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**CONTENTS**

Raid in common law of the Turkmen (Ilya Aminov) ................................................................. 4
Training of teachers to challenges of identifying and developing abilities (Fatima Asadulaeva, Salimat Karaeva) ........................................................................................................ 7
Optimization of safety stock based on the number of deficient days and given probability of production (Inna Babenko, Larisa Belousova) ....................................................................... 10
Implementation of information security during the personnel training in Russia (Sergey Bogatenkov) .................................................................................................................. 12
Peculiarities of the development of phonemic hearing and motor activity of fingers in children of early age with the normal and the delayed speech development (Elena Bushinskaya) .......... 15
Activation of independent work of students while studying the mathematical disciplines (Tatyana Vasileva, Irina Eliseenko) .................................................................................. 18
Familiarizing pupils to experience of different types of learning activities while learning mathematics (Pavel Gorev) .................................................................................................... 21
Is there any future for “vecherca” (part-time department) in modern high educational system? (Olga Ershova) ................................................................................................................. 24
Common cultural informal practices for education of communities of different ages as antropological practice of adults (Marina Ilakavichus) .......................................................... 26
Features of development of innovation management in Russia (regional aspect) (Vladimir Kruglov) ........................................................................................................................................... 29
The content of the educational process of formation of ecological concepts in the course “The world around us” (Bela Panesh) ....................................................................................... 31
Piano quartet in the Russian music: genre retrospective review (Nailya Samoilova) .................... 35
Language consciousness (Tatiana Samosenkova, Elena Nazarenko, Arsen Martirosyan) .......... 40
The Bologna Declaration – its contradictions and problems (Andrey Sviridenko) .................... 43
Features of the operational side of thinking of primary school children with dysgraphia (Alla Tarakanova) .................................................................................................................... 45
RAIDS IN COMMON LAW OF THE TURKMEN


KEYWORDS: RAIDS, COMMON LAW (ADAT), INSTITUTE OF RAID, ALAMAN, CAPAUL, KALTMAN, LAWS OF THE RUSSIAN EMPIRE

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There is no such a crime, as a raid in criminal law of modern States. However, a hundred years ago this way of capturing people’s property and satisfying personal grudge was used quite widely. The good example of it is the Institute of raid, which existed in the Turkmen common law until the beginning of the XX century.

From the XI century until the first half of the XIX century the Turkmen common law had only few types of property crimes (theft – called “ogurlyk”, robbery – called “talan”, forcible seizure of land, deliberate damage or destruction of another’s property, etc) in contrast to the more developed legal systems of that time. The number of social and economic, political, organizational and legal, national and ethnic reasons caused this fact. All crimes, except theft, usually occurred in the form of plundering raid. The single term “talan” (“talamak”) described both “pillage” and “robbery” and determined an open violent seizure (theft) of people’s property [1, p. 167].

In the most general form raid is a sudden short attack (equestrian, pedestrian, swimming, etc.) of any territory (or property) in order to plunder, devastation, intelligence or captivity.

The appearance of a raid in the Turkmen common law primarily was due to the political situation of the most Turkmen, almost constantly forced to fight for keeping their lands and seizing of foreign territories [2, p. 101]. The relations “sinoritet-vassalage”, forming since the XI century between first conquerors and populations, inhabiting the particular area from the later time, mostly complicated the situation. Thus, the newcomers did not get enough water in their new places of residence, they settled on less fertile soils than old residents, had access to the meager pastures and etc.

Y.M. Botyakov noted that until the end of the XIX century the Turkmens did not have common tribal and permanent military forces under the supreme ruler with the function of protection the tribal territory and execution of police functions. In this situation, guided by the common law, some tribal communities independently decided the question of the degree of their own responsibility and responsibility of foreigners, determined the punishment and carried itout. A raid was the instrument, which helped the community to support the legal balance [3, pp. 19-24].

Extremely severe climatic conditions of the Turkmen survival, especially of the nomadic tribes, when the surrounding desert environment did not give them any chance on valuable existence, assisted the raids. The Turkmen society estimated raiding (of “alaman”) not as theft, robbery or burglary, but as a kind of hunting or craft, expressing the struggle for existence of the population, living in the extreme climatic conditions.

Raids also allowed capturing prisoners, and later selling them into slavery, or using on the toughest jobs. One or two Persian slaves were considered the best “kalym” (pay-per-wife), for getting which the groom had to go to a raid.

The tradition of raids among the Turkmen people has been developing during the struggle of their ancestors (the Oghuz people) with the Ghaznavids people [3, pp. 6-8]. At the beginning of the XI century 4 thousand of the Oghuz people crossed the river Dzheyhun (now known as the Amu-Darya river) and settled in the province of Khorasan (Eastern Iran), which was the part of the powerful Ghaznavids State. Within two years, locals sent the Sultan Ghazni angry message of daring robberies of the Turkmens. Military solution of the problem only intensified the conflict. The Oghuz people, broken by the central authorities, were forced to withdraw to the east coast of the Caspian Sea (Dakhistan and Balkhans). Small part of them moved to the south-east of Iran, where they continued making raids, reaching the lands of Mesopotamia, Kurdistan and Armenia [4, p. 230]. Gradually other Turkmen tribes joined the raids (Teke, Sarikaya, Ersary, Yomud, Gauquelin, Alili, Chovdury, etc.). Since 1035, the Turkmen people started the new movements on the territory of Khurasan.
Since 1392, the largest sand island in the Turkmen sector of the Caspian Sea, called Oghurchinsky (Ogurdzhali) and located in the south-east of the Caspian Sea, was known as the settlement of the Turkmen tribe Oghurjaly, which meant “dashing people” or “sea pirates”. In the XV-XVII centuries, the island became the base of sea pirates, plundering merchants caravans and trading in salt and stolen goods.

By the end of the XI century, to refer raids the special term "alaman" appeared in the Turkmen language, interpretation of which significantly varied in different sources. For example, in 1072-1074 the eminent historian and philologist M. Kashkarskiy composed the "Dictionary of Turkic Dialects", where “alaman” meant “troop of horsemen”, “rabble”, "crowd" and "creation of the troop for robbery and plunder" [5, p. 98].

At the beginning of the XX century, N. Yomud, originated from the local environment and expert of local customs, determined “alaman” as a special institution, formed among the Turkmen during the historically long period of time, and by mean of which the Turkmen extracted from Iran all the necessary goods [6, p. 76].

In the modern Russian-Turkmen historical dictionary, “alaman” is translated from Turkmen to Russian as “al”–“take” plus “aman”–“good”, and is understood as a planned armed incursion into the foreign territory, the enemy village. It is emphasized that “alaman” was a regular session among the Turkmen until they joint Russia [7, p. 101]. In addition, the dictionary has another meaning, which is close to the first one, “alaman” is a hostile tribe for seizing the property. There are other meanings of the term.

The Turkmen singled out two types of raids: raids, permitted by adat (the common law), were called alaman and raids, forbidden by adat, were called kaltamany [3, p. 14]. In turn, the Turkmen distinguished predatory raids, alamans, which were made on neighboring countries or hostile tribes, but not on friendly tribes, and robberies among tribesmen [8, pp. 12-13].

As a rule, alamans were committed on a definite plan by organized parties (units) under the leadership of an elected chief – Serdar, to whom the Turkmen implicitly obeyed and to whom they took an oath before the raid. The combat-ready male population of the tribe made the raids.

The elders of various Turkmen genera chose the most brave and skilled chiefs of alamans, who later were named khans.

Small alaman alleged commission of military actions (“little” war) on the boundaries of tribal territories and did not represent serious danger from the attackers. Nevertheless, the continuous raids often created situations, which gave rise to large intergeneric or wider –tribal conflicts [3, pp. 16-17].

As a rule, development of social and economic relations discouraged people from alaman. The Russian explorer and naturalist G.S. Karelin (1801-1872), who in 1832 led the expedition to survey the north-eastern part of the Caspian Sea and in 1836 visited the Oghurchinsky (Ogurdzhali) island, testified that the Ogurdzali people (those “dashing men”) were “engaged in exclusively peaceful business, as fishing, production and transportation of oil and salt to the Persian shores” [9, pp. 26-27].

The history of the Turkmen State indicates that the Turkmen nomads along with the alaman had the institute of chapaul– raid, made according with adat for satisfying the given offence (insult). Chapaul could be carried out by both several people, relatives of the killed (in this case the village helped them by the equipment) and by 400 people. Chapaul was widely used in political relationships between the Turkmen tribes (as well as generic groups). In order to be justified the participants describe almost any raid as chapaul. In the public life of the Turkmen, this punitive action had been widely used as a mean of political pressure at different levels. Not only representatives of other tribes, but also tribesmen, could become a victim of chapaul [3, pp. 23,103, 179].

Naturally, under such conditions and in the absence of the own government among nomads, a resentful person could find protection only with their relatives; and the more relatives he had, the richer and stronger they were, the more he had the opportunity to get satisfaction. Each Turkmen, even a child, always knew what family and tribe he belonged to, and spoke with pride about the power and strength of his clan [10, p. 245].

At the Turkmen common law the punishment for alaman, as well as for the other property crimes, was a private affair of the victim and his tribesmen, which permitted the reconciliation of the parties.
Only robbery was punishable within the tribe. Robbery in order to benefit the property of the Turkmen tribesmen were the exceptions. Usually small group of people, sometimes even one or two persons, made them.

The pre-revolutionary sources called it “kaltamansvo” and the robbers –“kaltamani”. Kaltamany often attacked villages, separate families, flock in the desert, robbed trading caravans, separate people on way and did violence on the victim's identity. Therefore, they represented a great danger to the interests of the wealthy part of the population. Perpetrators of such predatory attacks were very strictly punished without the right to foreclosure (hun). According to A. Lomakin, “these robbers (hun wasn't paid) were impunity killed”. The tribe from their environment could also expel them. However, the practical application of these types of punishment depended on many factors, primarily on robber and place of the robbery. The robbery, committed within the tribe, was punished more severely than robbery, made by any of the relatives abroad. Only poor and single people were killed or exiled. For rich and powerful people these customary laws actually were formal. Some of them, using the lack of public bodies, performing police or military functions, systematically made robberies. Separate khans has the whole gang of robbers.

Some sources describe robberies and thefts as order and national character of the indigenous people of Transcaspia, the Turkmen. However, the study of the economic foundations of the social and economic structure of the Turkmen people, which from ancient times included farming, ranching, fishing, and handicrafts (carpet making), casts doubt on the validity of these conclusions. Excessive attribution of such crimes by the Turkmen, as the indigenous people of Transcaspia, was obviously due to paucity knowledge of the life and character of the Turkmen people at that time. And this, in turn, contributed to a fantastic fabrications, being reflected in the documents and literature.

Before joining the Turkmen in the Russian Empire and the formation of the Trans-Caspian region, raids, robberies and looting (alamans), committed by the Turkmen, really took place, but had not widespread, national character. Besides alamans were usually used as a form of protest against the centuries of oppression and a peculiar method of guerrilla warfare, politically and economically divided Turkmen people, living in the severe desert conditions, against the stronger and more aggressive States (Persia, the Khanate of Khiva, Bukhara Emirate).

It should be noted that the number of historical documents have sharply opposing and fair indication on the fact, that the Turkmens were hard-working and honest people. Otherwise, the people would not be able to maintain their identity in the severe desert and centuries-old struggle against the aggressors. In this case, biased, exaggerated opinion about the prevalence of mass robberies and robberies of the Turkmen is easily refuted by the fact that barely the Turkmen people entered the strong Russian State, while “thefts” and “robberies” stopped in the Turkmen life.

After the entry of Turkmenistan in the Russian State, tsarist legislation under threat of criminal punishment banned all kinds of forays, including alaman. Cases of thefts and robberies had become the jurisdiction of courts, and they were viewed not according to adat, but to the common laws of the Russian Empire, which undoubtedly had a progressive significance.

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Everybody knows that managing a pupils’ group is a complicated process, and the process of identity formation is not less complicated. The complexity of the process is determined by the continuous change of the activity object of a teacher. Every child is changing yearly, and sometimes even monthly. The task of the teacher is to create learning skills, habits, ideals and attitudes of the child. The entirely further destiny of the student depends on a teacher. To solve the tasks of each child training, taking into account his individual characteristics and abilities, a teacher needs such personal qualities as dedication, self-control, patience, fairness and optimism. But the main foundation of all these qualities is the love to children.

For the practical implementation of the principle of the individual features in the implementation of educational activities is particularly necessary to master the alphabet and the art of management and pedagogy of cooperation. These concepts include:

- strong and high-quality knowledge, internal culture;
- amount of theoretical knowledge and practical skills in the field of the studying subject;
- successful knowledge of pedagogy, general and developmental psychology, the ability to use them in practice, training and education of children;
- professional use of educational work methods.

Pedagogical skills include strong and deep knowledge of the learning subject and teaching methods of that subject. Pedagogical skills of purposefully and safely direction of educational and learning process in different types of educational institutions is the talent, skill, which is necessary to improve and it should be available to every teacher.

The most important indicator of pedagogical expertise is the high result of education and upbringing of pupils. The person, having mastered the pedagogical skill, is constantly enriching his professional knowledge, is seeking and achieving their continuous improvement. Every school teacher should have a pedagogical tact and pedagogical skill. In this case, a primary school teacher is quite aware that the qualities above mentioned are not absorbed by the perception, consolidation and application in practice. They are the result of teachers’ creativity and flexibility of his mind. [1]

It should be well realized that faux pas, committed by a teacher to a pupil, can has disastrous consequences. The important condition for compliance of pedagogical tact is teacher’s ability to observe. A teacher with a pedagogical tact always sees, hears and responds on a variety of pupils’ actions, but he will do it subtly and skillfully, without fuss, and unjustified accusations evaluation. Mannered and considerate teacher always believes in the abilities of each student. The validity of a teacher and his self-control are also very important.
The certain part of the pedagogical skill is teaching abilities. Their presence influence on the mastery of pedagogical skill. Each group of abilities plays a role in addressing specific educational tasks. Didactic abilities allow teacher to call the mental activity of pupils, to make something special and interesting, surprising and informative that will awaken their thoughts. Communication skills allow to set the right relationship with children that encourages their confidence and kindness, willingness to go along with the teacher.

Promising abilities help understand the characteristics of the inner world of a child, capture the subtle and complex issues of the psyche, which most often occur in capable children. Academic abilities help the teacher acquire information without difficulty, acquire knowledge of the relevant field of science, keep pace with modern thought, fluent in training material, which is absolutely necessary for successful work with gifted students.

Unfortunately, many teachers working in school today are not prepared for the constant creative activity. They are trained to be doers of the guidelines and methodological recommendations, developed by the center. For decades, we have established a system of education that required teaching all students equally without regard to their abilities and capabilities, which adversely affects the learning process. [5]

At the present stage of our society it is necessary to train and educate pupil the way that the needs, the interests and potential training opportunities of each pupil could be realized. The ability to find the approach to each student has always been important feature of a school teacher. Today, this quality is especially necessary one. The fact that the teacher is now not only given the right to choose methods and means of teaching, but to make adjustments to the content of the material being studied, even to develop its own version of training programs favors the practical implementation of this requirement.

Especially urgent and acute problem is the training of primary school teachers for work with those students, who have higher educational opportunities and abilities.

Each teacher, working at school today, should understand the urgency of the problem, its social and educational significance. No matter what school and what classes does a teacher work in, he will have to deal with students with abilities. Their identification, expression and development are needed not only for these students. Every teacher should realize that capable, talented people can give to society much more than people with normal (mediocre) abilities. The extent of this problem has grown considerably in recent years, with the basic requirements of a modern society, which needs to be high-class experts. [2]

Talented people are needed for the development of science, and for the development of different types of culture. And all the people begin their formation and development at school. Educational and upbringing activities in any school and in any class (in any subject) should be carried out, where the able and gifted child can demonstrate his abilities more fully. Every teacher should strive not only to form the pupil's personality, regulatory, communication and cognitive universal actions, but to identify and help to develop his skills.

The necessary condition for the success work of a teacher with gifted children is also a willingness to modify the curriculum, to make the necessary adjustments, to stimulate cognitive abilities. To do this, it is imperative for everyone, who works at elementary school, to possess the durable, high-quality knowledge, have a high level of mental development, advanced thinking, flexibility in judgment, willingness of revising own views and beliefs.

A very important quality, needed to work with gifted students, is the location of the children, care, sensitivity and open-mindedness. In particular, gifted and talented children are more than any other children impressionable and vulnerable ones. To express and develop their abilities, a teacher must be sensitive to the feelings and needs of others [3].

Moreover, gifted children are often able to do more complicated cases, and when they cannot cope with them, they become very upset. A teacher should understand the meaning of their concerns, while exerting the necessary assistance in getting out of this situation. The important quality of teachers, needed for successful work with gifted students, is emotional stability. Gifted children need an example, because their characteristic feature is to follow and emulate a teacher, with his good manners and calm emotions. The important quality, needed for teachers working with gifted pupils, is the commitment and perseverance.

