enterprise. The team can work independently at this stage, as everything that happened at the teambuilding training session was explained to its participants - they understood all the processes and changes occurring in the group. It is necessary to involve a manager or a head of personnel department in the process of teambuilding. Participation at the preparatory stage and then in the training, will allow him to evaluate the employees more accurately and understand what the goals and objectives of the organization the built team can solve.

At the stage of after-training support, new forms of communication learned by employees during the training are fixed. For example, clear schemes for documents circulation, changes in functions and relations between departments of the organization are introduced. The process of teambuilding is closely connected with the specifics of the organization and requires an optimal return from each participant. But "the game is worth the candle," as the built team is able to solve problems that seemed unsolvable earlier, and the organization can reach a new level of development. And all this happens with minimal time and material resources.

**V stage** - stage of control. The effectiveness of teamwork in the team is discussed and, if necessary, some correction is made. At this stage, a critical approach is very important, which will allow us to make an objective analysis of the resources adequacy. The leader supports the team spirit, establishes a control system and encourages self-control, replaces team members in case they do not want or cannot act in accordance with accepted standards and norms.

## Conclusion

Thus, the results of the teambuilding model introduction at the enterprise are the following:

- increasing creativity in the field of team interaction;
- establishing understanding of the overall goals and objectives of the organization and relating them to the personal goals and objectives of the employees;
- awareness of interdependence in achieving the goals and objectives of the organization and meeting the personal needs of employees;
- improving the psychological climate;
- improving efficiency and discipline;
- increasing employees' loyalty;
- elimination of barriers when information flows, reduction of information distortion;
- improvement of interpersonal relations in the team;
- manifestation and resolution of conflict situations;
- emergence of new forms of staff motivation;
- increasing the staff's need for additional training and application of the acquired skills in practice;
- breakthrough in the development of new kinds of the organization's activities.

The results of the research to determine the role of teambuilding in improving the effectiveness of the modern organization showed that, under all equal conditions, the existence of an effective and solid team leads to higher effectiveness index. The presence

of intra-group and inter-group relationships, openness, readiness to contacts, focus on the common goal - are those characteristics that distinguish the team from the group. A clear understanding of strategic goals by employees, their interest in development, favorable socio-psychological climate serves as strong motivation for more effective work. It was also found that organizations that worked on team building and team improving managed crisis situations faster and with less losses.

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## THE ESSENCE OF OFFER TRANSACTIONS IN THE BANK

### Abstract

In this article, we consider such concept as "offer", its belonging to the bank's bonds, as well as the main distinctive features of offer transactions. This scientific work presents an extensive analysis of offer in the Russian Federation and numerous ideas for offering securities (bonds).

### Keywords

offer, securities, state, bank, solution of problems, investor, issuer, bonds, shares, securities market, bonds offers

### AUTHORS

#### Svetlana A. Mullinova

Candidate of Economic Sciences, Associate Professor,  
Federal State-funded Educational Institution of Higher Professional Education  
«Kuban State Agrarian University», Russia.  
13 Kalinina Str., Krasnodar, 350044, Russia.  
E-mail: s.mullinova@mail.ru

#### Yulia A. Hilchuk

Bachelor, Federal State-funded Educational Institution of Higher Professional Education  
«Kuban State Agrarian University», Russia.  
13 Kalinina Str., Krasnodar, 350044, Russia.  
E-mail.ru: yuliyahilchuk55@mail.ru

#### Ekaterina I. Elenskaya

Bachelor, Federal State-funded Educational Institution of Higher Professional Education  
«Kuban State Agrarian University», Russia.  
13 Kalinina Str., Krasnodar, 350044, Russia.  
E-mail.ru: k.elenskaya@yandex.ru

We all know such terms as "yield to maturity" or "yield to the date of the nearest offer". Everything is clear with the first term, but the second one raises numerous questions. Let us try to figure out what the offer is and what it means in the economy.

Let us consider the concept of an offer in a general form. The dictionary of banking terms and economic concepts defines an offer as an offering to one or more persons to conclude a contract for the sale and delivery of some commodities under certain conditions (*Anesyants, 2016*). The party offering the goods is called the offeror.

At the same time, in the world practice, an offer is treated in a broader sense - as an announcement about intention to conclude a contract. This approach to the essence of an offer suggests that not only the seller can send it to an eventual buyer, but also the buyer can send it to the seller, and the offer must contain at least all the essential terms of the contract. (6)

It is worth noting that an offer differs from the usual offering by the following conditions:

a) an offer to conclude the contract must include all the essential conditions of the contract;

b) an offer must clearly show that the offeror has made the final decision to conclude the contract, and it is enough for the addressee to express his will to conclude a contract;

c) it is an act of will expression which announces the will of a person to enter into a contractual relationship with one or several persons to whom the proposal to conclude a contract is addressed.

Several types of offerings are hidden under the term "offer", which differ in their content and form. There are four basic forms of offers at present (Table 1).

TABLE 1. TYPES OF OFFERS AND THEIR DISTINCTIVE FEATURES

Offer type	Main features	Additional information	Example
Public	- fulfillment of all essential conditions without fail; - responsibility of interested persons; - a person signing the offer fully agrees with all of its terms, without discussing them	The offer is addressed to an undefined circle of persons and contains all essential conditions of the contract	Advertising in the form of mailing (product catalogs, advertising brochures or advertisements)
Irrevocable	It is concluded with all interested persons without possibility to withdraw the made offer	It is very often used by issuers in relation to their shareholders	Offering of cellular communication services with indication of the tariff plan cost for the VIP-client
Free	It is offered to several buyers simultaneously	It is used by companies / individuals for preliminary research of goods / services market	Sale of a specific product to a specific circle of persons
Solid	It is made to one potential buyer of goods / services, with a mandatory indication of the period during which the offer is valid	The contract is considered to be concluded from the moment of the buyer's consent	These are various economic offers to the client from the bank

According to the foregoing, it can be noted that the offer involves unilateral commitments, and the other party is free to accept, not to accept the offer or even ignore it altogether. Moreover, the service provider determines the terms of the service and the cost of the service independently, so he assumes certain obligations, which he must observe from the moment of the offer publication.

It is important to note that the implementation of the offer can be performed in different forms: standard commercial proposal, electronic or actual letter, telegram, advertising brochure, verbally during negotiations or telephone conversation. The most common form at present is electronic one (in form of e-mails, messages). In addition, an offer is very often made in the form of a commercial proposal (in the form of a letter sent by mail) (Efimova, 2017).

The content of the offer depends on the specificity of the proposed product, the prevailing trade practices, and the nature of business relationships of specific counterparties. Since there is no unified standard for the preparation of an offer, the following points are usually considered to be general requisites for the offer:

- the subject of the offer with the exact designation of the product or service (if necessary with the specification of quality indicators, technical characteristics, product description, reference to a known standard, etc.);
- the quantity of the proposed product in the accepted units of measurement;

- the price per unit of product measurement in a certain currency;
- estimated delivery time;
- terms of payment (with possible loan);
- validity of the offer.

Particular attention should be paid to careful pricing based on real prices of the external market, taking into account possible amendments for commercial and technical characteristics.

In addition to the above-mentioned details, the offer may contain additional conditions, for example, about providing guarantees, technical documentation, force majeure and arbitration clauses, counter obligations, and others (*Kilyachkov, Chaldaeva, 2015*).

In the Russian Federation, securities offer transactions are regulated by the Civil Code of the Russian Federation and belong to certain articles. On the basis of the Civil Code of the Russian Federation, in which this concept is fixed, it can be noted that offer transactions must be concrete, that is, accurately indicate the position of the character who made the offer. In addition, it should be noted that the character must support the contract with certain conditions and must accept it.

So, according to part 1 of Art. 435 of the Civil Code of the Russian Federation, an offer that is addressed to one or more definite persons is considered to be the offer, which is sufficiently defined and expresses the intention of the person, who made the offer, to consider himself a contractor with the addressee who will accept the offer.

An answer of the person, to whom the offer is addressed, is recognized as an acceptance. So, in accordance with Part 3 of Art. 438 of the Civil Code of the Russian Federation, the actions, committed by a person who received an offer within the time period established for its acceptance, to fulfill the terms of the contract specified in it (provision of services, performance of work, payment of a corresponding amount, etc.) are considered to be an acceptance, unless anything different is determined by law, other legal acts or indicated in the offer (*Civil Code of the Russian Federation*).

It is also important to bear in mind the UN Vienna Convention of 1980, which, among other things, the Soviet Union signed. It is worth noting that this document is useful in resolving disputes, when an offeror and an acceptor are citizens of different states.

Bonds offer is an opportunity or the right of investors to repay (sell) a security at a nominal price to the issuer on a predetermined date, without waiting for the end of the bond "life".

