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Issue Article

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THEORETICAL STUDY OF THE ELECTRONIC STRUCTURE OF THE ORGANIC SALT OF KETOROLAC WITH MONOETHANOLAMINE

Abstract: *The DFT method was used to analyze some quantum-chemical parameters of known compounds - ketorolac and monoethanolamine and their organic salt. And also an analysis of the surface of the electrostatic potential of the salt and its main components was carried out. Furthermore, non-covalent interactions of salt are visualized using MultiWFN and VMD program packages.*

Key words: *Ketorolac, monoethanolamine, organic salt, electronic structure, DFT, Non-covalent interactions, ORCA program*

Language: *English*

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Introduction

Ketorolac (5-benzoyl-1,2-dihydro-3H-pyrolo[1,2-a]pyrrole-1-carboxylic acid) is one of the compounds with high therapeutic value due to its strong anti-inflammatory and analgesic effect [1,2]. Organic salt of ketorolac with tromethamine is a well-known medical product marketed under the name "Ketorolac tromethamine". The bulk of the literature data is devoted to the study of biological activity and the analysis of ketorolac tromethamine by instrumental methods [2]. Ketorolac acts by inhibiting the bodily synthesis of prostaglandins. Ketorolac in its oral and intramuscular preparations is a racemic mixture of (S)-(–)- ketorolac, the active isomer, and (R)-(+)-ketorolac. One of the important features of the non-steroidal anti-inflammatory drug is the presence of a carboxylic acid moiety [3].

It is also known that monoethanolamine (MEA) is a good organic base and has hydrogen-bond donor sites. On the other hand, MEA is an essential component of cell membranes, closely resembling that of choline chemical behavior. Some complexes of ethanolamine with organic and inorganic compounds appear to be promising for optical second harmonic generation and electrooptical properties [4]. Therefore, the preparation of multicomponent organic

crystals from such multifunctional molecules as carboxylic acids and MEA is expected to display interesting networks and useful properties. With this background, a class of salts formed by MEA with carboxylic acids was prepared to investigate their supramolecular synthons.

However, there are few works on the chemical modification of ketorolac [5]. Recently published work by Zeinab Fathalla and co-workers [6] devoted to the crosslinking of ketorolac tromethamine with chitosan nanoparticles. A work of this type may allow the creation of ketorolac-containing fibers or other materials that will be useful in patient care in medical practice in the future. This requires a study of the salt-forming ability of ketorolac with various amines. In this paper, the ability of ketorolac to co-crystallize with various types of amines was tested using the example of ketorolac and monoethanolamine (MEA). Furthermore, an electronic structure of the organic salt was studied by DFT method [7]. Since the electronic structure plays an important role in the manifestation of the chemical and biological activity of compounds [8]. Therefore, theoretical parameters are fruitfully applied in the field of QSAR [9].

Materials and methods

Ketorolac, ethanolamine and the solvent used in this work are commercially available and were used without further purification. Crystals of ketorolac and ethanolamine suitable for diffraction work were grown from an aqueous solution of ethanolamine by slow evaporation.

Data for the crystal structure determinations were collected on an Oxford Diffraction Xcalibur-R CCD diffractometer (CuKa-radiation, λ=1.54184 Å, ω-scan mode, graphite monochromator) at 293 K [10]. The structure was solved and refined using program packages SHELXT [11] and SHELXL [12], respectively. All non-hydrogen atoms were refined anisotropically. Hydrogen atoms were inserted at calculated positions and constrained with isotropic thermal parameters.

DFT studies have been performed using hybrid method of Becke [13] with three parameters and correlation functions of Lee, Yang and Parr [14] (B3LYP) and by using Pople's large basis set including diffuse and polarization functions RHF/6-311++G(d,p)[19]. All calculations were carried out using ORCA 5.0 program package [15]. The geometry of organic salt has been taken from crystallographic information (cif) file and used for single point calculations. The results of calculations have been visualized by Avogadro [16], Multiwfn [17] and VMD [18] program packages.

Results and discussions.

Organic salt of Ketorolac with MEA is a neutral system consisting of two ionic molecules. But organic salt has a higher dipole moment (Table 1.). Optimizations of the salt structure by several methods bring to movement of a H atom of $–NH_3^+$ group to the oxygen atom of COO^- group. Therefore, a DFT study of electronic structure of organic salt was carried out on the basis of XRD data. Popl's basis set with diffuse function for H and heavy atoms are mostly used for H-bonded and ionic systems [7]. Therefore, it has been tested for single point calculation of the organic salt. Electrostatic potential (ESP) surface analysis was carried out to determine electron-rich and electron poor centers of the salt.