Any professionally mature teacher correctly understands the main goals and objectives. Awareness of the goals and objectives is particularly necessary for successful work on the identification and development of abilities. In the work with gifted pupils these goals and especially
specific tasks, arising from them, have to be changed. This is necessary, because working with gifted children, teachers need to understand and meet the interests and needs of such children. The best results in working with pupils can have a teacher, who has their respect and authority. An energetic, moderately emotional, interesting and inquisitive nature of the teacher, his honesty, kindness, compassion, and other moral qualities can help to receive it.

The major role in establishing the trusting relationship with gifted pupils plays a communication culture of a teacher. The important place in this case takes the style of relationships with students. The teacher, whose authoritarian style of communication, cannot stimulate searches, doubts and alternative judgments, typical for many gifted pupils. The liberal (permissive) style is not conducive to the development of ability, when a teacher is indifferent to the original educational activities of capable students. To successful work with such students, a teacher needs a democratic style. It is the style, encouraging the initiative, activity able students, favoring the appearance and development of skills. Democratic style is an important element of a strong culture of communication. High culture of communication, caring attitude toward students are an important condition for the discovery and development of real abilities of the children.

In schools with multiethnic environment it is also very important for the teacher to have a high culture of interethnic communication. Unfortunately, in practice of these schools, there are facts, when the pupils’ nationality influences on teacher’s attitude, when a teacher notices and appreciates the ability of pupils of the same nationality and does not notice the ability of pupils of other nationalities. Every teacher, who works in such schools, should be aware of such important features as objectivity and fairness. These qualities (this approach) are required for certification of their knowledge and practical skills. They are especially needed in the assessment of the level of pupils’ abilities.

Other professional quality, necessary for a teacher to identify and develop abilities, is the ability to build his work on the diagnostic results of pupils. First of all, to do this a teacher should be prepared to pick up additional material, which is essential for gifted children. Such material should be accumulated in each discipline, subject, and grade for many years and should be updated annually. It is important not only to be prepared for the accumulation and continuous updating of the material being studied, but also to use it skilfully at the lessons, extra-curricular activities and home exercises. [4]

Every teacher needs to know the essence of good abilities, their nature and regularity and the possibility to discover and develop the abilities of children in each age period of schooling. So, it is necessary to study the relevant literature on the sciences.

Love for children, constant inspiration to overcome their difficulties, enthusiasm and creative attitude to work, will certainly contribute the prevention and overcoming the gaps and low achievement of pupils.

REFERENCES

OPTIMIZATION OF SAFETY STOCK BASED ON THE NUMBER OF DEFICIENT DAYS AND GIVEN PROBABILITY OF PRODUCTION


KEYWORDS: INSURANCE STOCKS, METHODS OF CALCULATION OF INSURANCE RESERVES, DEFICIT, RESERVES.

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Reserves (understood by us in the broad sense as the tangible resources, which are not temporary used by enterprises as required), are the specific component of the potential for economic development of the enterprise. Such reserves should be established gradually, that in the event of certain circumstances the enterprise will be able to meet the additional demand for a particular resource. Form of expression of material reserves (if you stick to the widespread classification of resources, where the material, labor, financial and information resources are singled out) is specific substantive material elements of the production process, taking the form of reserve stocks of raw materials, fuel, and other semi-finished products. Accordingly, these reserves play a dual role. On the one hand, they are involved in the production in conditions of violation of delivery schedules of material and technical resources, changes in the production program and the range of products, in surplus to consumption of raw materials and fuel, etc. That is the critical moments of economic activity. On the other hand, they are not used (at the moment) possibilities of increasing production efficiency and mitigation of negative factors of external and internal way (described more detailed in [5]). The latter circumstance, taking into account the special role of insurance stocks in smoothing fluctuations resource requirements (of different nature), explains the interest for studying it.

The need to establish safety stock in the company due to the randomness of the process of delivery and changes in production requirements. Safety stock of material resources is created in case of excess of actual delivery dates of the planned dates. The main factors, influencing the amount of insurance stocks, are the following: the frequency of the supply, the quantity of the supplied party, the interval of supply and consumption rate. The analysis of the sources helps to conclude that there is no consensus on the methodology for calculating safety stock. The economic literature deals with methods based on the study of one of the factors.

When broadband assessing the safety stock is 50% of the current stock. Exceeding is allowed with particularly difficult conditions of supply, as remoteness of the enterprise from suppliers and convenient transportation routes; consumption of unique materials; output, which requires many components, coming from a large number of suppliers; very short intervals of supply (one-five days) under continuous consumption of materials in large quantities.

Basic methods of rationing insurance stocks have been developed during the planned administrative economy. The authors of these methods agreed that the process of its formation has a stochastic character in nature. K.V. Inyutina had an attempt to link the range and scope of delivery as well as to take into account the standard deviation of the supply from the norm. N.D. Fasolyak recommends to use the same method of calculating the amount of the company's needs in the insurance component of productive supply [4].

The difference between exactly at first glance the same methods is quite significant circumstance. Therefore, K.V. Inyutina proposes to use both positive and negative data of squared
deviations for calculations. On the other hand, N.D. Fasolyak insists on accounting only the positive values of the deviations, i.e. the values of the intervals that exceed the average.

Methods for calculating safety stock, listed in the economic literature, are significantly different, on the one hand, they reflect their specificity (sales, production and inventories), and on the other hand, they show that there is no single methodological approach. In all the cases, there is only one factor, influencing the amount of insurance stocks.

The main methods of calculation are obtained in condition of the planned economy, and, in addition to this, they are based on statistical data, derived from observations of the supplies and expenses in prior periods. The lack of comparative examples of calculation does not allow giving preference to any of the above formulas without further additional research.

To solve this problem, it is necessary to find such synthetic indicator, which reflects the effect of random factors. This indicator may be the number of scarce days at a deficit situation, because the number of direct and indirect factors influence on the amount of deficit. The value of planned safety stock should include the effect of all factors that create the deficit and ensure the smooth functioning of production. In all cases, the important issue of normalization is the establishment of the distribution law of the random variables, on which the process of safety stock calculating is based. In practice predominantly normal and exponential distributions of random variables occur.

Ongoing studies show that the number of scarce days is distributed according to an exponential distribution in the building materials industry. The number of deficient days can be expressed by the formula:

\[ d = \bar{d} + t \sigma_d \]  

where \( \bar{d} \) – the average number of scarce days;
\( \sigma_d \) – standard deviation;
\( t \) – normalized deviation.

In this expression \( \bar{d} \) and \( \sigma_d \) are specific values, \( d \) and \( t \) are random values. Safety stock is calculated as follows, where \( t \) – the normalized deviation – is fixed.

\[ Tc = \bar{d} + t' \sigma_d \]  

The association between \( t \)-normalized deviation and probability of production providing is determined by the law of scarce days allocating. \( T \)-normalized deviation indicates the degree of deviation of the individual values of the random variables from the average.

In order to ensure the complete material production, safety stock can be determined on the basis of the following expression:

\[ Tc = \max d_i = \bar{d} + t_{\max} \sigma_d \]  

In all other cases, \( t \)-normalized deviation is given a value according to the desired degree of security production. The degree of production enforcement is calculated with a certain probability or in percentage [3, c. 87].

The association between the \( t \)-normalized deviation and ensure production probability is defined by the law of scarce days allocating. According to the study, the number of scarce days of building materials industry is distributed exponentially. In these circumstances, in accordance with the planned safety stock the probability of production is determined by the integral function of the exponential distribution:

\[ P(v) = 1 - e^{-\lambda d} \]  

where \( P(v) \) – probability of ensuring the production by material resources;
\( e \) – base of natural logarithm;
\( \lambda \) – parameter of exponential distribution;
\( d \) – number of scarce days.
The feature of the exponential distribution is the equality of the average and standard deviation, and the parameter \( \lambda = 1/d \). In view of this, the expression (4) takes the form:

\[
P(d) = 1 - e^{-\frac{1}{d}(d + i\sigma_d)} = 1 - e^{-(1+r)}
\]

From (5), with exponential distribution the probability to ensure the production of material resources is directly determined by the value of t-normalized deviation. Consequently, the probability of deficit in the planned safety stock is determined by the formula:

\[
q(d) = 1 - p(d) = e^{-(1+r)}
\]

Scarce situation does not arise in the context of each delivery of material resources, but arise at a certain fidelity.

Thus, the creation of insurance stocks is due to freezing of large amounts of material resources and the relevant losses, that are associated with a slowing turnover of working capital and reserves, invested in working capital. However, in the absence of insurance occur losses due to shortage of material resources.

REFERENCES

IMPLEMENTATION OF INFORMATION SECURITY DURING THE PERSONNEL TRAINING IN RUSSIA

ABSTRACT. THE INTRODUCTION OF INFORMATION AND COMMUNICATION TECHNOLOGIES IN ALL AREAS OF PROFESSIONAL ACTIVITY IS ACCOMPANIED BY INCREASING THREATS OF SECURITY, SO THE TASK OF IMPROVING THE QUALITY OF INFORMATION TRAINING OF THE PERSONNEL IN TERMS OF SECURITY IS IMPORTANT. THE AUTHOR CONSIDERS THE EXAMPLES OF THE GOVERNMENTAL SUPPORT OF INFORMATION TRAINING IN RUSSIA AND THE EXPERIENCE OF THE AUTHOR IN INFORMATION TRAINING OF PERSONNEL.

KEYWORDS: INFORMATION TRAINING, SAFETY, SECURITY, PROFESSIONAL AND PEDAGOGICAL EDUCATION

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In today's information society the e-commerce is rapidly implementing; the e-government is forming in Russia; the distance learning is introducing in education, based on the “cloud” Internet technologies. On the one hand, the introduction of information technologies increases the effectiveness of professional activities, on the other hand, it increases the security threats.

The serious security threat is the modern condition of pedagogical education in Russia. The concept of supporting the development of pedagogical education has the results of monitoring the activities of State institutions and their branches, conducted in 2012 by the Ministry of Education and Science of the Russian Federation. The monitoring showed that 30 of 42 pedagogical
universities (71.43%) and 29 of 37 of their branches (78.38%) were recognized the institutes, which have the signs of inefficiency. The important role in this situation plays the problem of poor quality of graduates training due to outdated methods and technologies, lack of connection between the disciplines and the real needs of the employees [1].

This problem is exacerbated by the development of practice-oriented forms of education, such as applied bachelor training, multi-functional centres of applied qualifications, basic chairs, etc. The leaders of the highest levels talk about the need of the practice-oriented approach. Thus, Prime Minister D.A. Medvedev noted the trends in increasing the cooperation of the Russian universities and industrial enterprises. He pointed out that it’s desirable to have lecturers, who have experience in production shops, designing offices, marketing and service companies, especially for the new forms of education, such as the applied b training and technological master training [2].

Security threats, arising in the result of the introduction of information technology, are directly related to a specific professional activity. For example, the current innovation is the implementation of educational programs with the use of e-learning and distance learning technologies. However, it reduces the quality of educational outcomes due to the reduced contact time of teachers and students, insufficient accuracy of software and hardware performance, low quality of electronic educational resources, etc. Therefore, the development of e-learning and distance learning technologies is carried out with the help of governmental support. For example, the article #16 of the Law on Education of the Russian Federation, adopted in December 2012, states: “... in the organization, engaging the educational activities, there should be conditions for e-learning environment, which includes electronic information resources, e-learning resources, set of information technologies, telecommunication technologies, appropriate technology tools and providing studying the educational programs in full volume, regardless to the location of the students” [3].

These facts, associated with lack of quality education in the field of information and communication technologies and increase of security threats, testify the relevance of the task, related to improving the quality of information training in security aspect.

Teachers of vocational training are the conductors of knowledge and skills formation in the process of professional training in the field of information and communication technologies. The base for their training are the Federal State Educational Standards (FSES) of secondary professional education and higher professional education in training direction “professional training (by fields)”, including the necessary professional competences.

The system of training personnel considers adaptation of professional competences to different profiles of direction. The tool for this adaptation is the competence orientated management of vocational teachers training, suggested by E.A. Gnatyshina [4]. S.A. Bogatenkov adapted the theory of the the competence orientated management in the case of designing the personnel information training [5], including applied bachelors training [6]. Formation of information competence in the level vocational pedagogical education was designed on the experience of the introduction of information technologies in education, engineering, energy, economics and management [7]. The result of the researches is the monograph “Design of safe informational training” [8], which became the laureate of the All-Russian competition for the best scientific book of 2013, held by the Fund of National Education. In designing of the information training of teaching staff, the author used the criterion of security [9]. Information teacher training should be regarded as the system of management of quality, which is estimated by the number of indicators that take into account the level of security [10]. The dynamics of development of the concept of competence in the field of information and communication technologies, i.e. information and communication technologies competence of teachers in the system of vocational and pedagogical education is reflected in the papers [11, 12]. The concept is based on the classification of information and communication technologies competences [13]. Based on the analysis of the experience [14, 15], the author formulated the requirements for information training in trade [16], as well as in terms of information and measurement systems [17] or automated systems design [18].

The methodology of designing system of information training is based on the layer model of formation of information and communication competencies of graduates [19], which consists of models of training graduates of secondary professional training, bachelor and master degree [20-22].

Using the layer model and classification of information and communication technologies made it possible to implement the technologies of secure information training of teaching personnel in the
conditions of the information education [23, 24]. The developed methodology and technology of secure information training make it possible to develop the effective systems for personnel training under the companies order. For example, the system of information personnel training for work in an environment of 1C, which is widely used on enterprises in Russia and abroad, is described in [25].

The author has developed the technology of competence formation among the personnel in the implementation of information technology in terms of safety for the graduates of various levels and profiles of professional pedagogical education. First results of the research in the field of e-learning were published in the book “E-learning: features of implementation” [26]. The most complete results of research in education, engineering, energy, economics and management are reflected in the manual “System of information and communication competence formation” [27].

The analysis of the experience of the implementation of information technology in professional activities allowed us to formulate the requirements for personnel with different levels of education: secondary professional training, bachelor and master degree and postgraduate degree [20-22].

In the results of analysis of FSES of secondary professional training and higher professional training in direction “Vocational training (by fields)” and application of the competence-oriented management for the secondary professional training, bachelor and master graduates the author received the competencies that meet the requirements of practical experience. In the absence of FSES for postgraduate studies students the competencies were received in the result of the requirements of the experience.

Thus, the author views the examples of State support of information training in Russia and the experience of the author in providing safety of informational training.

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In the modern scientific literature the term “delayed speech development” is defined differently and vaguely. There is neither clear definition of this term nor the structure of defect (disorder) in speech ontogeny (development). We will use the following definition of delayed speech development and also notices the peculiarities of the development of phonemic hearing and the differentiated movements of fingers in children with delayed speech development.

**KEYWORDS:** delayed speech development, motor activity of fingers, phonemic hearing, phonemic perception.

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**PEOPULARITIES OF THE DEVELOPMENT OF PHONEMIC HEARING AND MOTOR ACTIVITY OF FINGERS IN CHILDREN OF EARLY AGE WITH THE NORMAL AND THE DELAYED SPEECH DEVELOPMENT**

**ABSTRACT.** The article offers a new and a clear definition of the term “delayed speech development” briefly describes causes that lead in this deviation from speech ontogeny. For the first time it discloses the interconnection between the development of phonemic hearing and motor activity of fingers in children of early age with the normal and the delayed speech development and also notices the peculiarities of the development of phonemic hearing and the differentiated movements of fingers in children with delayed speech development.

**TODAY MORE AND MORE OFTEN PARENTS HAVING CHILDREN OF EARLY AGE AND TUTORS WORKING IN PRESCHOOL EDUCATIONAL INSTITUTIONS WITH THIS AGE-RELATED CATEGORY OF CHILDREN FACE SUCH PROBLEM AS DELAYED SPEECH DEVELOPMENT WHICH PROVIDES THE NEGATIVE INFLUENCE ON THE PROCESS OF TRAINING, DEVELOPMENT AND EDUCATION OF A CHILD. WHAT IS DELAYED SPEECH DEVELOPMENT AND WHY DOES IT APPEAR?**

In the modern scientific literature the term "delayed speech development" is defined differently and vaguely. There is neither clear definition of this term nor the structure of defect (disorder) in this deviation from speech ontogeny (development). We will use the following definition of delayed speech development and visualize the structure of defect of this speech deviation so that you can understand what is going on with your child.

**Delayed speech development** is underdevelopment of language and speech ability that appears in the form of a deficient level of learning norms of a language and a decrease of speech activity (speech) and that leads to delayed development of communicative function of speech and also to deficit development of play and cognition activities.

In the structure of defect (disorder) of delayed speech development the leading position is given to underdevelopment of language and speech ability. Why do we notice underdevelopment of language and speech ability but not speech though the term is named “delayed speech development”? The thing is that speech and language are closely interconnected and define each other. Language is the system of codes, signs and symbols. Speech is realized through this system. A child doesn’t begin to speak until he learns a certain system of rules that is peculiar to this language. In this the essence of language and speech ability is. This is connected yet and with
the fact that the leading defect in the structure of underdevelopment of language and speech ability is underdevelopment of phonemic hearing which is closely connected with underdevelopment of keen kinesthetic and kinetic senses of a position of tongue and lips which gives a word the motor image. Therefore clear conditioned-reflex connections between auditory and motor images of a word aren't established that in its turn leads to difficulties in a child in the process of learning new words. They are caused both by underdevelopment of phonemic hearing and by disorder of mobility of articulatory apparatus (tongue and lips).