We should note that bonds have a number of significant advantages over other financial instruments (shares, in particular), which include:

- 1) higher level of profitability than bank deposits (with comparable terms of bonds maturity and bank deposit);
- 2) regular receipts (coupon bonds are traded on the Russian stock market, the coupon is charged on a daily basis, and its payment occurs once every 3 or 6 months);
- 3) low level of risk (minor fluctuations in financial indicators do not have a cardinal impact on the level of the issuer's solvency).

Private investors, working in the bond market, use the simplest strategy most often: they buy bonds and keep them until maturity. More sophisticated investment strategies in the debt market are used quite rarely, although their profit potential is much higher.

An interesting strategy for working in the bond market is to offer an early repayment of the bond by the issuer at the predetermined price. So all offers can be divided into two categories:

- offer with *Put-Option* (*put-offer*);
- offer with *Call-Option* (*call-offer*) (*Petrov, 2014*).



A put-offer implies an obligation on the part of the issuer to pay off all presented bonds at their par value (unless another option was fixed in the issue conditions). In this situation, the decision on whether to sell bonds or not remains for the investor. Bonds with this type of offer are also called irrevocable or put bonds.

A call-offer or otherwise a revocable offer implies an obligation on the part of the investor to sell bonds in case the issuer calls for their redemption. In this case, the issuer decides whether to redeem his bonds or not. (9)

This type of offer is convenient for the issuer, because it makes possible, if necessary, to reduce the level of debt burden, as well as reduce the cost of borrowing in case of lower interest rates and improving the market conditions (with further refinancing of debt). This is a certain risk for investors, since in case of lower interest rates they will have to reinvest funds at a lower interest already into other instruments. Therefore, callable bonds, as a rule, have a bonus award (*Kilyachkov, Chaldaeveva, 2015*).

We should note that revocable bonds or call option bonds may be redeemed earlier at the issuer's request, and *put*-option bonds may be redeemed ahead of schedule at the request of investors.

Revocable bonds are quite rare on the Moscow Stock Exchange. Most of the securities with *call*-offer are found among Eurobonds denominated in foreign currency. However, irrevocable ones are quite common among corporate bonds with a variable coupon. The coupon yield for such securities is fixed only until the date of the next offer, and after it, the issuer changes the coupon, usually in accordance with the current market yields of similar issues. Investors who do not plan to hold bonds at a new interest rate can present bonds for redemption, and the issuer will be obliged to pay them off at par.

Let us consider the process of using bonds offer on a specific example.

Organizers: JSC VTB Capital Asset Management, PJSC Sberbank, JSC Raiffeisenbank made a decision to issue BO-04 series of bonds by the issuer PJSC Detsky Mir with variable coupon and payouts twice a year.

The fixed interest rate of 9.5% is valid until April 3, 2020.

The maturity date is March 29, 2024.

If the investor does not like a fixed interest rate for the next period or cash is required, then he can present the bonds on that date for redemption on an irrevocable offer.

According to Table 2, we can see that the fixed coupon yield is determined only up to the date of the offer, namely until 03.04.2020.

Thus, this form of bond is convenient for both the issuer and investors. For investors, this is an opportunity to reduce the risk associated with prolonged ownership of the bond. This is a very significant advantage for many holders of debt securities of Russian issuers, as the situation with the credit rating of issuers can change dramatically in a short time, and the possibility to repay the bond at par value ahead of schedule allows compensating this risk. For the issuer, this is a way to lower the cost of borrowing in the event of lower interest rates on the one hand, and the possibility of avoiding frequent reissues of short-term obligations, on the other.

TABLE 2. LIST OF COUPON PAYMENTS

No	End date of the coupon	Period, days	Rate, %	Coupon yield per 1 bond, rub.
1	06.10.2017	182	9,5	47,37
2	06.04.2018	182	9,5	47,37
3	05.10.2018	182	9,5	47,37
4	05.04.2019	182	9,5	47,37
5	04.10.2019	182	9,5	47,37

6	03.04.2020	182	9,5	47,37
7	02.10.2020	182	-	-
8	02.04.2021	182	-	-
9	01.10.2021	182	-	-
10	01.04.2022	182	-	-
11	30.09.2022	182	-	-
12	31.03.2023	182	-	-
13	29.09.2023	182	-	-
14	29.03.2024	182	-	-

In fact, irrevocable (returnable) bonds with variable coupons are several successive short bonds with a fixed coupon yield, converted into one long issue with preservation of advantages for both parties.

The exact yield to maturity for bonds with variable coupon cannot be calculated, since the coupon changes after each offer. In this case, it is more convenient to calculate the same yield by the date of the nearest offer, which was discussed at the beginning of the article. In fact, it is identical to the yield to maturity, if it is supposed to sell the bond on offer.

The redemption value on offer is the sum to which both parties (the investor and the issuer) came after negotiations. It can be both above and below the market price of the bond. The very procedure for redemption is always determined by the agreement concluded between the issuer and the shareholder (*Tsarikhin, 2016*).

Therefore, the given operation becomes an opportunity for the client who invests it to demand from the issuer redemption of the bonds at the price fixed in the contract and in advance of the date fixed.

We should bear in mind that transactions with an offer should be made only if the issuer is sure that he will be able to redeem the amount specified in the contract. The issuer must have a specialist in banking operations to exclude the possibility of failure to fulfill the contract.

The cost of bonds presentation to the offer should be from 500 to 2000 rubles and take 2-4 days. In our example, the cost of securities is 1000 rubles, which corresponds to this standard.

The date of the bond offer is always set in advance and cannot be changed. You can see it in the issue prospectus, on the page of a specific bond on the Moscow stock exchange, or on specialized resources like *rusbonds.ru* or *cbonds.ru*. You can see an announcement about the corresponding corporate action shortly before the offer date in the issuer's news. At the same time, a new coupon yield is usually unknown, but it rarely differs significantly from the current yields of similar issues.

It is necessary to issue an application from the broker to present the securities for redemption not later than 3 days prior to the deadline for submitting applications. This can be done personally in the broker's office or remotely, if the broker provides such an opportunity.

After the date of the offer, the bonds are debited from the account on the next or following it business day. Money should come to the account of the investor within 20-25 days after the date of the offer according to specifications. Depending on the issuer, funds can come faster (*Kilyachkov, Chaldaeve, 2015*).

We should not forget that the secondary circulation of bonds on the market begins when the issuer registers the report on the results of the securities issue in the Federal Commission for the Securities Market of Russia (FCSM of Russia). Offer transactions have to do with secondary circulation. A situation is possible when an investor, buying a bond and expecting its redemption on the nearest offer, will not be able to present it for redemption, because the issue will still be at the stage of placement by this date. This

situation is typical for issues that have a long period of placement with low activity of buyers. In this case, the holder of the bond will have to wait for the next offer, if any, or for the maturity date. This situation is very unlikely in practice, but it is still possible.

The main advantage of "the yield to the nearest date of the offer" is the possibility to respond quickly to changes in market conditions, such as including in the portfolio bonds with different terms of the offer.

Another advantage of this concept is the low trading activity and, accordingly, minor time costs necessary to implement this strategy. A private investor can form a bond portfolio in such a way as to be able to present bonds to the offer with a certain periodicity (for example, once a quarter) (*Anesyants, 2016*).

In addition, the use of offers on bond issues gives investors the chance to "go out in money" and use new investment opportunities that appear on the shares and bonds market.

If the investor prefers to work primarily in the bond market, the presence in the portfolio of bonds, for which an offer is provided, makes it possible to react quickly to changes in the level of interest rates in the money market. The fact is that there is an inverse relationship between the level of interest rates and the price of bonds (when interest rates rise, bond prices drop, and vice versa). While forming an investment portfolio, a private investor cannot accurately predict the future level of interest rates, but he has a real opportunity to revise the structure of his investment portfolio quickly, taking into account market realities.

Suppose that an investor purchased a bond with maturity in 2 years, provided with an offer in one year (at a price equal to 100% of the paper nominal value). At the time of purchase, the bond yield to the offer was 9.5% per annum. If in a year (by the time of the offer) interest rates rise (and bond prices drop accordingly), then the investor can present bonds to the put option offer and use the released funds to buy debt instruments with higher profitability.

In conditions of maintaining interest rates at the same level or with their fall (in the first case, bond prices will remain unchanged, and in the second case they will rise), the investor will not take advantage of the offer and will own the bond until maturity.

An investor who adheres to a moderate strategy and distributes his funds between stocks and bonds may act similarly, but in this case, he makes the decision to sell the offer depending on the situation in the stock market. When the stock market is depressed, the investor will present papers to the offer and gradually increase the shares segment in the portfolio, and with improving share market dynamics, the bonds segment will increase in the portfolio (in this case, the investor will most likely not be presenting bonds to the offer) (8).