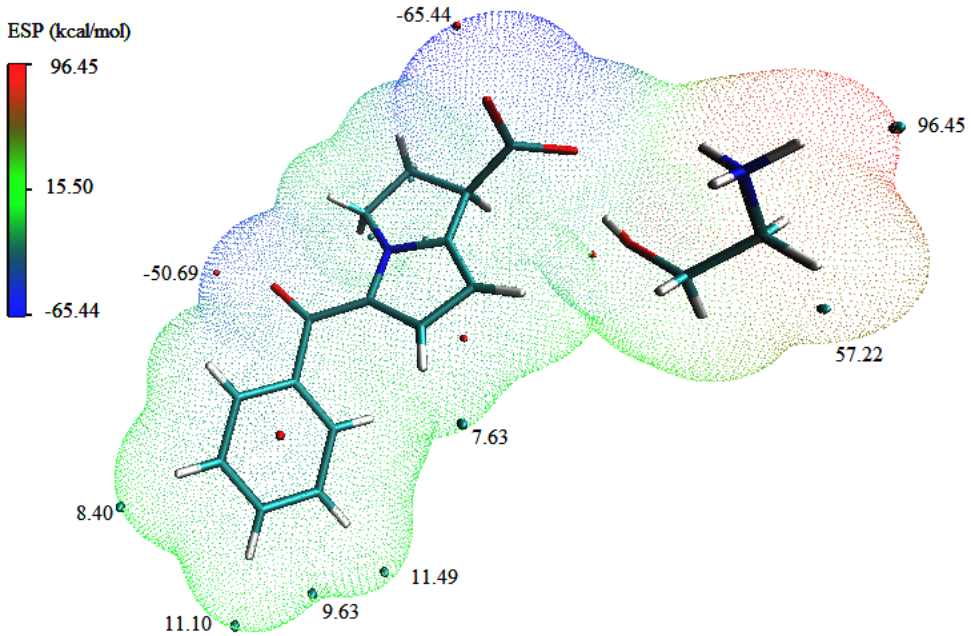

Fig.1. The ESP surface maxima and minima for organic salt.

ESP surface analysis has been carried out by Multwfn program package [17] on the basis of ORCA wave function file and the results visualized by VMD program package [15]. The ten ESP surface maxima (0.66, 1.54, 2.57, 7.63, 8.40, 9.63, 11.10, 11.49, 57.22 and 96.45 kcal/mol) and five minima (-17.83, -20.30, -29.00, -50.69 and -65.44 kcal/mol) have been determined around the structure of organic salt (Fig. 1). The largest maximum (96.45 kcal/mol) is located in vicinity of hydrogen atom of $–NH_3^+$ group. The next largest maximum (57.22 kcal/mol) is also located in MEA part (Fig. 1). On the contrary, the lowest (-65.44 kcal/mol) and the next lower (-50.69 kcal/mol) minima are in the ketorolac part of the organic salt. One of the minima is located in the vicinity of the oxygen atom (-29.00 kcal/mol) of MEA. The other two minima are localized on the surface of the aromatic rings. The most used quantum-chemical parameter in theoretical chemistry is the energy of the highest occupied (HOMO) and the lowest unoccupied MOs (LUMO), and also electron densities on them [18]. These frontier orbitals play a driving role in orbital-controlled chemical reactions [19]. Besides, some indices can be determined on the basis of the energy of frontier MOs. The calculated quantum-chemical parameters (QCP) of ketorolac MEA complex are given in the table 1. To compare the obtained results of the complex, the data of the initial molecules were also included in the tabulated data. According to the tabular data, the level of HOMO of the organic salt is increased compared to the level of HOMO of the parent compounds. At the same time, the level of LUMO of organic salt is decreased relative to the level of LUMO of parent compounds. These changes led to a decrease in the energy gap between the HOMO and LUMO of the organic salt relative to those of the initial compounds, which indicates a relatively high reactivity of the product. The energy gap is an important parameter in chemistry that indicates the stability and reactivity of molecules [20]. The higher reactivity of the complex also confirms its dipole moment (Table 1).

Table 1. Quantum-chemical parameters of the organic salt.

QCP	Complex	keterolac	MEA
E_{HOMO} (eV)	-5.13	-6.24	-6.53
E_{LUMO} (eV)	-1.86	-1.75	-0.37
$\|\Delta E\| = E_{HOMO} - E_{LUMO}$ (eV)	3.27	4.49	6.16
Ionization Potential, $I = - E_{HOMO}$ (eV)	5.13	6.24	6.53
Electron Affinity, $A = - E_{LUMO}$ (eV)	1.86	1.75	0.37
Electronegativity, $\chi = (I + A)/2$ (eV)	3.49	3.99	3.45
Chemical hardness, $\eta = (I - A)/2$ (eV)	1.63	2.25	3.08
Chemical potential, $\mu_p = - (I + A)/2$ (eV)	-3.49	3.99	3.45
Chemical softness, $\sigma = 1/(2\eta)$ (eV^{-1})	0.31	0.22	0.16
Electrophilicity index, $\omega = \mu_p^2/2\eta$ (eV)	3.73	3.55	1.93
Dipole moment, μ (Debye)	16.92	2.99	1.44