**Phonemic hearing** is a specific hearing that allows us to distinguish sounds of speech (N. I. Zhinkin, 1958). But to differentiate (distinguish) speech sounds (sounds which we pronounce) a child must first of all study to distinguish sounds of the environment (a noise of water, a thunder, a rustle of paper, a sound of a handbell, a musical hammer and other musical instruments). Then onomatopoeic complexes which represent complexes of speech sounds imitating sounds of the environment (for example, “miaow-miaow”, “woof-woof”, “drop-drop”, “quack-quack”, “me-me” etc.). But a child with delayed speech development has difficulties already in differentiating non-speech sounds (sounds of the environment), the distinguishing of onomatopoeic complexes for him is even more complicated. Since basic functions of phonemic hearing are disordered we cannot talk about differentiating of speech sounds (higher level of phonemic hearing). A child perceives them as a noise and doesn't react to it.

All problems that are connected with insufficient level of functioning of phonemic hearing fluently flows with time in underdevelopment of phonemic perception which allows a child to define a number of syllables and sounds in a word, their succession and position. It is underdevelopment of phonemic perception that delays and distorts the forming of elementary skills of reading and writing. And to this further it seems to be strange delayed speech development leads however since the first stages of the development of phonemic processes function already on the disordered base. The impossibility of the establishment of clear conditioned-reflex connections between auditory and motor images of a word is one of the main precursors of the appearance of difficulties in the period of forming reading and writing skills.

Moreover children with delayed speech development have also underdevelopment of motor activity of fingers. The hand, in opinion of M. M. Koltsova (1973), represents one more organ of speech. In the brain a projection of a hand is closely connected with speech areas to which phonemic hearing and movements of a tongue belong. Therefore we can suppose that the development of motor activity of fingers is closely connected with the development of phonemic hearing in children with normal and delayed speech development. Carrying out the remedial and developing work with this category of children (22 persons) on the base of the kindergarten №32 “Alenky tsvetochek” of the town Rezh, Sverdlovsk region and comparing their motor and phonemic development with children aged 27 – 36 months which have the normal speech development (22 persons) we discovered the following rules of development of phonemic hearing and motor activity of fingers (see figure 1). These rules are correlated with development of functional asymmetry of brain in children with delayed speech development on basis of motor factors (the right hand preference).

When children with delayed speech development have learned to distinguish non-speech sounds (sounds of the environment) they can already differentially use the second and the third fingers of the right and left hands (the pose “Hare”). In this case both hands are in the equal position in the process of performing this pose i. e. right and left hands are equivalent. Since right and left hemispheres function equally children with delayed speech development have only preconditions to the development of functional asymmetry of brain.

However children with normal speech development perform the pose “Hare” better with the left hand then with the right hand. It is evidence of the leading role of the right hemisphere and of the development of functional asymmetry of brain in accordance with ontogeny. It, as a rule, begins always with the right hemisphere and in the process of development of a preference hand (mostly it is a right hand) gradually the leading position is given to the left hemisphere. In the direction right-left i. e. from the right hemisphere to the left hemisphere there takes place the development of any psychic function (memory, attention, phonemic hearing, perception, movements, emotions, speech etc.). It is the Law of brain development. It cannot work differently. In accordance with this Law the right and the left hemispheres begin to interact with each other (interhemispheric interaction) providing normal flow and development of psychic processes. In children with delayed speech development, as the data of study show, the Law of brain development is broken. It is
necessary to form it anew to create the base for the development of psyche of a child. This statement is the basis for performing the remedial and developing impact on children with delayed speech development.

When the ability to differentiate onomatopoeic complexes is formed children with this deviation from speech ontogeny can differentially use the second and the fifth fingers of the right and the left hands (the pose “Horns”). But in this case the leading position goes to the right hand; the creation of the pose on the left hand is performed with the help of the right hand that is evidence of the beginning of the development of functional asymmetry of brain (picking out the hemisphere preference and the hand preference) and of the development of interhemispheric interaction.

Children with normal speech development perform the pose “Horns” on the right and the left hand without any mistakes and without the help of the other hand. It is evidence of the sufficient level of functioning of the right and the left hemispheres and of establishing between them a clear functional asymmetry which continues its development at the same time with the development of interhemispheric interaction. The distinguishing of speech sounds in children with delayed speech development is accompanied by differentiated movements of fingers of the right and the left hands (the pose “Fingers say hello”, the connection of the second, the third, the fourth and the fifth fingers of the right and the left hands with the thumb of the same hand and then the connection of fingers in the return direction). In this case the pose “Fingers say hello” is performed better on the right hand then on the left hand. Under accomplishment of this pose on the right hand we notice the keeping the order and the rhythm of all movements both in the direct and the return order. Under performing of the pose “Fingers say hello” on the left hand we notice some mistakes in keeping the order of movements. We notice the same difficulties in preschool children aged 5 – 6 years which have speech disorders. It is evidence of underdevelopment of phonemic hearing, phonemic perception, of deficient level of the functioning of interhemispheric interaction that you can see in the graphic figures, too (E. A. Bushinskaya, 2013; I. A. Philatova, 1998) and evidence of continues development of functional asymmetry. Therefore picking out the left hemisphere preference on the level of speech is delayed and caused by the underdevelopment of interhemispheric interaction. However children with the normal speech development perform the pose “Fingers say hello” without any mistakes on both hands that is evidence of a clear establishing (fixing) of functional asymmetry of brain and of picking out the left hemisphere preference which is responsible for speech.

Thus, experimental data show that the development of phonemic hearing is closely connected with the development of motor activity of fingers and establishment of functional asymmetry of brain which is performed at the same time with the development of interhemispheric interaction. The revealed rule is an important diagnostic indicator of the speech and the motor development of a child of an early age and it isn’t related to children with motor alalia and autism.
Moreover underdevelopment of phonemic hearing and motor activity of fingers is accompanied by underdevelopment of motor activity of articulatory apparatus: movements of the tongue and the lips are inaccurate, the tone of the tongue is decreased or strained, a child cannot put out his tongue, lift it up and perform right-left movements, we notice consensual movements of the lips (synkinesis). Underdevelopment of phonemic hearing, articulatory motor activities and motor activities of fingers are symptoms which are evidence of the presence in a child of dysarthria disorders (speech motor disorders), and of delayed psychomotor development. These symptoms have a negative influence on the forming of a child's first words. Therefore the active vocabulary is not enriched and developed the basic grammatical structures are not formed. A child cannot make up a sentence (combine 2-3 words and use them in a right grammatical form) because he hasn't realized the norms of the language and therefore he cannot say it. Very often a child has an intention to communicate with adults and apply to them for help but it can be so that a child doesn't have this intention. It is difficult for a child to correlate the auditory and motor images of a word while the visual image of an object, an action or a characteristic is in his head.

All these are the main causes which lead to the underdevelopment of language and speech ability taking the leading position in the structure of defect as delayed speech development. And described experimental data enable us to suppose that the development of phonemic hearing and motor activity of fingers are closely interconnected and, besides, the stage-by-stage rule of the development of phonemic hearing and differentiated movements of fingers is an important diagnostic indicator of the speech and the motor development of a child of an early age.

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ACTIVATION OF INDEPENDENT WORK OF STUDENTS WHILE STUDYING THE MATHEMATICAL DISCIPLINES

ABSTRACT. THE AUTHORS ANALYZE THE IMPORTANCE OF STUDENTS’ INDEPENDENT WORK AND VIEW DIFFERENT WAYS TO ACTIVATE STUDENTS’ INDEPENDENT WORK WHILE STUDYING MATHEMATICAL COURSES IN THE CONDITIONS OF REALIZATION OF THE COMPETENCE APPROACH.

KEYWORDS: STUDENTS’ INDEPENDENT WORK, ACTIVATION, CLASSROOM INDEPENDENT ACTIVITY, EXTRACURRICULAR INDEPENDENT ACTIVITY.

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Mathematics plays an important role in the training process of a modern specialist, since the mathematical models are widely used in all areas of science and technology, contribute to effective learning of real processes and predicting their future development. Mathematical preparation of students of all profiles is the basis for the successful study of general professional disciplines. It forms logical, systematic thinking of future specialists. Formation and development of many sciences require broad application of mathematical apparatus and methods. The main objectives of studying mathematics in higher educational institutions are the development of intuition, logical thinking, mathematical culture and formation of mathematical knowledge and skills necessary in future career.
Mathematical training at the university includes acquisition of mathematical knowledge, skills, motivation to acquire knowledge and skills; use of mathematical methods in professional activities; development of independence of students in the application of mathematical knowledge and skills.

The pedagogical conditions for improving the quality of mathematical training are:
- Professional orientation of mathematical training as the basis for the development of intrinsic motivation of learning and application of mathematics;
- Formation of skills to identify structural and logical relationships within the mathematical information;
- Increase of the role of independent work in the study of mathematics for application of mathematical methods in the future professional activity.

V.A. Erovenko noted [1, p. 65] that in construction of a coherent picture of the world the interaction of mathematics, natural sciences and humanities should help to expand the boundaries of perception of the world as a form of cognitive experience of the world and the development of the whole world as a set of generalized representations of reality. The aim of the educational reform of university education is to prevent the decline of intellectual level of graduates.

It is not a secret that the humanists believe mathematics to be a useless discipline in their work. Accordingly, the study of mathematics in higher school is viewed as something optional. Students of humanities learning profiles should be taught to understand mathematics. It is necessary to raise the mathematical culture of students, explaining the methodology of mathematics and history of its development. It is impossible to transfer understanding of mathematics; it is achieved by each person on his own. Understanding of the theorem cannot be reduced to an understanding of each step of the proof; you need a holistic view of all stages of the proof.

Mathematicians follow the deductive method of cognition: from axioms to logical consequences in the form of laws and theorems. However, not all of the arguments should come to the deduction. Even deductive arguments cannot be completely formalized. Essential function of intelligence is the ability to inductive inference, which is associated with the implicit knowledge that we cannot express in terms of and, therefore, to formalize. Formal-deductive educational paradigm is the basic one in educational courses of mathematics. Intuitions are not considered in any scientific and mathematical journals or in the training and methodical literature. However, the feeling of holistic concept of mathematically evident argument, hiding behind numerous details, is based on intuition. We conclude that a teacher of mathematics should develop both logical and creative thinking of students.

Modern university graduate should possess professional competence. The problem of specialist training in the logic of the competence approach is very important. Today, the main purpose of higher education is to prepare graduates, who have not only knowledge, but also the ability to choose the set of optimal solutions and who is ready for self-education, self-determination and self-development. One of the challenges of higher school is the formation of abilities and skills of independent work. Any high school classes should involve independent work, passing in self-study and self-education. The result of this work depends on the organizing activity of a teacher and the way he uses the productive ways of working.

At present, universities reduces the number of classroom lessons. Part of independent work of students (IWS) is superior to classroom lessons in two or more times. In the study of each discipline, self-study represents the unity of the three interrelated forms: classroom, extracurricular, creative (research) work. There is a need not only to plan the individual work of students, but also to organize its extracurricular component for effective time management. You must use handouts, computer technologies; develop teaching methods, focused on cognitive development of students. Independent work of students turns into a characteristic feature of modern higher education, into general reserve of students learning.

In this regard, the problem of motivation to receive deep and lasting knowledge and methods of theoretical and practical activities is acute nowadays. Subjective-personal position, motivation, setting on learning outcomes, self-control make IWS a specific educational category – self-study of students under the guidance of a teacher. Self-learning is an independent educational-cognitive process of acquiring knowledge and methods of theoretical and practical activities during the classroom and extracurricular activities. Participation of a teacher in the process of self-study is minimized: he carries out the organizing and controlling functions, tracking the results and providing the necessary assistance.

The theoretical basis of the competence approach is the intense activity-based learning, in which there are two educational outcomes: 1) knowledge, abilities and skills of the regulatory activities in typical situations, 2) social and general professional competencies and industry professional competence for the three models of vocational training of graduates (bachelors, specialists, masters) [2].

The following features [3] characterize the independent work of students, considered from the standpoint of the competence approach. The first one is the focus on keeping the individual characteristics of students, which is evident in variable and differentiated character of tasks and problems, offered to students for their independent work. The second one is the focus on the view of the subjective and personal educational outcomes of students. During the independent work of students, there are the processes of self-improvement and self-development of personality of students, which determine the direction of professional self-education.

The specificity of IWS is also evident in the change of the system of assessing its results, reflecting in the cumulative assessment, which is manifested in the summation of scores for the performance of certain types
of independent work within the certain time of training. This suggests a transition to mark-rating system, which eliminates the formal evaluation of knowledge and skills of students.

The important specific feature of IWC is the focus on success, as the main purpose of independent work is professional and personal development of students.

Thus, during IWS, its specifics in the conditions of the competence approach should be taken into account, which is manifested in the focus on a particular student in the need for training and methodological support, which allows to realize the personal direction of the IWS in the presence of information educational environment of the university, allowing the use of new training and methodological support and promotes individual professional development of the student.

There are different types of independent work of students, which are actively used in the study of various mathematical disciplines both in curricular and extracurricular activities: group independent work, front independent work, individual independent work, personal independent work. Group independent work is a traditional teaching method with elements of self-training: extension and justification of methods of solving problems, self-control of acts of teaching and learning activities, analyses and sum of actions and their results. During front independent work, students get cards with the tasks of the program of learning and cognitive activity to work on repetition and study of educational material at their own pace with the assistance of lecture notes and textbook. Individual independent work is achieved by varying the conditions of the problem. It uses a collection of individual home assignments in higher mathematics. During personal independent work, students learn the certain way of activities on the example of problems solution with a variety of professional situations.

Extracurricular IWS in the study of mathematical disciplines is very productive in the learning process, since such work stimulates students’ independent creative activity, develops skills of independent decision-making, and promotes responsibility and organization. To perform extracurricular IWS require students to have a high level of self-awareness, self-discipline and responsibility.

The purpose of independent work of students, who master difficult mathematical courses, is to promote optimal absorption of educational material, the development of their cognitive activity, availability, and need for self-education. The role of a teacher is changing: his activity gives way to the activity of the students themselves. The task of a teacher is to control the process of learning through self-organization of a student, to create conditions for initiative and creative search of effective solutions, to set the feedback.

Objectives of extracurricular of independent work are the following:

- Deepening and systematization of knowledge;
- Formulation and solution of cognitive tasks;
- Development of analytical skills of mental activity, skills of working with educational and scientific literature;
- Practical application of knowledge and skills;
- Development of skills of educational work self-organization and its effectiveness monitoring.

To solve these problems it is necessary to awaken in students a desire to independently explore and acquire the knowledge necessary for their future profession.

Activation of extracurricular IWS for effective learning and development of mathematical disciplines is achieved in different ways. Firstly, a teacher of mathematics tells students the methods of independent work during the training sessions. As the result, during extracurricular lessons there are consolidation and deepening of the knowledge and skills. Secondly, during the lectures and practical classes it is necessary to form a stable motivation to study the discipline for the upcoming academic and professional activities. The following types of motivation can be singled out: 1) external type – dependence of career from learning outcomes; 2) internal type – propensity of a learner, his ability to learn; 3) procedural (learning) type – understanding of the usefulness of the work. The strongest motivating factor is the need for the knowledge in the future professional activities. Students receive mathematical problems that are most popular in their future work.

Thirdly, to enhance IWS teacher use the problematic presentation of material, aimed at the intensification of the educational process and, as a consequence, at the formation and development of the capacity for creativity and the need for it. Fourthly, the use of active learning methods, which allow carrying out training as the creative activity of teacher and students, significantly improve the efficiency and quality of extracurricular activities of students. Fifthly, there are the structural logical schemes of discipline, which brought to the consciousness of a student the basic features of the discipline at the level of creative thinking. Sixthly, both curricular and extracurricular independent work gradually become more complicated, requiring the integration of already existing knowledge and skills of students.

The increase of the proportion of independent work in the structure of the educational process itself does not lead to the fact that the student will be subject of study. A teacher should systematically monitor extracurricular IWS. To make extracurricular IWS effective, a student must analyze, plan, manage and evaluate his activities by his own.

There are three levels of student’s readiness for extracurricular independent work: 1) low level (student has the desire to learn knowledge); 2) medium level (student is oriented on seizing the means of
extracurricular independent work); 3) high level (student tries to improve the methods of acquiring knowledge).

To activate extracurricular IWS in the study of mathematical disciplines, a teacher should use the comprehensive approach in organization of the both curricular and extracurricular process; it is necessary to use all types of independent work and to control the quality of their implementation. Most creative and active students should be involved in research work and participation in scientific conferences.

Activation of IWS in the study of mathematical disciplines can be based on a positive attitude toward the study of the discipline, interest in the perception of the material. The aim of university education is to develop student’s awareness of the need to study mathematics, interest in mathematics, understanding the importance of its place among other disciplines, self-assessment of knowledge. Student awareness of the fact that the results of his extracurricular work can be used in future training activities and work improves his attitude toward his work and its quality; and participation in scientific conferences will greatly enhance student’s self-esteem.