An offer as a complex economic process has a number of both positive and negative properties.

The advantages of this procedure include:

- 1) availability;
- 2) lack of corrections;
- 3) interactivity;
- 4) possibility to learn and evaluate efficiently the size of the offered rates;
- 5) protection from possible risks.

An offer has a number of negative properties too. We can mention such disadvantages as:

- 1) obligation to conclude a contract (in a formal form);
- 2) conclusion of this contract on the conditions that were originally agreed;
- 3) it does not imply the possibility of bidding between the client and the company.

Among disadvantages of an offer we should note its relative laboriousness (regardless of the bonds number presented to the offer, the procedure for the investor's actions remains practically unchanged), as well as the need for submission of documents to the issuer or payment agent timely and the application for the sale of bonds (for example, the issuer has the right not to execute an offer if the investor violates the terms of documents submission).

Taking into account the above mentioned pluses and minuses of offer transactions, we can conclude that an issuer can control the level of his debt burden using an offer by buying the right share of the bonds (or the entire issue). An investor benefits from offers because he can manage his risks more flexibly. When interest rates in the market grow, it will be profitable for an investor to redeem a bond on an offer. Redemption on the offer will bring a nominal value for it, whereas usual sale in these conditions may be unprofitable (because such a bond can be sold much below its par). Therefore, it is possible to invest the newly released funds in more recent issues of bonds with higher yields. (10)

Let us turn to the main part of our article and determine the ways of solving problems arising with offer transactions.

Operations related to an offer, in our opinion, seem doubtful and very unreliable, since their formulation is poorly protected and sufficiently vulnerable. The way to decide on withdrawal from the bonds offer may be filing an application to the judicial authorities and its further blocking.

If the sequence of the issuer's actions is not specified, then he risks remaining with the unfulfilled offer for reasons beyond his control. The offer, which did not take place on a certain day, does not relieve the buyer of responsibility and his obligations do not vanish anywhere. Each client has his own view of the situation under such circumstances and, consequently, he will have to back up his actions with arguments in courts.

At the end of our study, we would like to note the development of the banking sector of the economy in the Krasnodar Territory, as well as the use of offer transactions here.

So, the banking sector of the Krasnodar Territory takes one of the leading places in the Southern Federal District, both in terms of credit institutions number and in terms of their activities parameters. In the structure of credit institutions resources located in Krasnodar Territory, the regional network of PJSC Sberbank branches prevails - 59%, regional banks occupy 22%, and non-regional banks account for 19%.

In addition, the Kuban banks undoubtedly proved their viability and stability in the conditions of tough competition in the market. Joint-stock commercial bank "Yugbank" and JSC "Yug-Investbank" adequately represent the Krasnodar Territory in the ratings of the leading news agencies of Russia: Joint-stock commercial bank "Yugbank" (JSC) "is included in the first hundred of domestic banks in terms of assets and other financial indicators.

Gradual increase of the client base by the regional commercial banks, increase of the stable capital, expansion of provided services range, as well as introduction of new methods and instruments of credit activity had a positive impact on the stock market. So, a significant number of professional participants of the securities market appeared, having practical work experience (currently, there are 19 companies in the Krasnodar Territory that have licenses from the Federal Securities Market Commission of Russia to work with securities). At the same time, the activity of many banks is built on the principle of an offer, that is, an offer to buy or sell shares, bonds or other securities.

In this case, it should be noted that the method of the offer redemption for the Krasnodar Territory is absolutely the same as for the whole country in general. It is necessary to issue an application from the broker to present the securities for redemption

not later than 3 days prior to the deadline for submitting applications. This can be done in various ways (remotely or personally at the office). After the appointed date of the offer, bonds are debited from the account on the next or following it business day. The funds arrive at the client's account within 20-25 days after the offer date. (11)

In addition, as practice shows, banks that operate in the Krasnodar Territory often use an offer when concluding loan agreements.

So the official website of the bank displays certain conditions for the purchase of loan products, and it is always indicated that this is an offer. In the case of filling in the application form for the product, this action will be considered an acceptance, that is, in other words, the acceptance of the offer, which in its turn means the conclusion of a contract on the conditions specified in the offer. Credit institutions act this way in order to protect themselves from useless and costly work - examining applications, establishing the creditworthiness of the client, and so on.

Therefore, we can draw a conclusion that an offer of securities is rather complicated action and requires a full control procedure. To get results from the use of an offer, you need to pay attention to its various functions. In spite of the fact that offer transactions are not so popular in the Russian Federation, we are confident that an offer will provide good results in future.

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## ANALYSIS OF VIBROACOUSTIC MASSAGE USE WORLD EXPERIENCE

### Abstract

The review of existing methods of personal condition complex correction with the help of singing bowls during the entire period of their study and within last 10 years and further analysis showed that this method proved its effectiveness in international psychological and medical practice in many diseases and disorders. However, the number of sufficiently reliable studies and patents, especially in our country, is very little.

### Keywords

vibroacoustic massage, vibration therapy, music therapy, Tibetan singing bowls, medical rehabilitation, psychological rehabilitation, vibromassage, sound therapy, restorative medicine, prophylaxis

### AUTHORS

#### Victor O. Oguy

«Exercise therapy» and «Massage» courses teacher,  
LTD «Clinic of Aesthetic Medicine», Nizhny Novgorod  
31A, Timiryazev str., Nizhny Novgorod, 603022, Russia  
E-mail: doktornn@yandex.ru

#### Anna A. Tarasenko

The expert on improving massage,  
"Siberian Singing Bowls Centre", country-house museum "Tomskaya Pisanitsa",  
Kemerovo region, 650000, Russia  
E-mail: anettmodi@mail.ru

### Introduction

A fundamentally new direction of activity is developing in Russia today - the transition from a system focused on the treatment of the disease to a system of protecting the health of citizens based on the priority of a healthy lifestyle, health programs aimed at the prevention of disease (*Razumov, 2017*).

Therefore, the development and scientific substantiation of new health-saving technologies that promote activation of reserve and adaptive capabilities of the body, correction of risk factors for the development of diseases, prevention of complications in common somatic diseases constitutes the main platform for scientific research in the field of restorative medicine (*Shusharjan, 2013, Olenskaya, 2015*).

Despite the progress of medical science and the introduction of modern medical technologies, unfavorable trends persist in most developed industrial countries, characterized by an increased proportion of severe chronic pathology in the structure of the population sickness rate and an increase in the complications of diseases that are on top positions among causes of death and disability of the population (*Vishnyakov, 2013; Tikhonova, 2013*).

A number of reasons causes an increased role of restorative treatment nowadays. There has been a clear tendency towards an increase in common and primary sickness rate of the population recently. We can observe a steady increase of severe chronic diseases number, long-term treatment of which involves a restorative treatment stage. The rapid



development of high-tech methods of treatment, the need to optimize the hospital beds use, too expensive health resort care for a large proportion of patients, the need for individual rehabilitation programs also increase the role of rehabilitation and restorative treatment in modern conditions.

Diseases of cardiovascular, nervous, musculoskeletal systems and injuries traditionally occupy a leading place among the causes of morbidity with temporary disability. In this connection, the growing need for restorative treatment is quite expected not only among the elderly, suffering from severe chronic diseases, but also among the working population. Therefore, the problem of complex rehabilitation of patients and victims is of special importance. It includes three main areas: therapeutic-diagnostic, preventive and rehabilitation (*Bolshakova, Prilipko, 2010, Preobrazhensky, 2010, Drag, 2011*).

Essential shortcomings of the modern health system are weakening of preventive orientation and popularization of a healthy lifestyle. This direction is especially important in connection with the transition of health care in Russia from a system focused primarily on the treatment of diseases to a system of protecting the health of citizens based on increasing the adaptive capacity of the body and preventing diseases. This determines the need for the organization of medical and psychological rehabilitation of persons with premorbid conditions, as well as healthy individuals working in extreme or harmful environment, experiencing stresses of a megacity (*Lyadov, 2017*).

The condition and development of restorative medicine, rehabilitation and prophylaxis in megacities in modern conditions is an important and complex problem for the government at the federal and regional levels. This is because multi-million population is concentrated in a relatively small space. They have various demographic, social, economic characteristics, significant differences in health status. On the other hand, a city is an industrial complex that has a contradictory (both positive and negative) impact on its population. Social contrasts and inequalities are the most evident in a large city, including Moscow, where not only the registered population of the city is treated, but also residents of the Moscow region, as well as patients from other subjects of the Russian Federation (*Ivanova, 2010, Chernikova LA, 2010*).