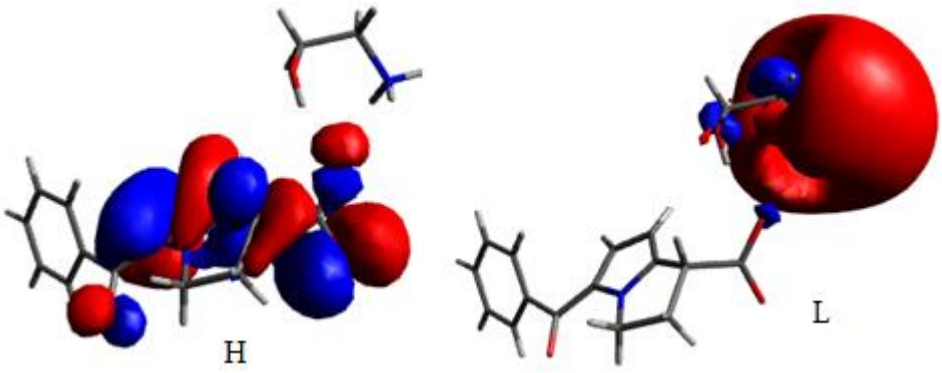

Fig.2. The electron densities on HOMO (H) and LUMO (L) of organic salt.

Orbital composition analysis with Mulliken partition shows the higher composition (47.76 %) of oxygen atom of carboxyl group in HOMO. And also, the compositions of C atoms of five-membering unsaturated rings in HOMO are equal to approximately 35 %. The LUMO is located in MEA tart of the salt (Fig. 2).

In recent years, with the development of computing technologies, computer programs used in chemistry have been greatly developed. Among other things, programs have been developed that are used to

calculate and visualize weak interactions in a molecular system based on the results of quantum chemical calculations. Non-covalent interactions (NCI) have been determined for many organic and coordination compounds [21]. Non-covalent interactions are represented as reduced density gradients (RDG) versus electron density multiplied by the sign of the second Hessian eigenvalue. The nature of specific interactions is highlighted in red-blue-green on the RDG color map. The strong attractive force (H-bond) is shown in blue and the strong repulsive force (steric effect) is shown in red. Weak interactions (van der Waals interactions) are highlighted with a green isosurface (Fig. 3). NCI analysis showed the presence of attractive (H-bond) and repulsion (VdW) forces between two molecules of organic salt [22].

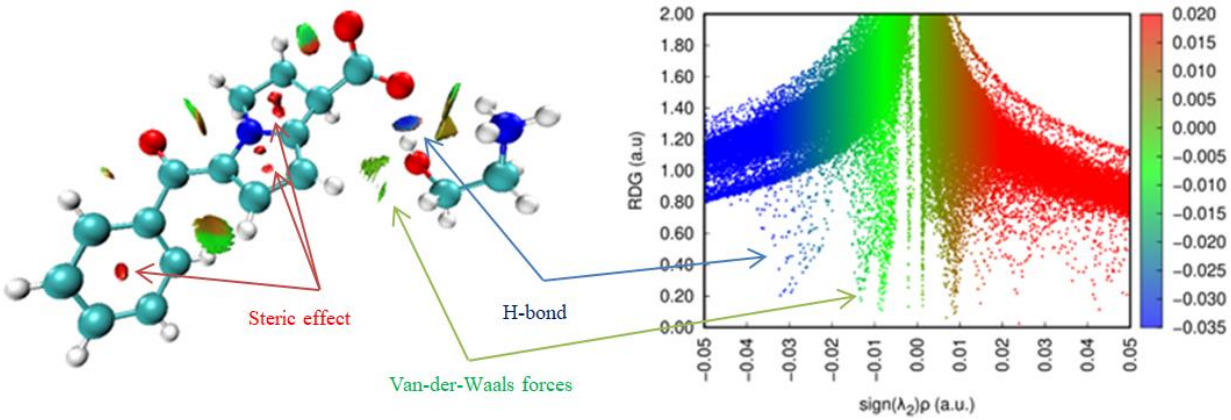

Fig.3. The NCI plot of organic salt and its color-filled RDG map.

Conclusions

So, a theoretical analysis of the electronic structure of the Ketorolac–MEA complex was carried out using a modern calculation method based on the density functional theory. The value of the dipole moment, energy gap and level of frontier MO's show a very high reactivity of the obtaining complex. The obtained theoretical data may encourage chemists to obtain new organic salts of ketorolac with various amines and to discover cross-linking with amine-containing fibers.