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FAMILIARIZING PUPILS TO EXPERIENCE OF DIFFERENT TYPES OF LEARNING ACTIVITIES WHILE LEARNING MATHEMATICS

ABSTRACT. THE AUTHOR DESCRIBES THE FOUR TYPES OF LEARNING ACTIVITY OF PUPILS, CONSISTENT IMPLEMENTATION OF WHICH ENABLES TO FAMILIARIZE PUPILS TO CREATIVE MATHEMATICAL ACTIVITY.

KEYWORDS: EDUCATIONAL MATHEMATICAL ACTIVITY, CREATIVE ACTIVITY, RESEARCHING ACTIVITY, DESIGNING ACTIVITY

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One of the most important aspects of the implementation of student-oriented learning is to create conditions for the development of students in the process of active learning and cognitive activity. In practice, the creation of such conditions, along with the lessons of mathematics can be accomplished by involving students in the system of additional mathematical education. [1]

Labor, play and study are the main activities of children and adolescents; and the studying activities are aimed at mastering the specific knowledge and skills. The purpose of the mathematical learning activity is a preparation for independent solvation of the certain circle of mathematical by school children. The main mean is the specially selected educational objectives, which content and methods of work developed in the course of historical development of science.

There are three types of training activities: material-practical, social and spiritual. V.A. Gusev [2] noted that in the process of teaching mathematics experimental activity (e.g. implementation of additional constructions for solving geometric problems) and universal-transforming activity (transformation of raw data to obtain the desired result; search new connections between objects; construction of new combinations of objects; different interpretations of built mathematical models) are formed, which are included in the material and practical activities of pupils. The communication activity is one of the components of the social activities, which skills can also be developed at the lessons of mathematics. Spiritual activity of pupils consists of cognitive activity, value-orienting activity, emotional and sensory activity, which skills are developed by means of upbringing and developmental aspects of the threefold purpose of teaching mathematics.

Based on the work of G.A. Shchukina [3], we can form the following features of educational activity:

1) the activity of a pupil is connected with the activities of other people, so it allows child to take
a closer look into the possibilities, to have better motivation of activity, to develop various forms of independent activities;

2) The development of activities in the educational process marks the progressive development of the individual: first – performing activities; then – active-performing activity; later – self-active activity; then – creative and independent activity;

3) Gradually introspection of a pupil creates faith in his own strength, changes the position of a student: participation in learning activities becomes organically adjoin to the activities of the teacher; a pupil shares the cares about the intensity of the training process, economical ways of teaching, successful results of operations with the teacher; a pupil put forward his own judgments, based on those ones, that he has seen and read, learned outside the lessons, and so on.

Taking in consideration the listed above, we select two parameters of pupils educational activity: its content and structure. Under the content of educational activity, we understand the system of knowledge and skills, which in the course of this activity should be reached by a student. The structure of educational activity is a set of actions, carried out by a pupil in order to achieve the positive results in the development of the content of this activity.

Combining the power of students freedom choice of content and structure of teaching, we distinguish four types of training activities: educational, researching, designing and creative types (see Table 1).

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<thead>
<tr>
<th>Type of educational activity</th>
<th>Content of activity</th>
<th>Structure of activity</th>
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<tbody>
<tr>
<td>Educational</td>
<td>Is determined by curriculum</td>
<td>Is determined by an algorithm</td>
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<tr>
<td>Researching</td>
<td>Free choice of pupil</td>
<td>Is determined by an algorithm</td>
</tr>
<tr>
<td>Designing</td>
<td>Is determined by a topic</td>
<td>Free choice of pupil</td>
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<tr>
<td>Creative</td>
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Let us briefly characterize each of these types of learning activities.

**Educational type** is undoubtedly the most important of the proposed types, and represents the activity of achieving the basic knowledge and skills by learners. Content of educational type is determined by the requirements of the program in mathematics, content of textbooks and teacher’s methodological developments. Pupils do not have an opportunity to choose the content; the choice is limited by self-determination of the level of complexity of the tasks. The structure of activity is determined by the structure of the lesson, developed by the teacher, as well as be the variety of ready-made algorithms, methods, ideas and solving problems. Educational type is characterized by the organization of pupils’ activities from outside: the teacher previously explains pupils the solution algorithm of this type of problems or the main idea and then offers them the problem and tasks.

As students master the material on the subject, it is necessary to switch them to the other types of activities, including researching and designing activity, in which students can be involved at the same time.

**Researching type** of learning activity is aimed at mastering the ability to fill the familiar structure of the activities by the new content, in particular, from another area of expertise. At first time, it is necessary to help pupils the main fields of applications of a particular algorithm or idea, leaving them the choice and providing them by the opportunity to pick tasks from this area. For example, you can offer students to use the idea of the method from the contrary, formulated as the Dirichlet principle, in solving problems in various branches of mathematics.

**Designing type** of learning activity involves the expansion of content by changing its structure to self-selection of students. This type can be carried out by making projects on a given topic. In our understanding the training project is a co-aggregate of various activities, aimed at the acquisition of knowledge and skills in the discipline, their organization and creation of a new product with the recommendations for its use in one of the prescribed forms: portfolio (documentation package), presentation, database, video, visual model, and so on.

Both the researching and designing types of training activities provide students the choice of one of the parameters. Students need to feel the given opportunity to select, and to embrace a sense of ownership and liability to their learning process.
Creative type of training activity suggests that both the content and the structure of the activity is the choice of each student chooses. The content of the activity arises from the formulated by the pupil creative task, in which as the result of the pupils' work on the topic at the research level of activity, the structure is determined by the activity of the students of the various forms of his work at the project level.

At the organization of mathematical education at school, which includes interconnection of curricular and extracurricular activities, it is assumed the following scheme of implementation of the learning types: first comes the educational type; after the successful acquisition of knowledge and skills the parallel shift to the researching and designing types comes; obtaining positive results in the implementation of which gives the opportunity to do the creative type of learning activity.

If the scheme, proposed by G.I. Shchukina, suggests that performing, actively-performing, self-active, and active and creative learning activities are carried out in the conventional technique in math class, we expect the change of activity types in accordance with the different scheme, taking into account the close relationship of curricular and extracurricular forms of learning mathematics.

It is necessary to provide pupils by the basic knowledge and skills (educational type). However, the intellectual development of students, formation of qualities, typical to mathematical activity, is impossible without researching and designing activities, basis of which surely must be instilled during the lessons of mathematics. Some especially active in this area students can (and should) go to implement the creative activity. But, in practice, such cases are rare. In order to expand the range of students, who have the potential for creative learning activity in the field of mathematics, students are engaged in supplementary mathematical education. Creating such a system in a separate school involves the provision of more opportunities for the majority of students for the implementation of researching and designing types of learning activities, which can lead to the creative level. Supplementary system of mathematical education, in addition to special training in three areas [4], involves more time and opportunity to supply the greater autonomy of students in the classroom.

Thus, consistent work on the implementation of different types of learning activity allows engaging pupils in the creative process of the study of mathematics, which gives positive results at the Final State Certification and different stages of the All-Russian contests in mathematics.

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IS THERE ANY FUTURE FOR “VECHERCA” (PART-TIME DEPARTMENT) IN MODERN HIGH EDUCATIONAL SYSTEM?

ABSTRACT. THE POSITIVE AND NEGATIVE FEATURES OF CLASSROOM STUDENTS’ PAIR WORK ARE PRESENTED AND ANALYZED IN ORDER TO CORRELATE THE TRADITIONAL APPROACH WITHIN THE AUTHORS METHOD. IN THIS WORK AUTHORS TECHNOLOGY IS PRESENTED TO CONTROL EDUCATIONAL ACTIVITY OF HIGH SCHOOL STUDENTS IN SET PAIRS “STRONG – WEAK”.

KEYWORDS: SET PAIRS “STRONG – WEAK”, METHODICAL APPROACH, INTERACTION, EDUCATIONAL PROCESS AND ASSESSMENT PROCESS.

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Students’ Pair Work is methodical approach is widely known in home and foreign methodological science. A lot of examples are used for this kind of activity in the history of Pedagogics.

We cannot help mentioning the Bell-Lancaster educational system, Jan Paul Mortan’s activity and Mr. Rivin, Mr. Shatalov and others. In each case pair work has got its specific features, aims and accordingly the mechanisms for the implementation. Thus in Bell-Lancaster educational system framework pair work determined the dominated purpose to attract and cover the bulk of the learners.

After The Great October Social Revolution to eliminate illiteracy among the population the above mentioned approach was put into action. The technology of collective interaction worked out by Mr.Rivin and his scholars helped to discover and self-dependency and communicative skills of learners, the score of which based on textual activity. Mr. Shatalov’s method is realized as slight transformation of the previous described approach. His method is implemented in inter-pair control of top pupil previously tested by the lecturer and other members of the class. Also many researchers are interested in discussing and exploring this phenomena and the right dislocation of learners is the key to success.

Pair-work is paid great attention for business managing trainings in foreign companies to enhance corporate spirit.

The model of pair-work has been suggested by the author of given article in technology is presented to control educational activity of high school students in set pairs “strong – weak”. This work is dedicated to innovative author’s methodic in comparison with the previous experience in this branch of science.

The first, traditionally a lecturer does not form pairs of learners specially. The pair consists of students (learners) being neighbors at the moment of involving in this methodical approach. But psychological computability and the competence in particular subject were not taken into account. As a result, the work of pair can be treated not only as non-progressive and effective, but can also give way to conflicts among learns within the pair.

In suggested technology the stage of creating the pairs “strong-weak” is paid great attention to as the adequate mixture is turning step for future interaction.

The second, we should touch upon the static/dynamic/variation of the pair. It does not assent the general opinion on superiority of any statues of pairs, that is explained by the existence of incontestable priority of any of them. The difference is based on right choice of setting task and in professional competence of a lecturer to organize class pair work.

In authors methodic the students are introduced in set pairs “strong-weak” (the student’s position is determined by the level of his knowledge and skills on the given subject), that increases the effectiveness within the pair. The existence of the static partner gives possibility to compare work results in synchronic and diachronic aspects: a “strong” student advances his knowledge and gets extra skills of presenting public speech, a “weak” student in its turn receives an opportunity to fill the lack of knowledge on given subject with the assistance of the static partner’s systematic interaction oriented to only one cooperator. During the educational interactive process the students in pairs are becoming the whole unity and a result we can observe interaction synergetic effect.
The third, the difference in approach of working style with supplementary material. More frequently the method of work in pairs is used for revision and extension of class material or drilling some skills in various aspects of new topic. And each pair receives the same task. Within the pair “strong-weak” the distribution of material is stipulated by its needs. The activity of the pair is divided into two parts: the first is to drill those aspects which are remained difficult for understanding for the “weak” student after the group and the lecturer have covered (studied) the material. A “strong” student prepares the material for a “weak” student as a part of his home task after it was discussed with the lecturer.

The fourth, incidental pairs where students are neighbors, not partners rival with each other. Arranging of classroom students’ pair work often comes to the competition between pairs for example the best time of doing the tasks. Set pairs “strong-weak” aren’t in competition. Each pair’s activity is isolated that’s why its results aren’t compared with ones of other pairs and are explored independently.

The fifth, the model of interaction of the lecturer and the student’s pair is transformers. If the work of pair is used by the lecturer as one of plenty of various methodical class approaches than his contact with the pair is minimized during their cooperation.

Work in set pairs “strong-weak” isn’t only separated methodical approach but within the system and the lecturer working in has to be in permanent close touch with the pair according to several main causes. Here they are:

- Work in set pairs “strong-weak” is a compulsory element of classwork.
- Work in set pairs “strong-weak” is systematical which is aimed at advancing later development and revision students' problematic material.
- A “strong” student is not professional that’s why it is necessary to render him timely assistance in any difficult situations.

The sixth, the difference of lecturer’s attitude to the pair “strong-weak”. The lecturer and the set pair “strong-weak” are partners but at the same time the lecturer continues being a leader making decisions to intensify or slacken the lesson's pace to select material, tasks and methodical approaches and etc. Relation between the lecturer and the pair “strong-weak” consists of the delegating lecturer’s control functions to the students in the pair on the one hand and the increasing of the level of involving students into educational process and assessment process on the other hand. According to that the model of pedagogic activity changes and the role and functions do too.

Thus systematical work of students’ set pairs “strong-weak” can help the lecturer to discover the potential of this methodical approach for making educational process and assessment process more intensive, progressive, interesting and for finding out a lot of different positive factors in students’ attitude to each other and education at all.

One of the greatest scientist Jan Amos Komensky noted that the thought addressed to anybody is the catalyst of thinking and the motto “learning by way of teaching” is realized in full measure.
The system of education in modern Russia is experiencing a period of modernization. Principles of openness, continuity, priority of personality interests, which are implemented by the system, are responsible for releasing the creative energy of social self-organization, which, in complementarity with the institutionally necessary processes of organization, can meet the educational demands of a particular individual, and society as a whole.

In the Russian reality, the experience of developed countries is confirmed by the following: the informal sector of education allows you to respond to the ever-emerging educational needs quickly and effectively, actively complementing individual educational trajectories of individuals of different ages and social statuses. The increase of welfare and the resource of free time of modern Russians cause the interest not only to the professional-oriented non-formal educational activities, but also to its general-cultural direction. According to a joint study of continuing education conducted by the higher school of economics and the foundation "public opinion" [1], self-education is becoming a determining way to meet the educational needs of the Russian population at the age from 25 to 64 years. However, the market of educational services of the informal nature is underdeveloped: 75.2% of respondents were not able to realize the desire to start an educational interaction. These circumstances cause scientific interest to the different ages (children and adults) practices. For national education they are the traditional subject of study, but only in the aspect of personal development of the young participants, the conditions for which are realized in the state educational organizations. We are interested in the practices of general cultural education of different ages, resulting from the efforts of private actors, as they are the phenomena of social self-samples of non-formal education in the “pure” form. We are going to speak about the following: learning outcomes, that the adult participants, residents of big cities try to find; characteristics of the educational environment, which helps to achieve the results.

The concept of “non-formal education” is used in the Russian scientific community, and as well as throughout the world, scientists have not come to a common interpretation of it. It can be used as a synonym for extra-curricular or supplementary education or it can “absorb” the concept of “formal education”. We join the tradition of interpretation, based on the work of scientists of RMAS USSR academy [2]. Unlike formal education, informal one does not involve the issuance of certificates of a standard form; in contrast to the formal education the formal one has the elements of the organization of educational activities. On the subject area, informal education is divided into the professionally oriented and general cultural. The general cultural education solves the problem of creating conditions for the development and socialization of the individual, supporting the cultural self-realization.

According to the specifics of non-formal education, the concept of “uneven-aged community” is a voluntary association of people of all ages on the basis of common interest, where, in principle, the system does not contain production of any product or material benefit. The subject of the study are the children's and adults’ community (under the “child” we mean the period of maturation from adolescence to young people). The Russian science considers them in terms of the formation and development of the collective subject of educational activity (Yu.V. Gromyko, V.V. Davydov, V.V. Rubtsov, G.A. Zuckerman, V.I. Slobodchikov), where the academic communication, principles of joint actions, conditions of activation of reflection, collective ways of thinking are studied.
Nowadays, there are the attempts to organize uneven-aged communities on the scientific base (especially by the “adult-youth” type) in the field of formal education. This problem was investigated by b.s. gershunskey, v.a. bahvalov, i.a. winter, m.r. ilakavichus, o.e. lebedev, s.b. uzdenova, i.y. shustova, m.s. yakushkina. However, an adult assigned narrowly pedagogical role: he primarily was viewed as a carrier of the already established value-semantic sphere, as the organizer of the situation of personal development of the young generation, as the translator of social experience. In the opposite, we are interested in the position of an adult as developing being and his educational outcomes, achieved in uneven-aged communities. Over the years of studies, we propose the classification of the collection of studied practices [3], highlight the direction of their self-organization (strategy a is the priority focus on the educational results of a particular subject area, strategy b is the priority focus on communication, interaction with different people, leisure activities with an educational slant) [4] and the forms and methods of self-organization [5].

The subject of the separate analysis is the results of the study of conditions of uneven-aged interaction in self-organizing educational practices, which were proposed by adult participants. 64 respondents (from 30 to 62 years old) named the aspects, which are attractive to them (there were 2 representatives from 16 communities in each direction of self-organization). The direction a attracted adults by the opportunity of choosing a tutor, participating in the discussion, selecting of program and correcting own progress. The opportunity to discuss the existential problems and the disclosure of their own life-world were realized by 9 respondents; only 4 of them regarded this fact as a positive potential. The opposite view was expressed by participants in the second direction. Specialization of their course reflected their real needs only on the first step. In the process of establishing a cooperative relationship in the community, socializing with like-minded people has become a priority. It should be noted that the participation of young members in the interaction was interpreted cautiously by 14 adults, who over the time (about 2 months) saw undeniable advantages in the factor of uneven-aged education. There were 5 people, who left the community, according to the respondents' opinion, due to the presence of this factor. Community members of the second direction often stayed after classes and continued communication outside the educational environment.