Restorative medicine is based on systemic approaches, since its objects are often systems of organs or functional systems of the human body. It was the systemic approach and the need to develop systemic methods in medicine in general, including restorative medicine, that P.K. Anokhin pointed out in his works (1966-1976). Currently, the efforts of scientific schools by K.V. Sudakov (1971-2011) and V.G. Zilov (1976-2018) in the development of systemic methods for studying the processes of sanogenesis and pathogenesis bring the most significant results in the field of restorative medicine. They are especially important in the field of integrative medicine when it is used to study the mechanisms and properties of restorative medicine new methods therapeutic effect (*Zilov, 2018*).

The great importance of health care and prophylaxis programs is determined by the fact that socially dependent and professionally conditioned changes in the health of the population (disadaptive syndromes, socio-ecological fatigue and exhaustion, stressful diseases) are progressing in the last decade (*Kaznacheev, 2014, Izmerov, 2015*). For many years, the general trend in the mortality rate of the country's population is determined by the situation with the extreme mortality of working age people. The overall incidence of neurotic and psychiatric disorders increases in the structure of sickness rate every year.

One of the effective ways out of this situation is, firstly, to increase the health potential of healthy individuals, and secondly, to improve the health of patients who do not suffer from any exacerbation, who are in a pre-illness condition through the human

functional reserves evaluation and management system (*Razumov, 2016, Bobrovnitsky, 2017*).

The need for a systemic solution to the problem of taking measures to protect and improve human health is determined by the following circumstances (*Razumov, 2013*):

- the need to ensure healthy, active and creative life of a person as the main task of state social policy;
- high economic efficiency of prophylaxis programs (cost-saving ratio reaches 1: 8);
- the need to focus on health as a social property of the individual, ensuring the well-being of the family, professional longevity, and secured old age;
- the need to develop health culture.

Scientific justification for the use of drugless health-saving technologies, among which drugless methods that eliminate vegetative, metabolic and psycho-emotional imbalances, is of great interest. They determine the health level evaluation of a practically healthy and sick person (*Agadzhanyan, 2008; Avilov, 2009; Shumova, 2014*).

Adaptation disorders may be rapid, when an extremely strong stimulus, regarded as "stress," influences the body. Along with this, the decrease in adaptive capacity of a person may be gradual due to unfavorable climatic, professional and domestic conditions that cause the formation of chronic psycho-emotional stress, since emotions are an important component in adaptation, a peculiar system of the human body biological adaptation to various conditions of the social environment.

Physical factors of low intensity, so-called information impacts, have been used in practice recently. According to experimental and clinical data, they have an impact not only on energy, but also on the chronobiologic processes of the bio object's structures and systems, optimizing their physiological processes (*Uzdensky, 2009; Illarionov, 2013*).

The concept of building up the health of a healthy person provides for the accumulation of resources to combat factors that threaten health, resulting in an effective primary prophylaxis system becoming a priority and providing for the establishment of health care centers and centers for restorative medicine along with existing traditional medical and prophylactic institutions.

Monitoring of functional reserves, early diagnosis of adaptation syndrome development, and timely correction of the functional condition by various drugless methods is considered as the most optimal methodology for protecting healthy people's health (*Dodonov, 2002; Popadyukha, Demidenko, 2016*).

The evaluation of the body's functional reserves and health level is very important in the process of health-improving and recreational activities in sanatorium-resort practice, health tourism, fitness, bodybuilding, in the use of health-improving technologies at home, for the "Health passport" formation, for the quality of medical services assessment (*Ponomarenko, 2010; Khalfin, 2012; Nazarenko, 2015; Razumov, 2015; Vyalkov, 2017*).

Despite the apparent abundance of different ways to evaluate the functional state of human beings and health technologies, there is not a unified point of view of specialists concerning unified methods of early detection and correction of functional disorders (*Ushakov, 2015; Sorokina, 2016*). This is probably due to the lack of unified requirements for their development from the position of conclusive medicine. In addition, we know that early diagnostics should meet certain medical, social and economic requirements - it must be expressive, non-invasive, and reasonable (*Bobrovnitsky, 2016*).

However, there is practically no personal responsibility of an individual for his health and that of his family. An individual approach is not always applied to a person, both from the point of view of individual constitutional features and quantitative evaluation of the body's reserve capacities (*Agadzhanyan, 2014*). There is no effective mechanism of

motivation to use health care technologies (*Sudakov, 2012*). The problem of establishing a health culture is urgent (*Ponomarenko, 2013*).

We know that resonance results in the most efficient transfer of energy from the source of vibrations to the body, and therefore it can be the cause of an increased sensitivity of the organism to vibrations and acoustic fields, which frequency corresponds to the resonances of the body, its organs or individual cells. At resonance, a relatively weak signal can cause considerable perturbation in the body; therefore, it is important to be able to protect the body from the negative influence of intense technogenic physical fields, which frequency falls in resonance with the body's own oscillations. For the same reason, the selection of the dosed vibration frequency used for treatment should also be made taking into account the phenomenon of resonance in organs and tissues (*Greenberg, 2014*).

Resonance, by definition, is the phenomenon of a sharp increase in the amplitude of oscillations of some body or a part of it when the frequency of the external periodic impact coincides with the frequency of its own oscillations. Therefore, to excite resonant oscillations of organs, individual cells or intracellular structures for the purpose of diagnosis or treatment, one must be able to determine the frequency of their natural oscillations in dynamics, which can vary depending on changes in their elasticity, viscosity and density (*Radchenko et al., 2014; Dyachenko, 2016*).

We know that most pathological processes are accompanied by changes in the mechanical characteristics of tissues. Pathological changes of density, for example, in fibrosis, are usually detected with ultrasonic scanning and changes in elasticity and viscosity with acoustic waves in the sound range (*Krikukha, Sergievich, 2015; Timofeev, 2005*).

The phenomena of mechanical resonance are still rarely used in practical medicine, since they have not been adequately studied. As a rule, we do not know what frequency of resonance has this or that organ, this or that biological structure at this or that moment of time. The dependence of the resonance frequency on viscosity and elasticity characteristics, on deformation and on the functional condition of organs and tissues has not been studied in practice. As a rule, we do not know how the functional condition of certain organs, tissues and the organism as a whole can change under the influence of mechanical oscillations at the resonance frequency. This is partly due to the inadequate elaboration of methods of stimulation and analysis of resonance oscillations in the human body (*Sagaidak, Tsikunov, 2016*).

One of the promising areas is the use of bio resonance and bio synchronized physiotherapeutic and art-therapeutic methods based on the principle of coordinating physical factor with the vibrations of physiological processes in the body. It is the correction with "singing bowls" - vibrational-acoustic massage (*Waltraut, 2009, Bush, Terwagne, 2010 Kalinichenko, 2012; Imbery, Biberger, van de Par, Weber, 2013; Podberezkina, 2016., Sokolov 2016; Barrass, 2014, 2016; Wu, Yeh, Michon, Weitzner, Abel, Wright, 2015; Keefer, Collin, Moore, 2015; Pacifici, 2016; Ann, Bae, 2017; Ross, Barat, Fujioka, 2017; Jorm et al., 2017*).

#### Literature Review

There is a large number of studies devoted to the analysis of singing bowls vibrational-acoustic influence effectiveness, but there is not one that would be conducted according to all the canons of "conclusive medicine" (*Arend, 2006; Wepner, Hahne, Teichmann, Berka-Schmid, Hördinger, Friedrich, 2008; Mamedes, Wanderley, Ferreira-Lopes, 2014; Lidchi, Gama, 2015; Debut, Antunes 2016; Gregory, et al., 2017; Cho, 2017; Goldsby, et al. 2017; Imbriani, 2017; Robb, Hanson-Abromeit, May, Hernandez-Ruiz, Allison, Beloat, Polasik, 2018*). Nevertheless, scientists made the analysis of the quantity and quality of scientific publications in related fields several times (*Shrestha, 2009*;

Mckenna Longacre, Silver-Highfield, Lama, Grodin, 2012; Henry, 2014; Lindner, 2015; Paine, 2016; Bidin, 2016; Bulsara, Seaman, Steuxner, 2016; Perry, 2016; Campbell, Hynynen, Ala-Ruona, 2017; Parker, 2018).

Let us give a variant on which it is necessary to study further the correction with singing bowls (*Doe, 2013*). For example, Hou W.H., Chiang P.T., Hsu T.Y., Chiu S.Y., and Yen Y.C. studied the effect of therapeutic massage on emotional disorders in children and adults. They made a meta-analysis of randomized controlled trials of therapeutic massage treatment for depressive disorders from PubMed, EMBASE, PsycINFO, and CINAHL. All studies showed significant effectiveness in the treatment group compared to the control group. Therapeutic massage significantly alleviated the symptoms of depression, as it was shown in similar studies (*Black, Rodin, Zimmermann, 2017; Gelding, Sun, 2018*).