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Issue Article

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BIOLOGICAL FEATURES OF ALTERNARIA DISEASE DURING GROWING AND STORING VEGETABLE CROPS

Abstract: *Alternaria alternata, A. solani, A.brassicae, A.radicina, A.porri cause significant damage to vegetable crops in the developed countries of the world. Due to the defeat of diseases caused by fungi, this leads to a decrease in the amount of the crop and deterioration in its quality. Given this, it is of strategic importance to continue research activities to implement measures to combat pathogenic fungi.*

Key words: *pathogen, vegetable crops, fungi species, fungus, alternariosis, pathogenicity, infection, fungicide, genus, parasite, phytotoxin.*

Language: *English*

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Introduction

Alternaria diseases in vegetable crops grown in the conditions of our republic have not been studied on a planned basis. A.M. Muminov, V.I. Pessov and others reported the occurrence of *Alternaria* in cabbage, potatoes, and tomatoes in the conditions of the Tashkent region [5]. According to B.A. Khasanov, alternariosis diseases are widespread in vegetable crops, *A. alternata* in tomatoes, *Alternaria solani* in potatoes, *A. radicina* in carrots, *A. brassicae* and *Alternaria brassicola* in white cabbage, dark-red onion (alternariosis). those who gave information about *Alternaria porri* and *A.cumerinum* damage in cucumber crops [2]. 10 species belonging to the *Alternaria* family occupy a special place in Volume VI of the "Flora Gribov Uzbekistana" directory [7]. Studies on the development of effective control measures for the study of alternaria disease, which has spread in recent years in vegetables grown in our republic, have not been carried out sufficiently.

Therefore, scientific research was carried out to determine the spread and damage of alternaria disease of vegetable crops, and to study the effect of anti-disease fungicides on the productivity and quality indicators of vegetable crops.

The genus alternaria includes saprotrophic and parasitic fungi that feed as necrotrophs. They often develop on plant leaves, sometimes seeds and other terrestrial organs.

Saprotrophic species live on old and dying parts of plants and plant remains on the soil. Parasitic species also often infect physiologically mature, senescent tissue, or weakened plants, and are usually unable to infect young leaves of healthy plants [3]. It is important that the spores (conidia) of this species are easily separated from the conidiophores and spread easily through the air, the mycelium and spores are dark in color, and the incubation period of phytopathogens is short; in particular, the presence of melanin pigment ensures that their spores and mycelia are resistant to solar radiation and adverse environmental conditions.

In addition, a number of secondary metabolites, especially phytotoxins, synthesized by many species of these fungi play an important role in plant damage.

Alternaria disease also causes a lot of damage to tomato plants. In the process of getting to know the literary sources, it became known that *Alternaria* disease in the tomato plant is widespread and one of the most damaging diseases in Europe, North America, Asia, and Africa [11,12].

Method of conducting research. The method of determining the damage of *Alternaria* disease to vegetable crops. The number and weight of vegetables are taken into account to determine the yield reduction.

The number of plants in the tested samples was 10. The number of healthy and diseased vegetables in the samples was calculated, and the difference between the number of diseased plants and vegetables was expressed as a percentage, and the damage of the disease was found by the following formula.

$$B= (A-a)\times 100/ A$$

B- lost yield, %
A-harvest of healthy plants;
a-harvest of a diseased plant [1].

Research results.

We collected herbarium samples from infected vegetable crops, we isolated representatives of the genus *Alternaria*, which causes *Alternaria* disease, from herbariums brought to the laboratory.

We identified the isolated fungal species using the identifiers of P. Neergard, M.B. Ellis, N.M. Pidoplichko, E.G. Simmons, F.B. Hannibal, A.S. Orina, the list of infected plants is presented in Table 1 [10, 9, 1, 12, 13, 4, 6].

Table 1. Vegetable crops infected with Alternaria
(Alokhan Isokhon Agro, Tashkent district, Tashkent region farm, 2014-2015)

№	Vegetable crops	Diseases name	Pathogens
1	**2**	**3**	**4**
1.	Tomato	alternating brown spotting	*A.alternata*
		(fruit black mold)	*A.alternata f.sp.lycopersici*
		dry spotting	*A.solani*
		dry spotting	*A.tenuissima*
2.	Potato	alternating spotting	*A.solani*
		alternating brown spotting	*A.tenuissima*
3.	Cabbage	black spotting	*A.brassicae*
		alternating spotting	*A.brassicola*
		olive brown spotting	*A.japonica*
4.	Carrot	brown spotting	*A.dauci*
		black rot	*A.radicina*
5.	Pepper	alternaria fruit rot	*A.alternata*
		alternating spotting	*A.capsici-annui*
6.	Turnip*	brown spotting	*A.brassicae*
		alternating spotting	*A.japonica*
7.	Radish*	alternaria rot	*A.brassicola*
		alternating spotting	*A.japonica*
8.	Rapeseed*	brown alternariosis	*A.brassicae*
		alternating spotting	*A.brassicola*
9.	Radish (turp)*	black spotting	*A.brassicae*
		brown fruit rot	*A.japonica*
10.	Beetroot*	brown spotting	*A.alternata*
		alternating spotting	*A.solani*
11.	Parsley*	black spotting	*A.ramulosa*
12.	Eggplant*	brown spotting	*A.solani*
13.	Onion	dark red (alternaria)	*A.porri*
14.	Garlic*	brown spotting	*A.porri*