The interview of the participants demonstrates the perception of non-formal educational interaction as a comfortable environment, allowing seeing different points of view on issues, important for the participants, triggering reflection, opening the possibility of self-realization, which is conducive to personal development of an adult. An example is a neighborhood community of the Primorsky District of St. Petersburg. Over 5 years of living together in the same house 10 people have a tradition: two families with children, from 10 to 16 years old, once a month invited single neighbors-pensioners at the weekend to pass the pre-padded and coherent educational route. Our meeting with the community took place on August 10, 2014 on the city educational action «geek picnic»: they visited two lectures and a master class. 68-year-old participant shared his impressions: children and grandchildren live in the north, family comes together only once a year. He believes a big success to get acquainted with young families and their members, whom he called his close friends. Communication has long passed beyond mere familiarity, everybody supports each other in any issues. Everybody is impatiently waiting for weekend tours. "I did not know this much earlier, the world is changing rapidly, just do not keep track. I reinterpreted much of the things i'd studied. A modern youth is smarter than us. I have something to compare: i am a retired naval officer" – he shared. 16-year-old n. Admitted that he did not think that people can be sincerely surprised by modern gadgets, as the older members of the community do: “they are like children, like aliens, but they are cool". Mother of a teenager said that her son wanted to become a sailor after a meeting with a neighbor, they often watch movies together, discuss something, and two years ago, even made the mock of a submarine. Looking at them from the outside, you do not come up with the idea about the value generation gap, about loneliness in the big city.

All the investigated practices have the common characteristic: they are all deployed as personal meetings – meetings of individuals of different ages in the existential sense of the concept: as a share of immanent exchange by highest values with unpredictable outcome (m. Buber, m. Bakhtin, o. Bolnov). It's always the co-existence. Form of a personal meeting was tested in tradition: from face to face in the narratives and rituals passed down the meaning of life from generation to generation values (in our opinion, the image of a personal meeting was handed over in the scene of the evening vanishing of the indian tribe in the movie “apocalypse” by m. Gibson). To make it come true, the several conditions that trigger reflection should be realized: freedom of choice (the
meeting can not be forced), comfortable space, culture and nature features of content of education, lack of rigid temporal regulation, dominant of majority of the participants (in the sense that a. Ukhtomskii invested in this concept: not selfish focus on themselves, but reference to the other person), dialogue character. In this case, the subject of the educational activity is “conditional frame” of interaction content: it can be extended at the request of the participants to the existential domains. Most conformed to these conditions is the informal education sector, which is why self-organization in the field of education chooses such forms [6].

Interaction in uneven-aged informal educational communities, occurring in the conditions described above, is anthropological practice, as it is the “work in the space of subjective reality of man: in the space of co-distribution activities, in the space of co-existent community, in the space of a reflexive consciousness” [7, p. 24]. Such a perspective is based on the consideration of education as a process of descent quality, special only to each individual throughout his life, his development of universal ways of life. Therefore, in the ideology of continuity it is so important to have not only general education, but also the completing one (the terminology of V.I. Slobodchikov). The state emphasizes professionally oriented, non-formal education as the directly affecting socio-economic situation. However, equally important is the general cultural trend, in which a person receives support in the realization of the need for self-development, self-improvement, self-realization. In this context, the age difference appears as a factor, contributing the maturity of the system of interaction with other individuals of different ages. Environment with such entities allows a person to understand life as a cycle, each of which periods opens a new dimension of self understanding, understanding the world and ourselves in the world. Completeness of each period of residence allows us to go in times of full maturity on the need of educational activity, comprehending ourselves in the context of all mankind.

Modern interest of residents of different ages, living in big cities, to informal educational practices is due to the possibility to overcome the “loneliness in the network”, go to the real social life, discover the importance of the other person and the self importance in relation to others. This reflects the ambivalence of life in the information society. Such educational interactions become a resource to fill shortages in the personal development of members of modern society, to overcome the dangerous divide of the cultural continuity. The study of non-formal educational practices for different aged communities allows science to offer effective strategies of support the personal development of the individual at different stages of life in continuing education, relevant to the modern Russian society and the State.

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ABSTRACT. THE AIM OF THE ARTICLE IS THE SEARCH FOR AND USE OF SPATIAL RESOURCES IN INNOVATIVE TRANSFORMATION OF REGIONAL STRUCTURES. IN PARTICULAR, IT SEEMS TO THE AUTHOR THAT THE IMPROVEMENT OF MANAGEMENT IN THE LOGISTICS PLAN CAN BECOME THE TRIGGER SYNERGISTIC DIRECTIONS THAT WILL ALLOW YOU TO ACHIEVE A MULTIPLIER EFFECT IN VARIOUS ACTIVITIES. FOR THE OBJECTIVITY OF PERCEPTION PROBLEMS IN THE MATERIAL SYSTEM IS USED, COMPLEX, SITUATIONAL AND PROCESS APPROACHES. MULTIVARIATE AND COMPARATIVE ANALYSES ALLOW US TO MAKE INFORMED CONCLUSIONS AND TO OBTAIN CONCRETE RESULTS, INCLUDING THE PROCEDURE OF ADAPTATION OF FOREIGN EXPERIENCE ON THE RUSSIAN TERRITORIES. IN THE STUDY UTILIZES THE EXPERIENCE OF THE KALUGA REGION, WHICH CAN BE EASILY ADAPTED FOR USE IN ANY OTHER TERRITORIAL ENTITIES, THUS ALLOWING YOU TO CREATE NEW INNOVATIVE ECONOMY.

KEYWORDS: INNOVATION; REGION; LOGISTICS; RESOURCES; INTERNATIONAL EXPERIENCE; STRATEGY DEVELOPMENT; INFRASTRUCTURE; INTEGRATION; MODERNIZATION.

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Kaluga region and the Central Federal district (CFD) generally have great transit potential. It is this potential and becomes an important part of the innovative development of economy on the basis of international logistics complex. Mac-maximum use of available benefits is one of the key vectors of development of the Kaluga region and its neighbors [2, s.349].

Currently, the main traffic flows are still tied to the capital, which can no longer cope with the increasing volume of traffic. To solve the problem can help the construction of logistics facilities in the regions. Because the transport and logistics cluster today, should be given special attention. From success in this industry is largely responsible for the growth of the industry and opportunities for expansion of the investment portfolio. For example, for the last 8 years in the Kaluga region attracted 7.7 billion US dollars in the region 141 is implemented investment project [1, p.294].

The development of logistics centres in the region is in modern European format Freight Village “freight village”. This multi – functional logistics complexes.

This is an original German best practices, creatively copied in Russia. Today in Germany has 32 cargo village. Only a 5-million Berlin built 3 of these complex. They are integrated into a single logistics system, which is completely outside city limits. Unfortunately, the same 15-million Moscow has no analogues [3, p.1Х].

Only in Russia modern transport and logistics center is being built on the border of the Kaluga region with the New Moscow. Freight Village Vorsino is located on 600 hectares. Freight village is able to skip up to 250 vehicles per day and up to 500 thousand railway containers annually. Investment in the project is 100 million dollars.

The development of air transport is another promising direction for the Kaluga region. In the region are two international airports. This "Ermolino", its reconstruction is carried out jointly with the airline "UTair". The airport is designed for low-cost transportation with traffic up to 8 million passengers per year, this amount will significantly relieve the Moscow airports. The second Mac stably the project - reconstruction of international airport "Kaluga" [5, p.320].

The change of borders of Moscow leads to the fact that in the neighbouring Kaluga region increased traffic. So here we need to create a logistics zone, and to build an efficient transport and logistics system.

Note that currently, the logistics market in Russia is extremely centralized. The first step towards decentralization is an example of Kaluga region. In the region are based on best practices. Here is actively developing warehouse and industrial built-to-suit, then there are exact solutions for the needs and requirements of business and a specific customer.

In 2014 in the Kaluga region signed a strategically important contract. This tripartite Memorandum of cooperation between Freight Village EN and company GEFCO about sharing infrastructure multimodal freight terminals Freight Village "Rosva", as well as Freight Village Vorsino. The parties have agreed to unite efforts to establish regular container trains and
integration, terminal and logistics centers of the Kaluga region in the international transport corridors [4, p.27].

The agreement aimed to create a United Union of freight villages, signed between FVRu, Investment centre Ostbrandenburg and the Association of German freight villages (DGG). Its main idea is a joint development of intermodal freight villages FVRu in Kaluga and Moscow regions, the German Frankfurt.

Naturally, this innovative transformation of logistics structures requires adequate financial resources. Therefore, Vnesheconombank and LLC "Freight village Kaluga North" signed a loan agreement to provide project 3.7 billion rubles [7, p.329].

Funds will be directed on financing of the United transport and logistics complex in the format of "freight village" in the industrial Park "Vorsino" and "Rosva". It will be a modern logistics centre, which will provide not only container handling, and quality warehousing, customs, freight forwarding and insurance services.

For each production requires a reliable transport corridor for the supply of raw materials and export products. That is why the government since coming into the region of the first investors began to develop transport and logistics infrastructure. The basis adopted a format for multimodal logistics centers, and later freight villages. Today the region has two of them: Freight Village Rosva has been serving businesses in the industrial parks around Kaluga, Freight Village Vorsino together with airport Ermolino" forms a major transport hub in the North of the region, which serves not only Kaluga and Moscow region. From 2007 to 2014 turnover in the Kaluga region increased 23 times. This is a huge load, which would hardly have coped old version of the transport system [10, p.X].

Kaluga freight villages that joined in Union with logistics operators in Germany, is first of all a quick and easy access to international freight corridors. This process will facilitate the integration into a single highly efficient logistics system. That, in turn, will lead to the optimization of logistics processes within companies to reduce costs. And any optimization is to increase profits [6, p.375].

In 2014 in the area will continue to increase the pace of modernization of the transport infrastructure. Plans for the coming years - the beginning of the project to create a southern bypass of the city of Kaluga. This is a major project, involving the connection of highways M-3 "Moscow-Kiev" and M-4 "Crimea". Will be built a bridge across the Oka, and interregional traffic will completely go to a detour of Kaluga.

One of the most promising projects - Freight Village Vorsino. Total area of 600 hectares, the Complex is provided with a transport infrastructure: rail terminal, highway, airport Ermolino". Now works as a customs post, opened railway station and container terminal. This year will complete the construction of key infrastructure.

The process of establishment of the two international airports. In Ermolino by 2017 Kaluga region together with the airline "UTair" will create international airport and maintenance complex. Emphasis will be placed on low-cost transportation with traffic up to 8 million passengers per year. This will significantly relieve the Moscow airports Domodedovo and Vnukovo.

Challenge is the completion of the reconstruction of the runway of the international airport "Kaluga". By the end of 2014 it is planned to test a new cover, and by 2015 to upgrade the entire infrastructure and begin transport.

Another serious issue is the development of a network of toll roads. But there is a clear legislative restriction fares can be charged only if the road is in full conformity with state standards. Neither one road may not be paid if there is no free "doubler". Therefore, before talking about toll roads, it is necessary to make a large part of the road network in line with the norm.

The development of the road network of the region is the increased traffic. The priority is the development of the southern territories. Modernization of the Federal highway M-3 is not output with increasing traffic flows in a southerly direction. Trucks break trail for several years. So now is the extension of the parallel M-3 roads. For example, today the residents of Bryansk prefer to go to Moscow than through the Federal highway and across the road "Hvastovichi - Kaluga". Attention to the southern part is also associated with the development of the special economic zone "Development". For its residents to be the best available transport network.

The financing of the logistics capacities of the regional government decides comprehensively. The maintenance of the road Fund for the implementation-is financed from the regional and Federal budgets. Allocate a large share, of course, the area. In 2013, for the maintenance of roads, we spent about 3 billion rubles. In 2014 the amount of 3.5 billion [8, p.361]
Partial renewal of the existing infrastructure is not enough. We need modern systems, new approaches to logistics operations. Such projects in the region are being implemented. It is important that their funding is not spent funds from the Federal budget. The work is with private investors, projects are implemented on the principles of state-private partnership.

Freight Village Rosva and Freight Village Vorsino financed by funds received from the sale of land plots for construction of enterprises, i.e. the profits from the new economy. The creation of related infrastructure, access roads serving the docks - these areas are open to all interested companies.

Most of all Federal funds used in the development of air transport. But here, their share does not exceed 30%. Development Ermolino* in the framework of the Federal program comes environments of on line MIA - about 7 billion rubles. Another 7 billion rubles are attracted to the area from private investors. For the airport "Kaluga" of the required 3.6 billion rubles only 900 million allocated in the framework of the Federal program, 200 million was allocated by the regional government. Another 200 million region allocated in 2014 [9, p.19].

Such events are important for a coordinated, effective development of subjects of Federation. And the accumulated experience of the Kaluga region in this direction can be easily adapted for use in any other territorial entities, thus allowing you to create new innovative economy.

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ABSTRACT. THE AUTHOR DEALS WITH THE PROBLEM OF GREENING THE PUBLIC CONSCIOUSNESS AS A PREREQUISITE FOR THE FORMATION AND DEVELOPMENT OF ENVIRONMENTAL EDUCATION OF THE YOUNGER GENERATION. THE MAIN OBJECTIVE OF ENVIRONMENTAL EDUCATION IS THE FORMATION SYSTEM OF ADEQUATE ENVIRONMENTAL IDEAS AND CONCEPTS OF PRIMARY SCHOOL CHILDREN, BECAUSE OF WHICH KNOWLEDGE IS FORMED.

KEYWORDS: ENVIRONMENTAL CONSCIOUSNESS, ENVIRONMENTAL CONNECTIONS, ENVIRONMENTAL PERFORMANCES, PRIMARY SCHOOL CHILDREN.

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Environmental consciousness is an integral and relatively new phenomenon of social consciousness, which is a reflection of the tension and urgency of the environmental situation, and the specific expression of rather serious transformation of spiritual and material culture. Such transformations, affecting primarily the value sphere of humanity, are always very difficult. In the
process of an acute consciousness of the real conditions of existence and development of humankind and the fundamental values by many people, being the role of environmental consciousness, its ideological, axiological and educational potential are particularly evident and clear.

Analyzing the greening of public consciousness, it should be noted (like E.P. Zborskaya and T.G. Prohorenko noted) that although this phenomenon is relatively new one in spiritual life, it has undergone several stages from the original "ecological pessimism" to certain design trends, pushing the idea of co-evolution of mankind and nature, which aim is the idea of the noosphere as a special stage of development of the biosphere and humanity. The need to qualitatively new concepts of man's relation to nature is expressed in the system of ecological imperatives as A. Shveytser's “reverence for life”, Yu. Odum's “nature knows best”, coevolution ideas of R.S. Karpinskaya, I.K. Liseev, A. P. Ogurtsov, harmonization of relations between society and nature. [1]

Environmental notion is a set of both scientific concepts, methods of cognition and the elements of the political and legal awareness, certain aesthetic categories, as well as regulators of the relations between a man and the biosphere and nature as a special kind of "subjects", having a value in itself, the ability to self-regulate.

Environmental notions organically include the axiological approach to the world. Science as the most important part of the modern spiritual culture in interactions with environmental ideas received a new function of studies of nature’s preservation, biosphere diversity and humankind the as a species.

Gradually, the minds of people include the understanding that the base of many environmental problems is the man himself. Therefore, the solution of environmental problems in nature must begin with the changes in the psychology of the man himself, his self-knowledge, self-actualization. Resolution of the internal contradictions of the individual holds the key for resolving the contradictions in his relationship with the environment, both social and natural. It is the main task of environmental education.

Scientists (as L.P. Saleeva, A.N. Zakhlebnyi, I.D. Zverev) has developed modern approaches to environmental education, which show that their development is moving towards deeper insight into the nature of the process; recognition of interdisciplinary, strategic role of environmental education, defining a new educational paradigm; towards the integration of various units of the educational process and the academic disciplines, the humanization of science knowledge.

The studies proved that in the early school years the environmental outlook of a child is forming in the process of mastering the ecological culture of society, reflecting the experience of interaction between man and nature. The important point is that a schoolchild develops the estimated relationship to nature, to the activities of man in it. [2]

The relevance of the chosen topic is due to the need of ecological concepts formation of primary school children based on their scientific knowledge in the course of the discipline “The world around us”.

Primary natural-science education, which has deep and strong positions at Russian school, and the large arsenal of practical experience in recent years, undergo a significant upgrade. Above all, this is due to a clear awareness of high developmental and educational significance of the education sector and its specific contribution to the establishment of the foundations of modern, environmentally oriented outlook of students. At the same time, there is a movement towards integration of natural science and social science knowledge with the aim of providing a child by the generalized, holistic view of the world and man's place in it.

When designing the content of the integrated courses in elementary school on environmental education, we take into account such subjects, as “Natural Science”, “Environment”, “Safety regulations”, “Valeology”, “Fundamentals of citizenship”, etc. But the key ideas are as follows:

— Human and his health (internal environment of the human body);
— Man in the natural environment;
— Man in the social environment [3].

Elementary school lays the foundation for natural-scientific literacy of achild. Elements of knowledge of animate and inanimate nature, natural phenomena are included in the integrated course and form a unit “Nature". This unit includes the basic ideas and concepts of chemistry, physics, geography and ecology.

The distinctive feature of natural-science education in primary school is the variability of programs. Identity of each program provides the teacher by the opportunity to choose the most
appropriate course for him. Depending on the profile of the school and the level of students’ grounding, studying of natural sciences can be built in different ways.