Problems with the quality of reporting make it difficult to interpret effectively and cross-match the facts about correction with singing bowls. Inconsistent and misused terminology also creates barriers for professional communication and translation of case reports. Improving the quality of reporting and the common language use will contribute to the scientific accuracy and clinical relevance of studies concerning correction with singing bowls (Landry, 2014; Collin, Keefer, Moore, 2015; McKusick, 2017).

This method boundary study by Sherman K.J., Ludman E.J., Cook A.J., Hawkes R.J., Roy-Byrne P.P., Bentley S., Brooks M.Z., Cherkin D.C. evaluated the effectiveness of therapeutic massage, thermal therapy, relaxation room for people with generalized anxiety disorder. They compared changes in depressive symptoms before the massage and after it according to Hamilton anxiety scale in the control group and after 6 months. In all groups, the effect was achieved by the end of the treatment and lasted for 26 weeks. The massage produced clinically significant improvement in the condition of patients, as well as other methods of restorative treatment.

The patients themselves often use complementary and alternative therapies, including massage. Systematic review by *Coelho H.F., Boddy K., and Ernst E.* evaluated the data obtained during randomized clinical trials of the effectiveness of several sessions of classical European (Swedish) massage for the treatment of depression. It has been reported that massage is effective for the treatment of depression, but less than acupuncture.

*Muller-Oerlinghausen B., Berg C., Droll W.* investigated the antidepressant effect of one hour of relaxing massage in comparison with the control group. They also compared its effectiveness for patients with depression with relatively healthy people. The treatment was repeated 5 times with an interval of 2-3 days. It was reported that relaxing massage is effective as a treatment for patients with subdepression. The effect was more pronounced in patients, in comparison with healthy people.

In addition, a method of relaxation for the treatment of somatic and mental disorders where the sound waves are applied, in particular, through the "singing bowls" is additionally studied directly for checking the effectiveness of vibroacoustic massage, for example, in the patent Oxygen Acoustic Therapy (*Waltraut R.*) with pure oxygen or a gas mixture having oxygen content of about 90% by means of a respiratory mask before and / or during and / or after applying sound waves. The gas mixture is fed with an oxygen concentrator that has a flow rate of 1 to 4 liters per minute. The method is effectively used, for example, to detoxify the body, to restore the body after diseases. The efficiency of rapid (short-term) correction of distress conditions is achieved due to combination of sound and oxygen therapy.

There is also the most tested study described in the article by *Goldsby T.L., Goldsby M.E., McWalters M., Mills P.J.*, in which musical instruments (Tibetan singing bowls, gong, bells, etc.) were placed near heads of the participants who lay on the rugs and were exposed to their acoustic impact. Most singing bowls were 9 to 12 inches in size and

weighed between 3 and 5 pounds. The sound was produced mostly with the help of beaters, in about 95% of cases. Each participant had at least 2 singing bowls and the duration of this sound therapy session was approximately 60 minutes. This method of correction (for a number of psychometric specialized scales), immediately after it, reliably increased the feeling of relaxation and mental well-being, reduced the level of depression and anxiety, tension and anger.

There is also a patent "Method of biological age correction as prevention of premature body aging" (*Anisimov B.N., Karbysheva N.V., 2012*). It also uses vibration sound therapy in the format of procedures according to resonance-acoustic vibrations program and using resonators (a musical self-sounding instrument made in the form of a bowl and called "singing bowl"), which ensures the normalization of the organism's functional condition. In this patent, the therapeutic effect of the complex is based on the principle that the component acoustic fields, produced by a multilayer acoustic cavity in the form of a SB, interact with the patient's body. As a result of this influence, the general tone of the body increases, destructive emotions, habits, programs and settings are eliminated. This harmonizing practice allows you to relax quickly and get rid of blocks, bustle and chaos of thoughts, contributes to the equilibrium state of right and left hemispheres. The patients get relaxation on the emotional level, there comes pacification, harmonization. This method of sound therapy makes it possible to adjust each organ as a "tuning fork" correctly, to restore its harmonious functioning; it is a necessary "tuner", increasing the effectiveness of each performed procedure.

A patent "Singing bowl sound and vibration healing table" (*Shrestha S.*) also describes a similar approach. It suggests a method for relaxation through "sounding" a body, including "singing bowls" or a stereo system, or music player, or a personal tablet computer with a number of auxiliary support structures or platforms, the size of which corresponds to one or more sound generating devices (e.g. singing bowls or speakers). The auxiliary platforms can be adjusted in one or more directions and can be selectively removed. The invention includes an electronic device, a mat that includes a number of sound generating devices, with the facilities to support a person in a horizontal position located at positions intended to coincide with human chakras lying on the rug, other supporting structures (e.g., a chair) for facilitating healing sessions, a lot of speakers located on the rug in predetermined places that correspond to the chakras of the person lying on the rug, and the interface that is intended for connecting the speakers with the electronic device. Sessions are conducted, for example, for 5 seconds with pauses of 5-20 seconds or until the sound is almost completely dissipated, while the vibroacoustic device is moved from "chakra to chakra", for example, 3 times for 12 minutes.

A patent "The method of chronic cystitis complex treatment in women at the health resort stage" (*Anisimov B.N., Karbysheva N.V., Kuzmina O.M., Brilkov D.V., Lomzhina I.B., 2015*) shows similar effectiveness. It used the "program of resonance-acoustic oscillations", including the use of SB (direct remote (contactless) and drugless restorative impact). It was effective in the complex treatment of cystitis according to the analysis of Hamilton's depression scales and Hamilton's anxiety evaluation, as well as a life quality questionnaire SF-36 with symptoms: depressive mood; daily condition changes; guilty feeling; early and late insomnia; hypochondria, urogenital symptoms, tension, insomnia.

#### Goal

Comparative analysis of literary sources devoted to the use of Tibetan singing bowls for correction of various symptoms and improvement of a person's psychosomatic condition.



## Materials and Methods

We estimated the number of scientifically grounded studies on the topic that mention the impact of singing bowls on a person by the key words "singing bowl" in three databases:

1. Google Academy at <https://scholar.google.com/> including patents.
2. Pubmed at <https://www.ncbi.nlm.nih.gov/pubmed>
3. Rospatent at the address: [http://www1.fips.ru/wps/portal/IPS\\_Ru](http://www1.fips.ru/wps/portal/IPS_Ru)

After finding all the publications on this topic, the most relevant ones were not selected from them, but the entire amount related to these keywords was counted, including the mention of one of the methods, without its use in this published study. Then a search was conducted according to specific time ranges and affiliation with domestic or international science.

After that, we made the analysis of the spheres of singing bowls method effective application in studies with statistical data available.

The results of the research were processed by traditional statistical methods using Microsoft Office Excel 2010 software.

## Results

After analyzing scientific studies (theses, articles and patents) related to vibroacoustic massage and effects, we revealed a significant increase in their number over the past 10 years, in both domestic and international databases.

The results are shown in Table. 1.

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**TABLE 1. NUMBER OF PUBLICATIONS MENTIONING SINGING BOWLS  
IN THE STUDIED DATABASES**

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<b>Publications on the subject of the method</b>	<b>Publications in Russian</b>	<b>Publications in English</b>
Publications after 2008	558	26.800
Publications for the whole period	922	119.000

As we can see, the number of Russian-language publications has significantly increased over the past 10 years, relative to the growth of foreign publications.

We calculated the number of medical referrals in these publications - syndromes and diseases, the effectiveness of their correction with singing bowls had already been examined. Their number was significantly less than general mentioning of this method in literature shown in the first table.

**TABLE 2. IDENTIFIED NOSOLOGY DEFINITIONS IN PUBLICATIONS  
ABOUT THE EFFECTIVENESS OF VIBROACOUSTIC IMPACT WITH SINGING BOWLS**

<b>List of diseases, syndromes, disorders</b>	<b>Publications in Russian</b>	<b>Publications in English</b>
Anxiety	2	18
Depression	1	7
Dementia	0	2
Pain syndrome	0	5
Distress	2	6
Psychomotor agitation	0	3
Behavioral disorders	0	2
Apathy	0	3
Arterial hypertension	1	5
Headache	0	2
Cosmetology	2	0
Support in oncology	0	3
Spiritual well-being	0	1
Support in Parkinson's Disease	0	1

As can be seen from the data obtained, the spectrum of syndromes and disorders is extremely wide, and various anxiety related disorders take the first place among them.

#### Discussions

It is found out that this method has not been sufficiently studied, both in domestic and in international psychology and medicine. Nevertheless, already conducted and published studies confirmed its effectiveness in restoring the compensatory and protective mechanisms of the body, normalizing the excitability of the neuromuscular apparatus, improving the tone of the smooth muscles of mucous membranes vessels, harmonizing the vegetative balance, which is important, especially for sedation.