15.	Dill*	alternating spotting	*A.radicina*
16.	Salad*	brown spotting	*A.japonica*
17.	Kashnich*	alternating spotting	*A.radicina*
18.	Celery*	alternating spotting	*A.radicina*

***- Reminder:** Alternaria disease was recorded for the first time in vegetable crops grown in Tashkent region.

Fungal strains isolated from fruits and vegetables were grown in laboratory conditions and monospored seedlings were isolated from them. In turn, as a result of careful study of the morphological and some physiological characteristics of each strain, the composition of species was determined with the help of identifiers.

As shown in the second diagram, 9 species of *Alternaria* fungi were isolated from fruits and vegetables stored in warehouses.

Alternaria alternata is the main part of these isolated fungi. *Alternaria tenuis* and *Alternaria consortiale* strains occupied 10-15% of the strains. The number of strains of all other types was around 5-8%, and their weight was about half of all strains in the total.

Alternaria disease causes great damage by damaging leaves, stems, root nodules and fruits. Especially in potato varieties prone to this disease, up to 40% of the harvest, and in some cases even more, was observed to die [5]. As a result of the development of Alternaria disease, the root nodule and the amount of starch in it decreases sharply [3].

Alternaria fungi cannot provide complete information on the distribution, level of occurrence, and impact on productivity of vegetable plants during vegetation and fruit storage. In order to obtain such information, it is required to carry out planned and large-scale scientific and research work [13].

Summary.

Only healthy fruits are taken for transportation and storage. When picking fruits, attention is paid to their mechanical damage. Before placing the fruits in storage, they are cleaned of all impurities, and the warehouse is disinfected with chlorinated lime or formalin. Keeping the temperature and relative humidity of the warehouse at the required parameters during storage increases the shelf life of fruits. Fruits that start to rot are lost immediately.

To reduce the stock of pathogens in the soil, the recommended crop rotation for this region is followed and regular weed control is carried out. Bringing seeds from affected areas is strictly prohibited.

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Issue Article

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HYPERO-HYPONYMIC RELATIONSHIPS IN THE STRUCTURE OF THE CONCEPT "NON"

Abstract: *This article explores the lexeme "non", which is one of the main concepts that reflect the peculiarities of the national mentality of the Uzbek linguistic culture. Hyper-hyponymic relations in the structure of the concept "non" are considered.*

Key words: *language picture of the world, concept, mentality, linguoculturology, semantic field.*
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ГИПЕРО-ГИПОНИМИЧЕСКИЕ ОТНОШЕНИЯ В СТРУКТУРЕ КОНЦЕПТА «НОН»

Аннотация: *В данной статье исследуется лексема «нон», представляющая один из основных концептов, отражающих особенности национального менталитета узбекской лингвокультуры. Рассматриваются гиперо-гипонимические отношения в структуре концепта «нон».*

Ключевые слова: *языковая картина мира, концепт, менталитет, лингвокультурология, семантическое поле.*

Введение

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Человек, в совершенстве владеющий языком, создает целенаправленную и четкую речь. При этом речь представляет собой непосредственный продукт когнитивной деятельности. Зная технику использования языка, человек может реализовать многие свои лингвистические цели. Поскольку язык является мощным средством воздействия на психику другого человека, необходимо и целесообразно сознательное отношение к языку [2, 563].

Языковая картина мира отличается национально-культурными особенностями: она формируется под влиянием исторических событий, географических условий и этнопсихологических особенностей народа. Посредством анализа языковых фактов открывается доступ к глобальной инвариантной картине мира, отражающей основные понятия общечеловеческого, единого, универсального, межкультурного пространства [1, 5].

Антропоцентрический подход при исследовании концептуальной природы слова, подразумевающий описание слова как фрагмента действительности, занимает определенное место в представлении языковой картины мира. Экспликация концепта представляет собой установление ситуаций, раскрывающих функционирование слова, выявление мира ассоциаций, образов, представлений, паремий, культурных традиций. Одновременно учитывается информация, почерпнутая из различных наук, таких как когнитология, лингвокультурология, социо-и психолингвистика, этнолингвистика и т.д.