The main objective of environmental education of primary school children is the formation of the systems of adequate environmental ideas and concepts, on which knowledge is based.

In accordance with this, the main reference point in solving the problem of environmental education is to develop students' understanding of the unity of man and nature, which is based on the following key positions.

— Nature is not just a collection of various natural objects, but it is a complex system, each element of which is interconnected with the other: any impact on one of the elements of the system inevitably has an impact on many others.

— The idea of nature as a single whole with a complex system of internal relationships is a key natural position, deep understanding of which has a strong influence on the formation of psychological involvement of a pupil in the natural world.

We consider the ecological relationships, establishing in the classroom activities at the subject “Environment” in elementary school.

Here, at an affordable level, students see the links between the animate and inanimate nature, between the various components of nature (plants, animals), between nature and man. Through the knowledge of these connections and relationships, students study the world around us, and environmental relations promote the study. The study allows students to acquire the basics of dialectical-materialistic worldview and to contribute to the development of logical thinking, memory, imagination, speech.

Constant attention of a teacher and disclosure of environmental bonds significantly increase students’ interest in the subject. The descriptive study of course gradually reduces the interest of students. This is inevitable, even if a teacher draws fun facts, riddles, proverbs, etc., because the theoretical level of the material remains essentially unchanged. However, if the study of natural history reveals a diverse and rather complex relationships that exist in nature, the theoretical level of the material is increased, the cognitive tasks assigned to the student, are complicated and it contributes to the development of interest. The study of ecological relationships promotes environmental culture of students, upbringing a responsible attitude towards nature.

It is hard to imagine the consequences of human intervention in natural processes without knowledge of ecological linkages and the full environmental education students is impossible.

Let us briefly consider the essence of the biotic pyramid, the ideas of which should be formed in schoolchildren.

Plants, absorbing solar energy, are based on the most difficult stage of the pyramid – soil. Stage of insects is based on plants, birds and small predators – insects, etc. At the top of the pyramid are the large predators.

Species, that make up one step, are combined by the food type. Representatives of each subsequent stage depend on the underlying species, supplying them by food, shelters, etc. Number of steps decreases upwards. Therefore, for each predator there are hundreds of individuals of its potential prey, millions of insects, countless amount of plants. The man is ecologically equal to animals, who eat vegetarian food: bears, raccoons, squirrels, etc.

In terms of environmental education, the most important concept is the idea that each species, including humans, is the link of many food chains. Both an elk and a cow are the part of at least a hundred of such chains: an elk eats both an aspen and other plants, and a cow eats not only the clover. Death of the organisms and their decomposition energy return the energy to the soil, from which a new cycle begins.

If in the early development of the biosphere, the pyramid was low and very wide, and the food chains were short and simple, then, in the process of evolution, the pyramid and the food chains became more complicated. A man is just one of thousands of add-ons, which makes the biotic pyramid more complicated, fractional and variable.

Changes in one part of the system will inevitably lead to changes in the other parts and chains, forcing their organisms to adapt to the new conditions. After any disruptive effects, anyway the system of linkages will subsequently recover, but usually at a lower level of organization. Due to its technological strength, a man is able to provide such an impact on the biotic pyramid, which were not made by any other species for many thousands of years: it has no “experience” of adaptation and changes of such magnitude.
In this case, the modern science is not able to give a complete system forecast of the effects of such changes, so that they are not only unexpected, but also often tragic. The idea of the complexity of the system of internal relationships in nature allows student to understand the unity of man and nature on the overall eco-system level.

On the natural science lessons, pupils explore the surrounding world and the following questions can be offered for them: “What do you know about the role of humans in nature?”, “Benefit or harm does a man bring to nature?”. Very often pupils talk about the benefits brought by people. Ecological information of children is not associated with conservation activities, witness or participants of which they were, but it is associated with an awareness of the need to protect nature from man and his actions. This fact is a good one, since ecology is the science of worldview and these data are the foundations of the world.

According to the curriculum, in the course of studying the natural sciences primary school pupils should learn the following concepts of fundamental importance for the formation of ecological culture:

- the variety of living organisms, their place and role in nature;
- the role of plants and animals in the biosphere and human life;
- environmental factors and their effects on living organisms and natural communities;
- the role of humans in the biosphere;
- the impact of human and its activity on plants and animals, natural ecosystems;
- environmental monitoring;
- rational use of natural resources;
- protected areas. Preservation of biological diversity as a basis for sustainable development of ecosystems. The Red Book.

Knowledge is not the aim of environmental education, but it is a necessary condition for the development of attitude towards the world. It should have the emotionally-effective character and takes the form of cognitive interest, humanistic and aesthetic experiences, practical readiness to create, protect all living, take good care of things not only because it is the result of someone work, but also because the materials of natural origin have been used in their production.

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PIANO QUARTET IN THE RUSSIAN MUSIC: GENRE RETROSPECTIVE REVIEW

ABSTRACT. THE ARTICLE IS DEVOTED TO THE GENRE RETROSPECT REVIEW OF PIANO QUARTET IN THE RUSSIAN MUSIC. IN NATIVE MUSIC THE EVOLUTION OF A PIANO QUARTET PASSED THROUGH DIFFERENT STAGES: GENRE STABILIZATION AND RISING, TEMPORARY PAUSES AND FOLLOWING ACTIVE DEVELOPMENT. TRANSFORMATION PROCESSES TOOK PLACE ON DIFFERENT LEVELS: STRUCTURAL, INFORMATIVE, INSTRUMENTAL-TIMBRE DECISIONS, LEVEL OF REALIZATION OF FUNCTIONAL ROLES OF INSTRUMENT-PARTNERS. INSTRUMENTATION OF PRINCIPLES OF EUROPEAN QUARTET LEADERS TOOK PLACE IN THE ROOT SYSTEM OF RUSSIAN PIANO QUARTET. Nevertheless, IT DID NOT GIVE STABILIZATION OR COPY. THE STUDY OF A PIANO QUARTET SHOWED: THIS GENRE IS POSSIBLE TO ACCUMULATE THE LEANING STYLE TENDENCIES OF CHAMBER MUSIC OF DIFFERENT EPOCHS. IT'S OBVIOUS NOW THAT A PIANO QUARTET IS OPENED TO MODERN TIMES AND THE NEW COMPOSITIONS ARE THE PROVE OF THIS.

KEYWORDS: GENRE, HISTORY OF GENRE, ENSEMBLE WITH PIANO ACCOMPANIMENT, TIMBRE COMBINATION, CHAMBER MUSIC.

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The historical path of the chamber-instrumental art reveals the following important acquisitions: the diversity of the origins of ensemble culture (Baroque), the appearance of the normativity features (Classicism), the extension of shaped areas, often by software, the development of new forms (Romantism). The area of chamber and instrumental works in the movement from romantic vividness to pluralism stylistic manifestations of the XX century acquired many special features. The works for violin with piano went through the different phases of evolutionary processes. This fact has affected the presence in the structure of the compositions at different levels: content aspect, instrumental timbre, rethinking of the functional roles of tools partners, stable and mobile features.

However, throughout the development the piano quartet did not admit variations of timbre. Timbre stability appears as one of the properties of this delectable ensemble, normative compositions of which appeared during the period of classicism¹.

In the XX century, as a leading tendency was delineated a tendency to free interpretation of the ensemble. Strong attraction to the variety of instrumental combinations, in which the role of detailed tonal letters found from the beginning of the past century.

Unconventional compositions featuring the piano appeared in previous musical eras, but as the exceptions, which were due to the specifics of artistic design. Here, the complexity of their writing was in the need composer of creating ensemble work around timbre “reef” in the form of an unbalanced conglomerate of strings and piano: strings did not have to act as a single timbre-trio and piano had to act only in the tracking function.

However, in the history of the genre, there are examples of instrumental compositions that exhibit the originality on the basis of appearance. The original example of this gives Requiem by D. Popper (1891), which was designed as an ensemble of three cellos and piano, where the role of the last is reduced to the textured and harmonic support.

In this connection, it should be noted that the choice of a specific value of the instrumental always had local or subjective circumstances. Often when creating a chamber works, the determinative role could play such a factor, as the presence of certain instruments as a source of stimulus (e.g., in the concert practice of salons). In addition, creative contacts or personal friendship of a composer with a particular musician, as a rule, have an impact on the timbre future of the play².

¹ The dominant role of the piano trio (to a lesser extent, the piano quintet role) determined rather quickly. As A. Stupel: said “Perhaps there is a significant connection of concerto shine with the deepening of chamber music”. [1]
² For example, to the prominent Russian violinist L. Auer were dedicated: S. Taneyev – the Concert Suite, Op. 28, g-moll (1909), P. Tchaikovsky – “Melancholic serenade” for violin and orchestra, Op. 26 (1875), piano violin concerto, Op. 35 (1878), violin concertos: A. Glazunov, op. 82 (1904) and A. Arensky Op. 54, a-moll (1901).

MODERN EUROPEAN RESEARCHES
There is a hypothesis, where according to its quantitative parameters genre of piano quartet occupies an intermediate position between the small ensemble (duet) and orchestra. However, we can offer the extension of the zone of small ensembles and even the inclusion of a trio quartet – stable and unstable compounds. The problem of docking and compatibility of piano and its partners timbres is due to the specifics of the tool in combinatoric in this kind of ensemble.

J. Brahms and S. Taneyev struck the similar position to the ensemble with piano. Both composer-pianists retained the following as a principle: soloing of stringed instruments and the main idea of timbre – the merge of strings with keyboard instruments into a single audio stream. So the analysis of the piano quartet by S. Taneyev confirmed in particular that the multicolor sound has become one of the main qualities of the organic nature of the entire ensemble.

The evolution of Russian piano quartet leads to the following conclusion: in the turn of the centuries (late XIX – early XX century) standards of classic and romantic style have established as the leading musical norms in the genre. The description of the style constants allowed to formulate the criteria that have been established in the succession of domestic piano quartets of the last third of the XIX century in relation to the first decades of the XX century.

Based on the fact that the persons (within the chamber genre), to the greatest extent influenced the style of the creative process of the apparent domestic composers, had become L. Beethoven, F. Mendelssohn, R. Schumann and J. Brahms, we highlight the main facts: the breaking of the creative principles of leaders of European Quartet did not lead to styling or copying in the phenomenon of Russian Piano Quartet.

On the contrary, to the turn of the centuries the very model of domestic Piano Quartet performs individual changes. This process has been associated with the expansion of the sounding of the “image of a Piano” (a term of L. Gakkel). The findings in the field of musical language (harmony, polyphony, texture and tone) contributed to the enrichment of color and sonorous possibilities of the ensemble.

By the beginning of the XX century, in this genre in Russia further development of the following sample factors can be stated:

- symphonization of the form as an internal feature of the genre, providing an indispensable image-tonal relationship of the initial part and the final (S. Taneyev, G. Katuar, A. Rubinstein);
- clear blurring edges of the form and its destabilization (G. Katuar);
- tradition of saturation of thematism by the folk elements (S. Taneyev, M. Ippolitov-Ivanov, A. Rubinstein);
- introduction of such meth of Russification of a piano quartet, as a special melody of voice-leading, melodiousness of the melodic syntax, diverse implementation of plagality, imitation of a bell (S. Taneyev, A. Rubinstein, M. Ippolitov-Ivanov, G. Katuar);
- support of the domestic piano quartet on the genre of game options of scherzo, penetrated by folk songs and dances (A. Rubinstein, M. Ippolitov-Ivanov).

Although, such characteristic feature of the last century as free timbre separation, sometimes diverted composers from the primordial performing conglomerate (strings and piano), historically more strong tradition of was mergers of timbral voices, initially became universal in the field of chamber music for strings and piano, as well as sound of four instruments in the form of a classical string quartet remains steady. It is sufficient to recall numerous examples of deployed cycles of quartets, for example in D. Shostakovich (15 out of 24 in a series of planned quartet), N. Myaskovsky (13 quartets), E. Golubeva (24 quartets).

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2 The hypothesis of L. Tsaregorodtseva is interesting and important. It is enough to remember how painful P. Tchaikovsky perceived the combination of piano and strings, so natural in J. Haydn and V.A. Mozart works, which revealed the striking organic character of tonal fusion of such different instruments.

3 Quartets with mono-timbres of the other musical instruments established in the music. The example is the work extremely popular nowadays A. Piazzolla, who wrote quartets for saxophone, bandoneons, clarinets under the names: Oblivion (4 sax.), Amelitango (4 sax.), Bandoneon (4 sax.), Escotaso (4 sax.), Udertango (4 sax.), Violentango (4 sax.), Zita (4 sax.), Libertango (4 clar.), Meditango (4 clar.).
However, in the XX century the composers made visible the dominant idea of not only matching, but also contrasting the timbres. Thus, in the Piano Quartet Alfred Schnittke almost equally represented both timbre and sound ideas: unity and opposition.

In chamber music, as in any field of art, the specific features of the ensemble with piano which became invariant components of the genre, historically worked out. It is about the equal instrumental partnership. From the standpoint of contemporary performing the relative parity of instruments in chamber music, including the piano, is understood a priori, on the "definition".

In addition, in the history of the genre the opposite trend took place: the bundle on piano and strings attached layers remained in the ensemble works of V.A. Mozart. In them the principle of competition came to the fore, through the dialogue between the party of piano and the entire group of strings. Also, since V.A. Mozart, the piano chamber ensemble assigns to each partner a certain instrumental art-semantic role of timbre, thus stopping the practice of arbitrary replacement of instruments.

Yet one cannot deny the special role keyboard instrument as the leader of the ensemble, often written by the composer-pianist. In the piano-quartet compositions by L. Beethoven, J. Brahms and S. Taneyev, the alliance of solo violins with piano can be to some extent comparable to the timbre structure of a double or triple concerts. The proposed comparison of piano quartets with concerts implies that each soloist is boldly enough competing with the orchestra, and its role in the chamber genre can be addressed to the piano. In such embodiments, it is particularly evident in the fact that the presentation of the thematic material is not crushed at its consistent implementation in different stringed instruments: it is exhibited in the final form and is passed from voice to voice in all the major sections of the template. The development is characterized by the fractional holding of thematic material in a “woven” parties. The latter realization is often done through holding multiphonization of an ensemble texture (stretchy conduction), which visibly emerges in the string parts, and it provides special saturation of piano parts (dense vertical filling, octave parallels).

Thus, there was the perfect balance of strings parties and often textured complementarity with the sound of the piano (Beethoven's line) in the ensemble genres, featuring the piano by S. Taneyev.

Nevertheless, there are other fulcrums of the Russian piano quartet with one of their genetic prototypes; I mean chamber music of V.A. Mozart. This trend of string of votes selection tooks place in the scores of A. Rubinstein, M. Ippolitov-Ivanov and G. Catoire.

And, as another example of an embodiment of timbre idea, where piano and strings are often treated antagonistic, is the piano quartet by Alfred Schnittke. Here, the timbre determinism allowed the composer ultimately dramatize the idea, which serves the core idea of the conflict of the person and its environment.

It should also be borne in mind, that the pianism of XX century not only cultivates the factor of cantilena, but goes back to the idea of drums or reproduction ringing effects (blows the lid of the piano or its body, cluster strikes on the keyboard, strikes on the strings with fingers, hammers, etc.).

Chamber ensembles with piano from XIX till early XX century exposed the timbre union, where a significant role was acquired to the piano bell canto, due to the predominance of lyrical imagery in thematism. In the same nature of the piano sonorities of that era made possible the more intimate, refined emotions unlike total dramatization in chamber music of the last century. In short, if in the ensemble of the XIX century, the joint music-making provided the emotional openness for personal volitional potentials, the major role of positive images and sentiments, the ensemble of the XX century and more tending to greater tolerance in your sound fabric other images: aggression outside world and situations, hostile personality. In addition, if an ensemble featuring the piano of the XIX century (and especially for genres such as the piano trio and quintet) is characterized by the appearance of entire ideological and stylistic shaped branches, associated with memorial features a piano quartet of the last century, much less resonant this tradition, than other members of the ensemble genre.

We should single out the significant (and sometimes excessive) complexity of the musical language of chamber compositions, featuring the piano, which could contribute to the realization of this music in performing practice. A. Onnever wrote that “Over the last forty years chamber music has become extremely difficult to interpret. As for the sight-reading, it is able to discourage not only the most courageous amateur, but the professional, dedicated to it” [2]. The result was that the performers have significantly reduced the fund sound of modern music and cater for those classic
designs that provide them a priori success with the audience. Of course, the masterpieces have a clear priority and performing of an auditory attention.

The newest generation of ensembles with piano, both stable for timbre representation and allowing the variants of timbre combination, indicates the high potency of the most artistic genre branches, proven by the whole course of its historical development the inexhaustible possibilities of this particular sphere.

The piano quartet stands out from other varieties of ensembles, featuring the piano, by the inner relatively modest sound, the ability to combine the significance of the content and clarity of a democratic character. In an addendum to this, there is the possibility of using the piano in different functions – from solo instrument to the role of ensemble voices. Palette of emotional impacts of piano expands upon the completion of its acoustic features of brilliance and originality of tone mixed doubles.