#### Conclusion

The proven effectiveness of this health-caring, medical and psychological technology in cases of anxiety, distress, pain syndrome, dementia, hypertension and some others has been discovered, but to confirm its full potential, we need further research that will improve sessions and clarify the quantitative, follow-up and course recipes of the impact with singing bowls.

#### Recommendations

1. Analysis of the latest literature sources concerning the evaluation of the effectiveness of vibroacoustic correction with singing bowls showed insufficient study of this one of the oldest methods of treatment and prophylaxis.

2. The effectiveness of the method for many health disorders allows us to recommend its use in the conditions of health care and psychological centers, as well as for teaching it to wide profile masseurs.

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## SYSTEM OF WORK FOR THE DEVELOPMENT OF JUNIOR SCHOOLCHILDREN CRITICAL THINKING IN THE INFORMATION ENVIRONMENT

The article is devoted to the problem of critical thinking development in junior schoolchildren in the information environment. The article defines the content of junior schoolchildren critical thinking concept, the structural components of junior schoolchildren critical thinking, such as cognitive, personal and activity-oriented. The components of the information environment and the influence of the information environment on the development of junior schoolchildren critical thinking are presented. The authors describe the system of junior schoolchildren critical thinking development in the information environment.

### Keywords

thinking, critical thinking, information environment, junior schoolchildren

### AUTHORS

#### Bella V. Sergeeva

Candidate of Pedagogical Sciences, Associate Professor, Pedagogy and Methodology of Primary Education Chair, Kuban State University,  
149, Stavropolskaya str., Krasnodar, 350040, Russia.  
E-mail: 5906372@mail.ru

#### Evgeniya P. Shvets

Lecturer, Pedagogy and Methodology of Primary Education Chair, Kuban State University,  
149, Stavropolskaya str., Krasnodar, 350040, Russia.  
E-mail: evgenia.shvets.93@mail.ru

#### Tamara K. Gabeliya

Lecturer, Pedagogy and Methodology of Primary Education Chair, Kuban State University,  
149, Stavropolskaya str., Krasnodar, 350040, Russia.  
E-mail: tamara.gabeliya.94@mail.ru

### Introduction

The relevance of the study is due to the situation when a person has excessive access to the multi-polar information. There is an objective need for its adequate assessment, decision-making in a situation of uncertainty. We must provide the proper preparation of students for independent life and work in the information society as citizens, professionals, critically thinking persons. In both theoretical and methodological terms, the pedagogical problem of critical thinking development is poorly studied. An analysis of this problem researches showed that the problem of critical thinking was studied first by foreign psychologists J. Steele, K. Meredith, Ch. Temple (2004), D. Halpern (2000), and Ch. Temple (2005). However, modern authors pointed out the need for theoretical solution of critical thinking development problem for personality formation (Zagashev I.O., Zair-Beck S.I. (2003). During the Soviet period of the education system development, the problem of critical thinking developing was not adequately considered in practical terms. Although we can consider the theory of problem-based learning as a pedagogical basis for its solution in present conditions. Some aspects of critical thinking development

are considered by Russian and foreign scientists G. Lindsay, K. Hull, R. Thompson (1981), R. Paul (2000). The theoretical substantiation of critical thinking development problem in the process of teaching schoolchildren is not really the subject of a scientific interest for scientists and educators in our country. In our opinion, this is due to the axiomatic approach to assimilating knowledge obtained by schoolchildren, the authoritarian style of pedagogical activity in the conditions of a class-lesson system, and the lack of demand for a critical thinking style in an authoritarian system of government, including the education system management. The change in socio-economic landmarks in the development of society, the dynamism of progressive changes led to the situation of uncertainty, the need for assessment and decision-making. This greatly increased the role of the individual as a subject of social evolution, his ability to assess the existing situation adequately based on its critical analysis, and to construct a project for successful solution of a given problem. The successful solution for the problem of personality adaptation to the constantly changing environment of independent life and work depends, in our opinion, among other things, on the development of critical thinking at the school stage already. That, in its turn, determines theoretical and scientific methodological justification and working out of scientific recommendations for the solution of critical thinking development problem in the educational process in general and in the study of specific subjects.

To date, there has been accumulated a certain scientific experience necessary for the study of this problem. Special attention should be paid to researches in the sphere of critical thinking development by Butenko A.V., Khodos E.A. (2002), Bustrom R. (2003), Derkach A.A. (2000), Vasyuta I. (2005), Zair-Bek S.I., Mushtavinskaya I.V. (2004).

Information environment plays an important role in the development of critical thinking in junior schoolchildren. The use of the information environment for the development of critical thinking increases the motivation, opportunities for learners in the search and processing of information. At the same time, pedagogical science has not sufficiently studied these opportunities. Educational practice shows that many students do not know how to use the resources of the information environment for critical analysis and practical use of the necessary information. The foregoing allows us to suppose that the development of critical thinking in junior schoolchildren by means of the information environment is an important pedagogical problem that requires further scientific contemplation and theoretical justification.

Despite the absolute importance of these studies, the issue of younger schoolchildren critical thinking development is not properly presented in pedagogical science. The theory and practice of primary education revealed significant contradictions between:

- objective need of society in an individual, capable of reflecting, thinking critically, and inadequate readiness of the education system to prepare graduates capable of alternative thinking;
- increased need of junior schoolchildren in critical thinking and the traditional organization of educational process in primary school that remains, in the majority of cases, aimed at the transfer of sustainable information, without using the resources of the information environment;
- educational practice need in the scientific and methodological support for critical thinking development in the information environment and its inadequate elaboration in pedagogical science.

The revealed contradictions determine the urgency of the research and determine its problem, which is to develop a system of development of critical thinking of junior schoolchildren in the information environment.

## **The purpose of the research**

To develop, theoretically substantiate and experimentally test the system of critical thinking development in the information environment.

## **Material and methods**

The basis of the research is philosophical, psychological, pedagogical research of professional self-improvement, modern psychological and pedagogical theories of personality, psychological and pedagogical theory of learning activity, conceptual ideas of the theory of pedagogical process integrity, theory of activity-oriented approach, concept of personality-oriented education.

In order to achieve reliability in the consideration of the problem posed, the following methods were used: the study and theoretical analysis of philosophical and psychological-pedagogical literature on the topic of research; the study of pedagogical experience; theoretical generalization, data synthesis.

## **Results and their discussion**

We consider the definition formulated in the dissertational studies by Konev V.S. (2007) to be the most complete. Under critical thinking he understands a specific form of the appraisal activity of the cognition subject, directed in the most general sense to reveal the degree of conformity (or nonconformity) of a product accepted as a standard, which contributes to the meaningful self-determination of the cognition subject in relation to the most diverse manifestations the surrounding world and its productive transformation.

Smetannikova N.N. (2009) considers critical thinking as a property of personality that characterizes the subject, and divides its structure into three components:

- cognitive component - knowledge about critical thinking;
- emotional component - attitude to critical thinking;
- activity-behavioral component - manifestation of critical thinking (detection of errors) in learning activity and behavior.

Let us consider these components in detail.

The cognitive component is the correctness of ideas about critical thinking. It can be different.

The term "relation" is used in two senses, inseparably connected with each other. On the one hand, relation is characterized as an objective relationship between a person and an object, one person and another. On the other hand, relation is always an emotional experience, a subjective position of the individual, a certain response to objects, phenomena, things. The unity of the external and internal, the subjective and the objective shows itself in these two senses.

The manifestation of an activity-behavioral component is an internal process, and it can be seen only through the interpretation of observations, actions and analysis of reflection results. In addition, we can judge about the effective-behavioral component by the frequency of critical thinking manifestation demonstrated by each student for the solution of all the proposed tasks.

After the analysis of these studies, we have identified the structure of critical thinking.

TABLE 1. - STRUCTURE OF CRITICAL THINKING

Component	
Characteristics	Characteristic content
Cognitive component	
knowledge	the ability of a junior student to find independently the subject of critical analysis and control, to make decisions, asking additional questions
	the ability to consider information comprehensively: the task, the text, the way of activity. It manifests itself in the ability of students to not only detect errors, contradictions, inaccuracies and correct them, but also to reveal the causes of their occurrence, to find ways to eliminate the identified shortcomings.
Personal Component	
tolerance for the situation of uncertainty	tolerance for a different opinion, open-mindedness in assessing people and events.
skepticism	distrustful attitude to anything, doubt about truth and correctness.
independence	the quality of the individual, expressed in the ability to set a specific goal, persistently seek for its achievement with his/her own efforts, to be responsible for his/her actions, to act consciously and proactively; the ability to see the question that needs to be solved, and settle it independently.
pragmatism	the ability to build their own system of actions and views on life in terms of obtaining practically useful results.
integrativity	the ability to integrate previously uniform parts and elements.
Activity component	
the ability to solve problems, to offer constructive solutions	the ability to eliminate external obstacles to the achievement of goals.
ability to forecast	knowing the principles of forecasting and planning.
the ability to search for logical errors	knowing the basic laws of logic.
ability to have dialogue	aptitude for dialogue.