Как отмечает Д. В. Попов, потребность человека выражать свои мысли и чувства, общаться с людьми, знакомиться с мировой

культурой, понимать окружающий мир удовлетворяется посредством языка. Родной язык составляет базу когнитивно-коммуникативной деятельности человека. На своем родном языке человек постигает и выражает языковую картину мира. Изучение языка – это сложный процесс, связанный с являющимися невербальными когнитивными наблюдениями, памятью, вниманием, наследственностью, окружающим «языком», трудовой деятельностью и другими факторами [1, 256].

Предметом нашего исследования является лексема **«нон»**, представляющая один из основных концептов, отражающих особенности национального менталитета узбекской лингвокультуры. Понятие **«нон»** является концептуальной доминантой и занимает ведущие позиции в языковой картине мира узбекского языка, поскольку обусловлено его главной ролью в питании узбекского народа. Являясь главным средством существования, ведущим продуктом питания, хлеб одухотворяется, наделяется магическими свойствами, становится предметом воспевания, восхваления. Хотя на протяжении веков в системе питания двух наших народов происходят значительные изменения под влиянием внешних факторов, социальное и культурное достоинство и ценность этого продукта не умаляются. Более того, при современных условиях экономической нестабильности повышается частотность употребления таких выражений как *заработать на хлеб – нон топмоқ* (добыть себе пропитание). Несмотря на то, что современная гастрономическая терминология пестрит номинациями различного рода деликатесов, заимствованных из других культур, они являются «переменными» узбекского национального сознания, тогда как хлеб и вода – это проявляющие устойчивость константы национальной ментальности узбекского народа.

Узбекская картина мира в качестве одного из основных продуктов питания предполагает многообразие лепешек домашнего приготовления и весьма богатый выбор мучных кушаний.

Для приготовления муки используют местные сорта пшеницы, широкое применение получили также ячмень, просо и кукуруза. Местное население готовит лепешки либо кислые, либо пресные. Лепешки, как правило, имеют круглую форму и отличаются различной величиной и толщиной. Наряду с лепешками, выпекаемыми на стенках тандыра, готовятся лепешки из кислого теста, которые пекут в котле без масла или на раскаленных каменных плитах и др. Узбекская кухня отличается большим разнообразием пресных лепешек. Наиболее популярны в народе лепешки – *патыр*, изготовляемые из пшеничной муки. Тесто для таких лепешек замешивают на воде и соли, а в некоторых случаях – на молоке с маслом. В различных регионах республики при изготовлении лепешки тесто месят на топленом масле, яйцах с добавлением репчатого лука, миндаля, кунжута, тыквы, сахара, шкварок, лечебных трав. В народе говорят – хлеб основа жизни и дастархана.

Лексема ***нон***, являющаяся именем концепта, в «Толковом словаре узбекского языка» представлена в следующих значениях: «**НОН** [ф. – нон; озиқ-овқат] **1** Хамирдан тайёрланиб, тандир, ўчоқ, това ва ш.к. да пиширнладиган егулик. *Буғдой нон. Зоғора нон. Ширмой нон. Бўлка нон. – [Кампир] Нон ясаб бўлгунча, тандир қизиди. Кейин бир чеккадан ёпдим.* Ойбек, Танланган асарлар. **2** Умуман, егулик-ичгулик, яшаш, тирикчилик учун зарур нарса. – *Матқовул ака, мен нон топармиканман, деб қорин ғамида мактаб очганим йўқ, – деди у [Ғуломжон] босиғи билан.*
М. Исмоилий, Фарғона т. о.» [6, 57].

В целях определения лексико-семантической организации концепта «нон» в узбекском языке необходимо проследить гиперо-гипонимические отношения и выявить концептуальные признаки лексем, представляющих семантическое поле данного концепта.

Лексико-семантическое поле ***нон*** в узбекском языке включает в себя единицы, обозначающие наименования хлеба, объединяемые интегральными и различаемые дифференциальными семами. Анализ лексем, собранных методом сплошной выборки из Толкового словаря узбекского языка «Ўзбек тилининг изоҳли луғати» [5] и репрезентирующих концепт «нон», позволил выявить ряд признаков, формирующих структуру исследуемого концепта.

При описании структуры концепта «нон» мы придерживаемся метода З. Д. Поповой и А. И. Стернина [4, 59]. В первую очередь, для выявления концептуальных признаков воспользуемся первым видом анализа, то есть «от категории к лексеме». В частности:

1. В ходе семантического анализа имеющегося в нашем распоряжении фактического материала было выделено несколько лексических единиц, маркированных по признаку **«сорт муки»**:

БУҒДОЙ НОН – «пшеничная лепешка»;

ЗОҒОРА – «лепешка, приготовленная из кукурузной или просяной муки»;

ЖАВДАРИ НОН – «ячменная лепешка»;

ТАКТАК НОН – «лепешка из горного ячменя»;

Например: *«Синдирилди тез **зоғора нон**, Севган қизи, кўз нури – Ойхон Қушдай учди ўчоқ бошида»* (Ҳ. Пулат); *«Ойша хола ҳам тандирга янтоқ, **тактак унидан нон** ёпишга*

уринаётганини ўйлади» (Ш. Тошматов, Эрк қуши); *«Кўчиб кетар вақтида Зебо, Ёзи келса ер деб, бир оз унни* ***кўмач*** *қшиб, қўрга кўмиб кетган экан»* («Ёзи билан Зебо»).