Map of piano quartet in the XIX century shows the deepening of its invariant genre features. Among them are the variation ratio of the instruments: the confrontation of two dissimilar tonally balanced complexes, complete independence of parties on the principles of equal participation in the incarnation of the musical content, the interpretation of piano parts as a leader among equals. Genre settings of domestic piano quartets by the beginning of the XX century were so well-established that allowed them a schematic generalization in the form of a table:

<table>
<thead>
<tr>
<th>Correlation of genre constants</th>
<th>S. Taneev</th>
<th>A. Rubinstein</th>
<th>M. Ippolitov-Ivanov</th>
<th>G. Katar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Structure of a cycle</td>
<td>multipartness</td>
<td>multipartness</td>
<td>multipartness</td>
<td>multipartness</td>
</tr>
<tr>
<td>Final role</td>
<td>result</td>
<td>does not play the role of result</td>
<td>result</td>
<td>result</td>
</tr>
<tr>
<td>Genre element in the form of a part</td>
<td>classical composition</td>
<td>III part the role of scherzo</td>
<td>element of rondality in part II</td>
<td></td>
</tr>
<tr>
<td>Interpretation of the ensemble</td>
<td>classical composition</td>
<td>classical composition</td>
<td>classical composition</td>
<td>classical composition</td>
</tr>
<tr>
<td>Theme</td>
<td>One theme</td>
<td>Folk and songs</td>
<td>One theme</td>
<td>Folk and songs</td>
</tr>
<tr>
<td>Using of polyphonic techniques</td>
<td>Multiphonization of all invoices, use of simulation-polyphonic techniques (canon, imposition of themes)</td>
<td>the principle of contrapuntal imposing order</td>
<td>contrapuntal combination of themes</td>
<td>polyphonic development principles</td>
</tr>
<tr>
<td>Character of contrasts</td>
<td>the principle of non-conflict drama</td>
<td>absence of bright dramatic contrasts</td>
<td>absence of bright dramatic contrasts</td>
<td>absence of bright dramatic contrasts</td>
</tr>
<tr>
<td>Role of lyrical origin</td>
<td>particular importance of supplementary themes</td>
<td>Choral billing cantilena, use of two supplementary parties in the final</td>
<td>vocal nature of themes, light lyrics</td>
<td>excited lyrics</td>
</tr>
<tr>
<td>Stylistic ensemble organization</td>
<td>Instrumental dialog, invoice balance</td>
<td>Piano and string trio</td>
<td>Piano and string trio</td>
<td>Piano and string trio</td>
</tr>
<tr>
<td>Role of the general forms of motion</td>
<td>yes</td>
<td>no</td>
<td>no</td>
<td>yes</td>
</tr>
</tbody>
</table>

- the structure of the cycle is multipartness (S. Taneyev, A. Rubinstein, M. Ippolitov-Ivanov, G. Katar);
• the way to combine the cycle into a single whole is the use of the principle of one theme (S. Taneyev, G. Katuar);
  • the role of the final outcome as development (S. Taneyev, M. Ippolitov-Ivanov, G. Katuar);
  • the nature of contrasts is the use of the principle of non-conflict drama (S. Taneyev, A. Rubinstein, M. Ippolitov-Ivanov, G. Katuar);
  • the ensemble is a single one (S. Taneyev, A. Rubinstein, M. Ippolitov-Ivanov, G. Katuar);
  • chamber of content is intimate lyric (A. Rubinstein, M. Ippolitov-Ivanov, G. Katuar), the introduction of epic-philosophical perspective (A. Taneyev);
  • organization stylish ensemble - piano and string trio (Arthur Rubinstein, Ippolitov-Ivanov, Katuar) in Taneyev ensemble based on dialogue tools that aim to achieve a balance of texture;
  • the nature of thematism is rational-intellectual, romantic with features of national distinctiveness, song, poem-fantasy (G. Katuar), folk song (A. Rubinstein, M. Ippolitov-Ivanov);
  • multiphonization of invoices, use of the polyphonic forms (passacaglia, fugue) and methods of development as the canon, counterpoint imposition of order (S. Taneyev, A. Rubinstein, M. Ippolitov-Ivanov, G. Katuar);
  • lyrical character of genre is the dominant role of side parties with a recess in the lyrical sphere (S. Taneyev, A. Rubinstein), vocal nature of thematism (S. Taneyev, A. Rubinstein, M. Ippolitov-Ivanov, G. Katuar);
  • the role of the common forms of motion, which may be included in the process of thematic development (S. Taneyev, G. Katuar) or perform a bridging role (A. Rubinstein, M. Ippolitov-Ivanov).

One of the fundamental features of the Russian piano quartet is the thrust of its multi-part structure to intonation kinship of thematic material (one theme) and bonding cycle, using bright melodic arches – reminiscences. Both of these forms of unity were fundamental in chamber music of the XIX century. In the XX century the genre tends to be more continuous multipart (piano quartet by Alfred Schnittke). This structure of the cycle becomes a universal tool for various forms – from chamber to symphonic. Extremely important for the domestic piano quartet was the preservation of the relationship with its European counterparts. Eurocentrism in the culture of the last century was attached to many composers. In A. Schnittke works, this trend can be seen in reference to unfinished piano quartet of G. Mahler. I think that this was not an accident: the significance of G. Mahler’s art for the XX century music is difficult to overestimate. It is appropriate to recall the passion of G. Mahler for D. Shostakovich, whose spiritual student was A. Schnittke.

The problems of consideration and study of piano quartet are complicated, because of the scarcity of musical material, which to some extent makes it difficult to specify the typology genre at inner-genre differentiation. Modification of a piano quartet at the modern stage occurs in different ways, for example, by connecting new genres fields in the area of chamber music and expanding channels of communication with the classics.

The movement from traditional regulatory of homogeneous (melodic band) instrumental compositions to the multiplicity of different combinations is determined by the following: multiphonization of style, widespread use of polyphonic forms, techniques, instrumentation, which are particularly character for the genre of ancient ensemble sonatas and instrumental concert.

In today's piano quartet, the central idea of chamber music, the idea of co-creation (tools-minded or opposing votes) generate extremely individualized form of embodiment (Piano Quartet by Alfred Schnittke).

The particular importance in this context has the issues of psychology of music perception in the ensemble performances, complicated by a piano quartet specifics of the merger process of the vote (the difficulties and achieve a dynamic balance of sound), the danger of the introduction into the performance of orchestral manner of playing, which inevitably leads to inertia and impersonality sounding parties.

Outlining only the contours of some of the problems, we should emphasize the practical importance of their decisions and learning to a better understanding of the genre of the piano quartet, acquaintance with its rare or completely non-executable examples can serve an impulse for executing interest and attention.

However, viability of the genre is showed by its relevance to contemporary practice. In the first decade of the XXI century there was a series of similar ensembles. It is, in particular, the quartet ensembles, featuring the piano, born in the walls of large institutions: Piano Quartet of Music and Pedagogical Institute by M.M. Ippolitov-Ivanov, and similar ensembles in the student version of the
Moscow State Conservatory named after P.I. Tchaikovsky (it is a piano quartet “Credo”), Quartet Anno Domini. Of the number of concert bands should be called such ensembles as “Forte Quartet” (Samara), Russian-Swiss piano quartet (S-ensemble), St. Petersburg’s piano quartet.

It is well known, that active concertizing of a band can attract the attention of composers. So, in 1930 D. Shostakovich composed his Piano Quintet, to jointly execute this cycle with the famous quartet of L. Beethoven, who played, as we know, almost all of the premieres of his string quartets.

Ensemble concerts playing with string does not require any special comments. Even nowadays, the young Moscow composer N. Mdoyants composed in 2009 Piano Quartet specifically for Credo-quartet, which has basically quite a classical structure, where three of the diverse musical tempo contrasts are united in the usual form of chamber music cycle.

Thus, the birth of new piano quartets and stable ensembles indicate the main thing: the genre is opened for the present.

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LANGUAGE CONSCIOUSNESS


KEYWORDS: LANGUAGE CONSCIOUSNESS, LINGUISTIC PERSONALITY, THE NATIONAL MENTALITY, ETHNIC ENTITY, SOCIETY, INDIVIDUAL, CONCEPT.

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Linguistic and psychological approaches to consciousness study are various view of nature of intertransitional relationship between oversemiotic reality and sign essence in reflective processes.
To understand nature of mutual relationship between consciousness and language as practical implementation of consciousness, it is necessary to fall outside the limits of human thinking, limits of its corporeal organisation and to enter into the world of its culture. Really, any speech and mental act, though being carried out by nervous and cerebral system of an individual, is nevertheless within certain social and cultural space, proceeds within the limits of a corresponding lexical and semantic field. Moreover, as N.F. Alefirenko says, speech and mental act “becomes the fact of practical consciousness which owing to its objecting of language turns to language consciousness” [Alefirenko 2005:12]. The result of such transformation is set of consciousness images formed by language means. Language and its speech occurrence are used by people for expression of sense, reflection of consciousness state, display of psychological content of inner world.

Speaking about “language consciousness” we mean that aspect which is directly connected with processes of reproduction and perception of speech and considering which linguists approach to studying national mental and lingual complex, national sphere of concepts. Thus, it is necessary, as V.V. Krasnykh believes, to agree with the thesis that language consciousness cannot be object of analysis at the moment of processes that implement it. It can be investigated only as a product of the past activity that is it can become an object of analysis only in its transformed forms of cultural subjects which are aloof from the consciousness subject.

For L.S. Vygotsky and, after him, for A.N. Leontyev the consciousness has the language, speech nature. Developing L.S. Vygotsky’s and A.N. Leontyev's doctrine, A.A. Leontyev asserts that “to have consciousness means to know language. To know language is to own meanings. Meaning is a consciousness unit (language, verbal meaning). Being understood in such a way the consciousness is sign” [Leontyev 1993:16]. If the language is understood as unity of communication and generalisation, as system of the meanings acting both in subject and verbal form of existence, so “language consciousness” that is the consciousness considered as mediated by meanings appears to be close to understanding of “image of the world” in modern psychology. And this is not by accident, as a person perceives the world from the outside namely through the image of the world which he/she realises inside himself/herself. Accordingly, language of a human being “is surface structure in which the world model that we bear in the consciousness is fixed by means of texts” because “language itself as some meaning system requires correlation with existence” [Turaeva 1994:105]. In this connection it is enough to remember T.P. Lomtev’s words: “Essentially it is impossible to build a sentence of natural language words so that there is no reflection where there is the reflected that is so that a sign would correlate with the reality escaping it to be reflected in a human head” [Lomtev 1979:19]. Therefore, it is possible to believe that there is a certain intermediate stage – the stage of partitioning of a situation for specific purposes between the actual, real situation and the saying (result of speech action) reflecting this reality, the very partitioning of the reality is connected with the thesaurus.

It is important as well that the language consciousness, according to A. Vezhbitskaya, has many different levels and it contains both the facts lying on a surface and other facts which are hidden very deeply, in other words, “the consciousness has its depth”. Herewith, what is hidden in depth can be taken to surface. Therefore, “the language consciousness is a form of existence of individual, cognitive consciousnesses of a person reasonable, speaking, communicating, a person as a social being, as an individual” [Zimnyaya 1993:51] that possesses complicated inner world and belongs to this or that culture.

Consequently, the interrelation of consciousness and culture is obvious, as the consciousness is formed in society, and the culture, in turn, is created by society and occurs in it. In other words, a person as “a phenomenon" creates culture and as an individual, "entering" it, becomes the personality, because “achievements of historical development of human abilities are not simply given the person in the objective events of material and spiritual culture embodying them, but are just set in them” [Leontyev 1961:14], and in the course of their comprehension the person develops and perfects the specific ability of conscious reflection of the reality.

Existence of a person within a certain language space allows speaking about the language person – the carrier of language consciousness. Yu.N. Karaulov, who has defined the language person as a set of “abilities and the characteristics of a human being determining creation of speech products by him/her”, has entered definition of a psychogloss relating to language consciousness “as the limit of variants of words, categories, forms, meanings within the framework
of the Russian language type, which structurally, historically and evolutionarily relates to definitions of diachronic constant, diachronic universal and chronoglosses” [Karaulov 2002:9].

Developing typology of language individuals in valuable, behavioral, cognitive aspects and analyzing discourse types in a situation of real communication, V.N. Karasik selects (along with language ability, communicative necessity, speech behavior) language consciousness as one of five aspects in speech organisation of a person, and the communicative competence is qualified by him/her as display of language consciousness when choosing means of communication. The researcher's concept is based on a postulate that an event in certain ethnical and social frameworks of identity comprehension is fixed in language consciousness which is divided into relevant fragments of apprehension of the reality. The last ones have verbal expression and admit ethnocultural, social and cultural, personal and cultural measurements.

The original view of the nature of language consciousness is given in Z.D. Popova's and I.A. Sternin's works where three types of consciousness are pointed out – cognitive, language and communicative. The language consciousness is considered to be a component, aspect of communicative consciousness which, in turn, is considered as an integral component of cognitive consciousnesses of the nation. The communicative consciousness is defined as “set of communicative knowledge and communicative mechanisms which provide the whole complex of communicative activity of a person. Language consciousness (speech thinking) is the mechanisms that provide reproduction, perception of speech and language storage in consciousness” [Popova, Sternin 2002:29].

This analysis of researchers, undoubtedly, confirms the anthropocentric nature of a phenomenon of language consciousness as mental structures do not exist independently, and actions and acts of the very subject are included in the worldview as a result of reflection. However, language consciousness is not only anthropocentric, but also ethnocentric (A. Vezhbitskaya), because “the image of the world varies from one culture to another” and thereof there are no two absolutely identical ethno-lingual cultures and images of the world. As “viewing and understanding of the world of each people is based of its own system of subject meanings, social stereotypes, cognitive schemes etc., the human consciousness is always ethnically specified” [Leontyev 1993:20]. The ethnical and social and cultural factor comes to light, in particular, in national and ethnic features of method of formation and formulation of thought. Obviously, this process is of "not realised" nature in many respects, because, according to N.V. Ufimtseva, the consciousness system itself is most likely defined by ethnic stereotypes of behavior and is not realised by each separate culture beam that is it belongs to collective unconscious of this very national lingual and cultural community (V.V. Krasnykh’s terms). However, this very definite system of consciousness or image of the world influences on the behavior of representatives of this or that community and defines it.

It is natural that wherever there is commonality of structure of human mental and lingual complex, as Yu.E. Prokhorov points out, each its form (consciousness, thinking and language) can be shown in different ways by different language individuals and different ethnic communities. The consciousness responsible for storage, arrangement and estimation of information results received by thinking is connected both with logic embodied in structure and content of units and categories of certain ethnic language and specificity of selection and estimation of these results which importance is defined by active characteristics of existence and display of certain ethnic commonality and definite personality.

In modern lingual and cultural paradigm the human consciousness defined as constructive reality, specific potency of functioning brain, and ethnic consciousness which, possessing all characteristics of human consciousness, limits its functioning by intraethnic environment, reflecting just actually ethnic signs of lingual and cultural generality in language consciousness, is pointed out. And if language, culture and ethnos are inseparably connected among themselves forming linking area of physical, spiritual and social "I" of a language individual, so distinctions in perception, categorisation and estimation of events of the reality of representatives of various communities appear to be in inseparable connection with distinctions in language and culture of these communities. Herewith, in culture “there is nothing that would not be contained in human mentality”. All content of this mentality (conscious and unconscious, explicit and implicit) finds the existence for “us”, being mediated in semiotic process and being exposed to coding within sign systems of a certain ethnocultural commonality. A base code and a basis of semiotic system of any culture is ethnic language. Statement that meaningful space of culture and human consciousness
is set by boundaries of expressiveness of its sign systems which are based on ethnic language is considered to be fair.

Social essence of language is that it exists, first of all, in language consciousness – collective and individual. Therefore, language collective, on the one part, and an individual, on another part, are culture beams in language. Collective as the ethnos or nation and an individual are extreme points on a conditional scale of language consciousness.

Language consciousness is a difficult phenomenon that is why it reflects both particularities of individual world viewing by language personality and the features of national mentality fixed in concepts.

In conclusion, the fact that research of verbal realisations of concepts in classical literary texts can be one of tools of the conceptual analysis and correction of "language consciousness" reflected in lexical fund is obvious.

REFERENCES

THE BOLOGNA DECLARATION – ITS CONTRADICTIONS AND PROBLEMS

ABSTRACT. THIS ARTICLE DEALS WITH SOME ISSUES OF THE BOLOGNA DECLARATION AND ITS APPLICATION IN RUSSIAN EDUCATION. THE AUTHOR DISCLOSES NEGATIVE SIDES OF PRESENT EDUCATIONAL SYSTEM IN RUSSIA AND CRITICIZES THE SYSTEM OF EDUCATION IN EUROPE.

KEYWORDS: EDUCATION, THE BOLOGNA DECLARATION, PROBLEM, RUSSIA, EUROPE

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Matters of developing education and science are widely discussed nowadays both in scientific world and society. In spite of its specific character this matter concerns every family because children’s education is the future of mankind. Under these considerations one should go into some details of developing modern society. The author of the given article doesn’t belong to the proponents of direct coping the Bologna Declaration on all national educational systems. Surely one must adopt and implement all positive and reasonable issues of this Declaration. But it should be taken into account that education is an element of national culture which is unique and original one. While attending a conference in Sankt-Petersburg in 2005 a group of scientists (the author was one of them) made a request for the President of the Russian Federation to adopt carefully the issues of the Bologna Declaration. Unfortunately there was nobody to hear us.