A person needs certain knowledge and skills, as well as personal qualities and readiness for critical behavior, to be able to think critically. All this we disclose in the components of critical thinking development structure.

The cognitive component includes the level of students' knowledge about criticality, their relation to this characteristic, independence, depth and comprehensiveness, the frequency of criticality manifestation and the presence of their personal position.

The personal component reveals the qualities of a person who is capable of critical thinking.

Today we can speak about the limits of the classical pedagogical paradigm, according to which personality was determined largely by the structure and nature of his/her objective activity, and the formation of the personality was carried out according to predetermined characteristics.

The student's personality resources are considered as the totality of his potential opportunities for self-realization in activity.

A schoolchild, mediating the versatile and numerous influences of the educational social institutions by his/her activity, is a true subject, because, being open to pedagogical influences, he/she perceives them selectively through internal attitudes, beliefs, values that can be successfully formed within the personality developing complex.

We have identified the following qualities:

1. Tolerance to the situation of uncertainty - patience to a different opinion, open-mindedness in assessing people and events.
2. Skepticism - distrustful attitude to anything, doubt in truth and correctness.
3. Independence - the quality of the person, expressed in the ability to set a specific goal, persistently seek for its achievement independently, to be responsible for his/her activities, to act consciously and proactively; the ability to see the question that needs to be solved, and settle it independently.
4. Pragmatism - the ability to build their own system of actions and views on life in terms of obtaining practically useful results.
5. Integrativity - the ability to integrate previously uniform parts and elements.

The activity component consists of the abilities that contribute to the development of critical thinking. The ability to solve problems, to offer constructive solutions includes the ability to eliminate external obstacles to the achievement of goals. The ability to forecast lies in knowing the principles of forecasting and planning. The ability to search for logical errors presumes knowing the basic laws of logic. Another necessary skill for the development of critical thinking is the ability to have a dialogue, debate. It is in the discussion that true ideas are born. Dialogue can be internal and external, with a teacher or other students. During internal dialogue, several ways of solving the problem are analyzed, while the external one takes into account other person's opinion, which is analyzed and comprehended.

The following functions of critical thinking were chosen based on psychological and pedagogical literature analysis:

1. Regulatory function - the ability to act deliberately and in accordance with objective conditions. It makes the transition from a preliminary solution of the task or problem to a final solution.
2. Appraisal function is the evaluation of one's own and other's judgments and actions.
3. Initiation function is manifested when a cognitive contradiction is revealed and corrected. You have to find necessary data in the contradictory information about the problem being solved, and solve it with their help.
4. Stimulating function - critical thinking stimulates the need for new knowledge, skills, as well as advancing new hypotheses, interest in independent research, ways of solving problems.
5. Correcting function - rational selection of the necessary material, information finding. The student also corrects his work with the help of the teacher: his/her responsible attitude towards the results should become an incentive for the forthcoming activity.
6. Forecasting function - orientation to the future, to prospects. A student, who is able to forecast the course of solving problems and predict the development of the situation, has a high level of critical thinking.
7. Modeling function - creating a model of actions and results. Model of ideal gas or a mathematical pendulum.

Based on the above mentioned, we can conclude that critical thinking is a combination of certain qualities and abilities characteristic to a person on the one hand,

and the process of appraisal activity on the other. Critical thinking occurs in close connection with logical and creative thinking and is impossible without reflection. Critical thinking is independent thinking, when it is necessary not only to develop personal point of view, but also to defend it with the help of logical arguments and proofs, as well as to formulate alternative ways of solving this problem.

Our research determined that the information environment became an important factor in the development of critical thinking in junior schoolchildren, if it created the conditions for the realization of teaching, developing, educational and creative functions of the information environment.

**TABLE 2. - INFLUENCE OF INFORMATION ENVIRONMENT ON DEVELOPMENT OF CRITICAL THINKING IN JUNIOR SCHOOLCHILDREN**

Information environment functions	Influence on development of critical thinking in junior schoolchildren
teaching	<ul style="list-style-type: none"> <li>- in teaching the skills to use electronic resources and information technologies for searching, processing and evaluating information;</li> <li>- mastering of age-appropriate methods and means of working with information;</li> <li>- ability to participate in information activity independently;</li> <li>- development of internal motivation;</li> <li>- transition from motives of achievement to motives of self-realization;</li> <li>- concentration of attention; ability to highlight the essential in the Internet.</li> </ul>
developing	<ul style="list-style-type: none"> <li>- development of mental operations (analysis, comparison, generalization, etc.), development of speech, memory, motivational, emotional, volitional spheres;</li> <li>- increasing adaptability, ability to transfer knowledge, skills; - awareness of their information activities goals;</li> <li>- ability to process information received from the Internet independently.</li> </ul>
creative	<ul style="list-style-type: none"> <li>- it is directed to the development of creative thinking, self-awareness as a creative person; forms the ability to design and construct new knowledge and experience of cognitive activity</li> <li>- ability to organize cognitive activities in environment conditions;</li> <li>- ability to work in the environment: (accumulation, storage, processing of information.</li> </ul>

The presence of information educational environment is characterized by the active use in the educational process of such educational means as electronic library, electronic textbooks, and Internet classes. We found multimedia tools, Internet technologies, Microsoft Office package, simulator programs, on-line tests to be the most productive information technologies for developing critical thinking among students:.

The components of the information environment are shown in Figure 1.



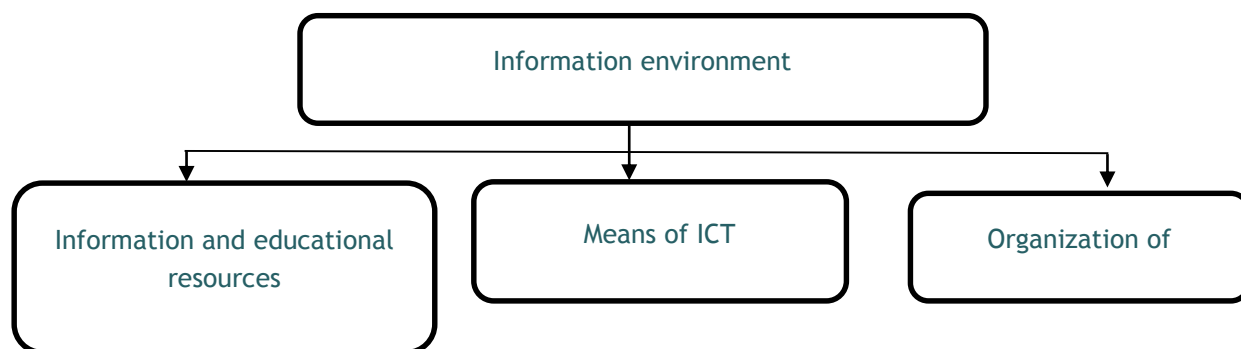


FIGURE 1. - COMPONENTS OF THE INFORMATION ENVIRONMENT

As a result, the creation of information environment contributed to activation of the junior schoolchild subjective position providing knowledge of the surrounding world through the unity of school subjects. Introducing ICT technologies into the educational process contributes to the development of the ability to work in a team, to make quick and informed decisions, to formulate conclusions based on their own observations, and increases the motivation and interest of students in performing interactive tasks.