2. Лексемы, характеризующие хлеб по концептуальному признаку **«толщина/тонкость лепешки»** составляют отдельную лексико-семантическую группу, репрезентирующую концепт «нон»:

ОБИНОН – «тонкая лепешка из пресного теста»;

ГИЖДА НОН – «круглый хлеб с толстым краем»;

ЛОЧИРА – «тонкая лепешка из невыдержанного теста»;

ЧАПАТИ – «тонкая, хрустящая лепешка из пресного теста»;

ЧАПЧАП – «один из видов тонкой лепешки».

Например: *«Энг мухими. Гулсумбиби шўрва учун тандирда* ***лочира*** *ёпади.* (Ойбек, Танланган асарлар); *«Эрталаб Акмад Хусайн бир пиёла чой ва бир бурда* ***чапати*** *билан накорлик ко либ, урнидан турди»* (Ойбек, Нур қидириб); *«[Кампир] Сопол лаганда тухум ковурдок билан козонга ёпган иккита* ***чапчап*** *нон келтирди»* (Ғ. Ғулом, Шум бола); *«Зиёфат дастурхони чинакам бойвачча номига яраша эди. Дастурхон чеккаларига седанали* ***обинон****, муштдай қип-қизил* ***гижда нон****, ёглиқ патир, жиззалик нон, қатламалар қўйилган»* («Ёшлик»).

3. Следующую лексико-семантическую группу составляют кулинаремы, объединенные по признаку **«с начинкой»**:

СОМСА – «пирожки с мясной, травяной или овощной начинкой»;

ВАРАҚА СОМСА – «пирожки из слоеного теста с начинкой»;

ПАРМУДА – «пирожки с мясной начинкой»;

МАНТИ – «кушанье из сваренных на пару маленьких кусочков теста, начиненных мясным фаршем».

Например: *«Ошхона деразаси ёнида туриб,* ***сомса*** *ясаётган уйғур йигит ҳам гўзал киздан нигоҳини узмасди* (Мирмуҳсин, Умид); *«****Пармуданинг*** *таърифин Айтаберсам, деманг лоф»* (С. Абдулла); *«Чучвара нима экан, Сидиқжон ака, ёгли* ***манти*** *қилиб бераман. Хамири юпқароқ бўлсинми, қалинроқ?* (А. Қаҳҳор, Кўшчинор чироқлари).

4. Несколькими лексемами представлена также группа лингвокультурем, маркированных по признаку **«размер хлебобулочного изделия»**:

КУЛЧА – «небольшая круглая лепешка»;

ПАТИР НОН – «большая лепешка».

Например: *«Эъзозхон эрини қуярда-қўймай кўрпачага утқазиб, дастурхон ёзди ва унга тўрттагина* ***кулча*** *билан бир-икки қисим қанд-қурс ташлади»* (Ҳ. Ғулом, Машъал).

5. Концепт «нон» представлен в литературном языке узбекского языка также семантической группой, включающей в себя номинации мучных изделий по признаку **«сдобное тесто»**:

ШИРМОЙ(И), ШИРМОЙ(И) НОН // ШИРМОН – «сдобная лепешка, изготовленная в тандыре, преимущественно из пшеничной муки на молоке и масле»;

КУЛЧА – «небольшая сдобная лепешка, изготовленная в тандыре, преимущественно из пшеничной муки на молоке и масле»;

Например: *«Йигитча учакишгандай сеткада* ***ширмойи*** *кўтариб ўтиб кетди»* (И. Қаландаров, Шохидамас, баргида); *«Қиз* ***ширмондан*** *бир бурда ушатиб, йигитга узатди»* (Ғ. Ғулом, Тошкентликлар).

6. Несколько единиц маркированы по признаку **«сухой хлеб»**:

ҚАТИРМА – «тонкий хлеб из пресного теста, выпеченный на сковороде без масла»;

ВАФЛИ – «тонкое сухое печенье с рельефными клеточками по поверхности».

Например: *«Отасига деб, хурмачага солинган ошнинг устига битта* ***қатирмани*** *ёпиб, румолчага тугди-да, чиқиб кетди»* (Ойдин, Гулсанам); *«Патнисдан* ***вафли*** *кувачали мороженоелардан бирини олди»* (С. Абдуқаҳҳор, Санамай саккиз дема).