As a result we have had a great damage of the Russian educational system. We can refer to such countries like Cuba, Mexico, Germany and some others which either refused to adopt the Bologna Declaration or interpreted its issues according to features of their national education. It should be noted that non-participation of these countries in Bologna process was worthwhile. For example, many young Americans want to be educated in Cuba or Mexico.

It is, of course, impossible to create a perfect educational system adaptable to all countries. The aim is to retrieve the best points from Bologna process and introduce them into national educational systems. Despite of the international character of science I.Kant was a German, R.Descartes remained a French, M.Lomonosov was a great Russian scientist. The formulae I=UR or E=mc² are understood equally both in the western and eastern hemispheres, but there is a concept such as national mentality or national spirit. The result of the above mentioned Declaration
is a turmoil in heads of young people. The system of Russian education which was being formed in the 16th-17th centuries has already lost its fundamental nature. Of course, recent school leavers have got good computer skills but they cannot think by themselves, they only get to used reading information from computer monitors. Some university entrants or students suppose that Tatyana Larina was Pushkin’s wife, they cannot call any names of heroes of the Great Patriotic War, they know nothing about Astronomy because this subject was unfiled from the school program [1, 387-390]. The European block-module educational system doesn’t fit into the context of Russian education. All these Comprehensive State Exams, tests and other “innovations” have dramatically reduced the quality of schooling. In our opinion, engineers must know Pascal’s law as well as can calculate it themselves; doctors have to know human physiology on computer models as well as are able to diagnose patients. Using ready matrixes decreases a creative component of training our specialists.

Such kind of education which was formed in the USSR showed itself to good advantage. But the fact that our diplomas aren’t recognized abroad is a current political situation. Nowadays specialists from Russia, as a rule, have a probation period, pass qualification examinations, only then they are admitted to work without assistance. It isn’t a science, it’s a policy. It is time to change the whole attitude to Russia and to the Russian educational system in particular.

One can expect foreign opposite numbers to criticize the author for conservatism, impenitence or may be Great Russian chauvinism [2, 8-17]. To our mind there is a concept such as “congenial conservatism”. It is obvious that the historically established educational system of the Russian Empire and then of the USSR proved to be correct. We hope our foreign opposite numbers to know history. The author of this paper belongs to the proponents of international cooperation and academic exchange. Science and education must be of benefit to mankind but to our regret nearly 75% of world scientific community is working for war. Finally we try to summarize our positions:

— Science and education must be out of policy;
— One cannot use double standards evaluating educational systems of other countries;
— One must concentrate international cooperation to exploit the most optimal kinds of education of different countries;
— The issues of the Bologna Declaration ought to be utilized taking into account features of national education;
— Popularity and social-economic ordinance of teaching staff should be raised.

REFERENCES
FEATURES OF THE OPERATIONAL SIDE OF THINKING OF PRIMARY SCHOOL CHILDREN WITH DYSGRAPHIA


KEYWORDS: MENTAL OPERATIONS, SPECIFIC VIOLATION LETTERS, DYSGRAPHIA, OF SUCCESSIVE AND SIMULTANEOUS ANALYSIS AND SYNTHESIS, COGNITIVE ACTIVITY.

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Violations of the written speech are one of the most common forms of speech pathology among primary school children.

A small number of researches were devoted to the study of the psychological characteristics of children with writing disabilities (I.T. Vlasenko [3], Z.I. Kalmykova, I.Yu. Kulagina [17], A.N. Kornev [11], R.I. Martynov [15]).

Younger students in regular school, suffering from specific writing disorders, have the peculiar disadvantages of cognitive activity. The researches of Yu.G. Demyanov [6], V.A. Kovshikov [10], A.N. Kornev [11], R.I.Lalaeva [12], I.V.Prischepova [18] indicate the unevenness of mental development, lack of formedness of higher mental functions (attention, memory), disharmony in the formation of intelligence in general.

The analysis of the educational activity, which is the leading activity of school-age children, indicates that younger students with specific writing disorders in regular school show the inability to self-organization in order to perform a learning task, have the reduced observation, has no ability to focus on instruction (only a few its units are realized), have slow pace of doing tasks and can hardly control their own activities (A.V. Yastrebova [22]).

Dysgraphical violation of written speech combines with mental and psychophysical infantilism, intellectual passivity.

The studies of intellectual development of children with written language (Yu.G. Demyanov [6], D.N. Isaev [8], A.N. Kornev [11]) showed the uneven intellectual development of such children.

Children with disorders of written speech have "the main causes of troubles ... not so much in the lack of intellectual abilities, but in the unformed prerequisites of intelligence, weakness of arbitrary organization of mental activity and low efficiency" [11; p.40].

The analysis of data shows that there was no special study of mental operations among children with dysgraphia, which allowed to consider this issue as relevant, unexplored problem and necessitated further research on the state of mental activity of children with speech disorders, including its operating side.

The process of writing is a complex multilevel speech-thought activity, functioning of which is impossible without sufficiently formed mental operations of analysis, synthesis, comparison, generalization, abstraction and classification.

Under the mental operation we meant the implementation of a real practical action, transforming one situation to another (K.M. Gurevich [4], V.V. Davydov [5], I.J. Kaplunovich [9], etc.).

In our study we used the classification of mental operations, proposed by S.L. Rubinstein [19], in which the common mental operations include analysis, synthesis, comparison, abstraction and generalization. Some authors refer classification to these operations (L.F. Tihomirova, A.V. Basov [20]).
The analysis of scientific and theoretical assumptions, as well as the psychological characteristics of the studied children, identified the following methods of studying the direction of mental operations: 1. The study of analysis and synthesis: a) simultaneous analysis and synthesis; b) successive analysis and synthesis; 2. The study of comparison; 3. The study of abstraction; 4. The study of generalization; 5. The study of classification.

The study of mental operations was carried out in the implementation of both non-verbal and verbal tasks.

During the development of the methodology of the pilot study were used the tools and techniques in a modified form, presented in papers of T.G. Bogданова, T.V. Кornilova[15], L. Brayt [2], D. Veksler [21], A. Germakovskaya [12], T.V. Egorova [7], A.R. Luria [14], L.G. Milostivenko [16], L.F. Tihomirovoy, A.V. Basova [20], etc.

The comparative analysis of the survey of the experimental group (children with dysgraphia) and control group (children without written violations) showed the following.

In the history of pupils with dysgraphia, we noted the presence of pathological factors, influenced the prenatal, natal and postnatal periods; delayed and disrupted early speech development. During the examination of children, we revealed violations of speech, manifested in agrammatism, limited vocabulary, phonemic analysis difficulties, various disorders of articulatory side; peculiarities in attention, memory, spatial orientation and visual-motor coordination; disturbances in motor and emotional-volitional spheres.

The comparative study of mental operations of children with and without dysgraphia revealed general and specific features of the mental operations of children with disabilities in speech development.

The investigation of simultaneous analysis and synthesis of pupils with various forms of dysgraphia and pupils without speech pathologies revealed the number of specific features of implementing tasks for the simultaneous analysis and synthesis. This is particularly evident at all stages of activity (according to A.N. Leontiev [13]).

Even on motivational and orienting stage children with disgraphia have features of motivation, unproductive way of orientation in the problem, difficulties in the organization of the strategy and program of activities.

The operational phase of activity had the most evident disadvantages. These disadvantages can be divided into two groups.

The first group includes violations of the operational component of the activity due to impaired visual-spatial functions. Pupils of the experimental group had difficulties in the practical re-creation of the ideal image of the figure, they had difficulties in correlating formed parts and the whole, determining the size and number of parts to a whole, re-encrypting and collating two-dimensional and three-dimensional images. This testifies to the unformed visual perception and optical spatial analysis and synthesis. The activities of students with speech disorders are characterized by numerous trials and mistakes, the frequent use of the method of application, a slower pace, which was due to aborted simultaneous processes. This drawback is compensated by the successive analysis and synthesis. The sequential nature of the analysis of the object took place in those cases, where it was necessary to highlight some essential features of the object, and the simultaneous nature of perception, analysis and synthesis were observed, when performing the easiest of tasks. The use of speech utterances and external actions as adjuncts in simultaneous analysis and synthesis of objects indicated the lack of internalization of operations analysis and synthesis.

The second group of violations included violations of the organization activity, which was manifested in fatigue and disturbance of attention switching, in the chaotic nature of the work, inertia or impulsiveness of mental activity.

The study revealed the dependence of the nature of violations from the type of dysgraphia. As a rule, violations of the first group featured for students with dysgraphia due to violation of gnostic and practical level of the writing process. This is due to the fact that the primary disturbance of simultaneous analysis and synthesis leads to subsequent violations in various forms as a non-speech and speech activities, in particular violations of the letter.

School children with dysgraphia had shortcomings control over their own activities.

Described features were associated with abnormal distribution of attention, small volume of short-term memory.
Thus, the analysis of the data indicated the lack of development and specific simultaneous analysis and synthesis in the process as non-speech, and especially speech activity of children with dysgraphia.

The study of successive analysis and synthesis of children with dysgraphia revealed the following features.

Perceptual information was processed in the limited extent. There were difficulties in the organization of semantic and verbal programs, including a large number of elements. Quantity of perceived, analyzed and synthesized objects in the experimental group is less than in the control group. Successful fulfillment of tasks by the children with disgraphia depended on the number of objects.

Difficulties in the implementation of the number of tasks for successive analysis and synthesis were related to the fact that children with dysgraphia had the isolation of the main, essential to the perceived information, the effect of selection of significant attributes that define the program. The particular difficulty was the retention of features of abstract nature (time, number). Children with dysgraphia often didn’t isolate all the relevant features of objects. As a general, primarily children singled out the details of the object, which were located in the foreground, were the largest, brightest, emotionally evocative ones. More important, but smaller details were usually not allocated. Analytic-synthetic activity was carried out, therefore, mainly on concrete situational level.

The easiest for analysis and synthesis was a series of objects that were members of a whole, but not the number of objects in certain semantic relations. This fact testified to the unformed of successive analysis and synthesis. For the analysis and synthesis of a set of objects, arranged in a certain sequence, visual “grasp” of the material had the nature of undifferentiated perception.

Pupils with persistent violations of writing had significant difficulties in determining the rules of constructing series.

Successiveness analysis and synthesis of children with dysgraphia had characterized by a slower rate.

Successiveness analysis and synthesis were inextricably linked to other cognitive processes. When it is violated, the operation of generalization and abstraction are significantly affected. Pupils with dysgraphia had difficulties in assigning the one, the most significant feature of the subject, abstracting it from many others, in the analysis of the selected features.

Violations of successive analysis and synthesis manifested in combination with other ways of thinking. Considerable difficulties were observed among children with dysgraphia in tasks, requiring verbal and logical, abstract thinking. For example, pupils do not always understand the hidden meaning of the pictures. The children had instability of adequate mental actions, manifested in the inertia of thinking, in violation of its dynamics, or its increased lability or exhaustion. Mental inertia manifested by highly stereotyped favorite mode of action, in the cyclic errors of the same type. Increased lability was indicated by significant influence of random factors on the performance of tasks, “slipping” on the side sign. Exhaustion of thinking manifested in the "damping” activities. The deficiencies of targeted action were also observed.

These shortcomings were combined with the instability of attention and narrowing of its scope.

It should be noted that these drawbacks manifested when performing both verbal and non-verbal tasks.

Symptoms of inertia of thought processes, difficulties in organizing programs, switching from one mental activity to another, violation of selectivity of mental processes, lack of control of children with dysgraphia showed the immaturity functions of tertiary areas of the frontal cortex of the brain, providing of successive processes, programming and control (A.R. Luria [14]).

The investigation of the operation of comparison showed that children with dysgraphia had the predominant reliance on visual, contextual and specific features. Comparison of the structure of visual-figurative thinking is formed better than on the basis of the introduction of objects in an abstract category or than on verbal-logical level.

Children with dysgraphia, unlike children with normal speech development, determine the similarities of objects better than their differences.

The implementation of the comparison operation by children with dysgraphia revealed more limited amount of processing of the information, provided for comparison.

When comparing the words (in the framework of verbal and logical thinking) children with dysgraphia based largely on the phonetic features than on the grammatical ones, in particular on
grammatical meanings. On the one hand, this fact may be due to the direction of remedial work of speech therapy, on the other hand, with hypoplasia of the grammatical structure of speech, including morphological generalizations in children with dysgraphia. The level of development of the comparison operation among pupils with dysgraphia does not depend on the type of dysgraphia.

Operation of abstraction is the least formed mental operations among schoolchildren with dysgraphia. Students with dysgraphia often singled out strong features (by S.L. Rubinstein [19]) as the essential one, i.e. abstraction was carried out on an empirical, visual-image level. Scientific abstraction, i.e. abstraction, carried out at the level of concepts, was unformed.

The investigation of the operation of generalization on the verbal and nonverbal material showed a considerable lag and originality in the development of this operation among primary school children with dysgraphia, showed a significant imbalance in the development of intuitive, practical and verbal-logical generalization. The category of children characterized by lack of ability to differentiate the essential from the secondary features, reflection in the judgments of the random part of objects or phenomena, and not significant relationship between them, the difficulties in establishing a complex generalizations due to underdevelopment of simultaneous processes. We noted the presence of situational principle of association objects, difficulties in the allocation of basis for grouping objects, inaccurate use of generalizing concepts, their tendency to undue expansion, simplification, mixing similar concepts.

The lag in the formation of generalization operations was accompanied by narrowing attention span, reduced observation, stereotyped activities, inefficiency help of the experimenter.

The level of abstraction of pupils with dysgraphia did not depend on the type of dysgraphia.

The main feature of the operation of classification among pupils with dysgraphia is the unevenness of its operation on the visual-imagery and verbal-logical levels. The essential disparity indicators of verbal and nonverbal tests, designed to study the ability to give a verbal description of the classes in the final classification, was also revealed.

In the classification of non-verbal and verbal material students with dysgraphia showed the lack of development of the ability to relate to the class, allocate the basis of classification, speech difficulties, expressing selected bases of classification.

The study revealed some correlation between the development of different mental operations.

In general, implementation of tasks by children with dysgraphia was characterized by a slower rate, uncertainty, violation of the organization activity, lack of focus or purpose of the activity loss: analyzing the words to highlight them in the specified feature, pupils have lost the direction of analysis.

The main feature of the development of mental operations of children with dysgraphia is the unevenness of their functioning in the structure of the visual-imagery and verbal-logical thinking. To the great extent, this unevenness is manifested in the development of successive and simultaneous operations of analysis and synthesis, classification and generalization. The essential disparity of indicators of formation of the ability to give a verbal description of the classes in the final classification, the development of intuitive and practical and verbal-logical generalization were revealed.

The analysis revealed a polymorphism of the group of children with writing disabilities. Most children with dysgraphia (53.3%) had irregular nonverbal and verbal indicators, showing substantial disparities in the development of mental operations on a non-verbal and verbal level. Some pupils with dysgraphia had uniformly low verbal performance (26.6%). Among children with dysgraphia there were children with high levels of performance of verbal tasks.

School children with dysgraphia had features of both individual psychological and dynamic characteristics of thinking.

Violations of the dynamics of mental activity, the phenomenon of perseveration and inertia of thinking manifested in the implementation of both verbal and non-verbal tasks, and were often observed among children with dysgraphia on the basis of violations of linguistic analysis and synthesis.

Shortcomings in the development of the operating side of mental activity combined with the weakness of motivation and control, with fatigue, inability to focus on instruction, attention instability, impaired his shift, uncertainty, small amount of short-term memory, reduced observation. In addition, there was a low aid effectiveness of the experimenter.
Children had constraints of internalization of mental activities, slow translation of the actions in the internal plan, which was manifested in the use of external actions, discussions of the performance of tasks.

Mental activity of children of this category was characterized by a slower rate, in violation organization, numerous trials and errors, stereotyping, lack of unity of purpose, the significant influence of random impulses, inertia in solving the problems, the low efficiency of care experimenter, lack of flexibility. This is particularly evident in the performance of both verbal and non-verbal tasks, but is more evident in speech and thought activity.

Thus, children with dysgraphia had the following main features of mental activity: the weakness of motivation and control, impulsivity, lack of focus, the selectivity of the essential features of the difficulties the organization of meaning and language programs, including a large number of elements, limited amount of information processing, violation of the dynamics of mental processes, tendency to "jam" on the previous method of solving problems, weakness, switching from one mental activity to another.

From the neuropsychological point of view, these features characterize the syndrome of mental activity, detectable in low-functioning of tertiary cortical areas of the frontal regions of the brain.

The study found that the level of development and characteristics of mental operations do not correlate with certain types of dysgraphia. It can be assumed that the lack of originality and the formation of the operational component of mental activity are due to the complexity of the structures and mechanisms of the systemic nature of violation of speech development in general, as well as violations of the written language among primary school children.

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