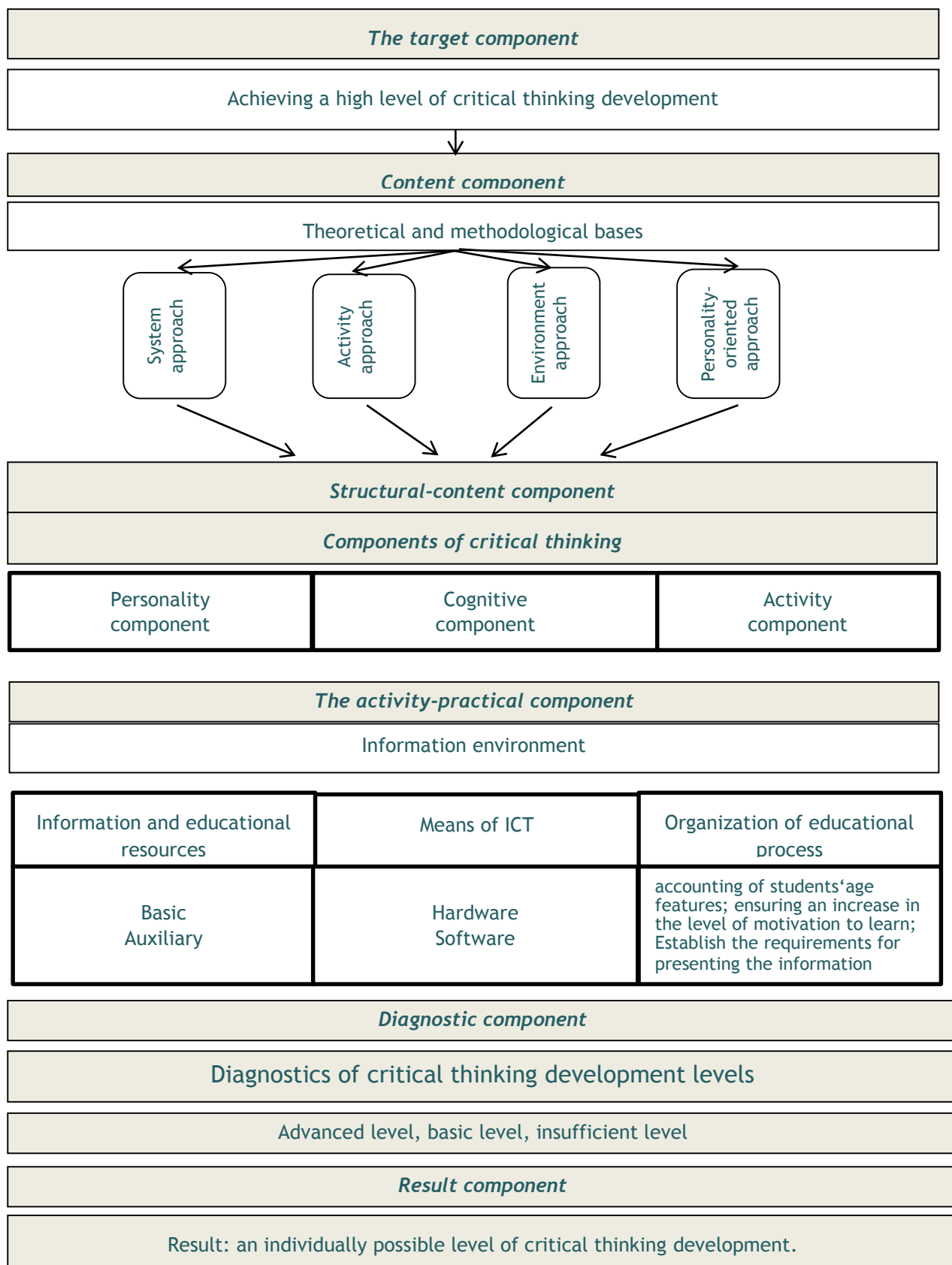
The practical basis for the effective development of junior schoolchildren critical thinking in the information environment was the correct reproduction of scientific discussion, scientific dialogue in educational work, ensuring the orientation of the junior student to critical perception of information, reflection, advancing reflexive hypotheses, adoption of various ideas and opinions, combining conclusions, ideas and concepts by various means.

A system for developing critical thinking of primary school students in the information environment was worked out at the forming stage of experimental work on the basis of systemic and activity-oriented approaches. It is an ordered unity of the context (content of the subject material oriented to the development of critical thinking), organizational and methodological support (forms, methods, means of organization the students' activity for developing their critical thinking); diagnostic-effective activity and the achieved results (advanced, basic, insufficient levels of critical thinking development).

The system of junior schoolchildren critical thinking development in the information environment is presented in Figure 2.

Analysis of the experimental results showed significant changes in critical thinking development after conducting the lessons in the experimental group. If the actual level of critical thinking is determined at the control stage of the experiment, it can be concluded that the level of critical thinking development in the experimental group has increased, but it has not practically changed in the control group. The number of junior students with advanced level increased by 35% (8 junior schoolchildren) in the experimental group, and in the control group the number of junior schoolchildren increased by 4% (1 junior schoolchild). The number of junior schoolchildren with the basic level decreased in the experimental group by 17% (4 people) and it increased by 5% in the control group (1 junior schoolchild). However, the number of junior schoolchildren with insufficient level decreased by 18% in the experimental group (4 people), and only by 9% in the control group (2 children).

This proves that the worked out system of junior schoolchildren critical thinking development in the information environment may be considered effective, thereby confirming our hypothesis.



**FIGURE 2. - SYSTEM OF JUNIOR SCHOOLCHILDREN CRITICAL THINKING DEVELOPMENT IN THE INFORMATION ENVIRONMENT**

A well-developed culture of thinking contributes to the emergence of a new, independently thinking generation. The dynamic development of society calls for constant self-improving, increasing the responsibility of each individual for his/her own future. This is exactly what the system of critical thinking development promotes.

An important basis for personal development is formed in the primary school classes. That is why we consider it necessary to begin the development of critical thinking from the junior school age. An analysis of educational activities practice in primary school indicates an insufficient level of critical thinking development. Primary school students are not always able to cope with such mental operations as the ability to extract knowledge independently, to move from the concrete to the abstract, the ability to draw inference, comparison, hypothetical judgments, etc.

Under critical thinking of junior schoolchildren, we mean an independent, creative attitude to the educational material and information that students receive from other sources. We added to the attributes: independence of thinking, relative independence of judgments; resistance to the suggestion of thoughts, patterns of behavior; critical attitude to themselves, identifying errors and an adequate attitude towards them; searching orientation of thinking, the desire to find the best options for solving learning tasks; ability to participate in dialogue interaction.

Critical thinking of a junior student is a factor of his/her functioning and development, so the problem of students' critical thinking development in the information environment becomes particularly important.

The stages of the research, the content of the ascertaining, forming and control stages of the pedagogical experiment were determined based on the constructed didactic model. The system for the development of critical thinking in the information environment has been worked out. Applying a set of methods and techniques at the lessons in primary school, we were convinced that students understood the subject much better when the level of knowledge was raised through various techniques ("ideas basket", "insert", "syncvein", "table-synthesis" "I know - I want to learn - I have learned", etc.). This method of work is not designed for memorizing information, but for a thoughtful, creative process of learning the world, for posing the problem and finding ways to solve it. It is important to use problem tasks at the lessons. The contradictions they contain cause discussion, encourage reflection, search and certain conclusions.

An important pedagogical condition for students' critical thinking development is the creation of interest and friendly cooperation atmosphere in the classroom, active involvement in pair and group work, and the use of information environment resources.

So, we considered critical thinking as a pedagogical category, clarified the essence of critical thinking development specifics in junior school age, studied modern approaches to the development of critical thinking in junior schoolchild in the information environment, diagnosed the levels of critical thinking development in primary school students, worked out and implemented the system of critical thinking development in junior schoolchildren in the information environment, aimed at the formation of critical thinking in junior schoolchildren, analyzed the results of experimental work on junior students critical thinking development in the information environment.

## Conclusion

Analysis of the experiment results showed that significant changes in the formation of critical thinking development occurred after the lessons in the experimental group. If the actual level of critical thinking is determined at the control stage of the experiment, it can be concluded that the level of critical thinking development in the experimental group has increased, but it has not practically changed in the control group. The number

of junior students with advanced level increased by 35% (8 junior schoolchildren) in the experimental group, and in the control group the number of junior schoolchildren increased by 4% (1 junior schoolchild). The number of junior schoolchildren with the basic level decreased in the experimental group by 17% (4 people) and it increased by 5% in the control group (1 junior schoolchild). However, the number of junior schoolchildren with insufficient level decreased by 18% in the experimental group (4 people), and only by 9% in the control group (2 children).

Thus, the goal of the research has been achieved, and the tasks have been fulfilled. The hypothesis is proved that the development of junior schoolchildren critical thinking in the information environment would be successfully implemented if: the system for primary school students critical thinking development is worked out and theoretically grounded on the basis of the systemic and activity-oriented approaches, representing orderly unity of the context (content of the subject material oriented to the development of critical thinking), organizational and methodological support (forms, methods, and means of organizing the work of the students to develop their critical thinking); diagnostic-correctional work and achieved results (advanced, basic, insufficient levels of critical thinking development); an information environment is created in which junior schoolchildren are constantly oriented to the critical perception of information, they have the opportunity to deliberate, to advance reflective hypotheses, to accept various ideas and opinions, to combine conclusions, ideas and concepts in various ways.

### Recommendations

The materials of the article may be interesting for bachelors, masters, postgraduates studying in the field of pedagogical education, primary education, as well as for primary education teachers, and a wide range of specialists in the field of education.

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