7. Следующая семантическая группа представлена лексемами, номинирующими разновидности хлебобулочных изделий по признаку **«жаренное на масле»**:

БЎҒИРСОҚ – «маленькие, зажаренные на масле куски теста, замешанного на молоке и яйцах»;

ЧАЛПАК – «тонкие лепешки из пресного теста, приготовленные на масле»;

ЧЎЗМА – «тонкие лепешки, приготовленные на масле, иногда с добавлением лука или фарша».

Например: «*Ўзбек ойим* ***бўғирсоқ*** *қовуртириш, толқон туйдириш, тўқоч ёпдириш билан машғул эди»* (А. Қодирий, Ўтган кунлар); *«– Эсимдан чиқибди, – дейди кампир. – Майлига, мен ўзим ўнта* ***чалпак*** *пиширib, чироқ ёқаман»* (М.М. Дўст, Галатепа қиссалари).

8. Несколько лексем выделены по признаку **«дополнительные ингредиенты»**:

КУНЖУТЛИ НОН – «лепешка, посыпанная кунжутными семенами»;

СЕДАНАЛИ НОН – «лепешка, посыпанная семенами чернушки»;

ЖИЗЗА НОН, ЖИЗЗАЛИ НОН – «лепешка, в составе теста содержатся шкварки»;

9. Концептуальный признак **«способ приготовления»** также был отмечен как категория, характеризующая концепт нон в узбекском языке:

КЎМАЧ – «пресная лепешка, выпеченная в золе»;

ҚАТИРМА – «тонкая лепешка из пресного теста, испеченная в котле»;

БЎЛКА // БУХАНКА – «хлеб, испеченный в духовке, часто в продолговатой форме».

Например: *«Кўчиб кетар вақтида Зебо, Ёзи келса ер деб, бироз унни* ***кўмач*** *қилиб, қўрга кўмиб кетган экан»* («Ёзи билан Зебо»); *«Оқ* ***бўлка****. Ширин* ***бўлка****...»* (*С.* Абдуқаххор, Санамай саккиз дема).

10. В отдельную группу были выделены лексемы, характеризующиеся признаком **«слоистость»**:

ҚАТЛАМА – «слоеная лепешка, жаренная на масле»;

ВАРАҚИ – «пирожки из слоеного теста с начинкой, приготовленные в масле».

Например: *«Патнисларда, тоғораларда, саватларда кулча, қовурма чучвара, варақи,* ***қатлама*** *ва бошқа ҳар нав мева-чевалар»* (Ойбек, Танланган асарлар); *«Офтоб ойим* ***варақи*** *пиширишдан бу кунги меҳмоннинг унча-мунча киши бқлмаганлигини билди»* (А. Қодирий, Ўтган кунлар).

11. Несколько единиц были включены в следующую семантическую группу по признаку **«пресное тесто»**:

ПАТИР – «лепешка из пресного теста»;

ЧАПАТИ – «тонкая пресная лепешка».

Например: *«Дастурхонда туршак, олмақоқи, ёнғоқ,* ***патир*** *бўларди»* (Ш. Холмирзаев, Оғир тош кўчса); *«Эрталаб Аҳмад Хусаин бир пиёла чой ва бир бурда* ***чапати*** *билан наҳорлик қилиб, ўрнидан турди»* (Ойбек, Нур кидириб).

12. Концепт нон представлен также группой лексем, маркированных по признаку **«принадлежность к обряду»**:

БЎҒИРСОҚ – «маленькие, зажаренные на масле куски теста, замешанного на молоке и яйцах»;

КУЛЧА – «небольшая сдобная лепешка, выпекаемая на 40 день рождения ребенка и раздаваемая каждому гостю;

СУМАЛАК – «традиционная лепешка или сладость, приготовленная из проросших зерен пшеницы на праздник весеннего равноденствия»;

ЧАЛПАК – «тонкие лепешки из пресного теста, приготовленные на масле, как правило, накануне религиозных праздников для поминовения покойных».

Например: *«Исириқ солиб, ҳазрати Баҳовуддинга ўн битта* ***кулча*** *атаб қўй, болам. Қизинг кўзиккан, ҳа, ёмон қўз оралаган..»* (Мирмуҳсин, Меъмор); *«Бинобарин,* ***сумалак*** *йилда бир мартагина тайёрлаш мўмкин бўлган ноёб таомдир»* (К. Маҳмудов, «Ўзбек тансик таомлари»).

13. Отдельную группу составили несколько единиц лексем, имеющих общую сему **«кондитерское изделие»**:

ТОРТ – «кондитерское изделие из сладкого сдобного теста с кремом, фруктами»;

ПИШИРИҚ – «разнообразная выпечка из теста».

Например: *«Дастурхонда хонаки печеньелар, атиргул нусха* ***торт*** *ва турли хил мевалар бор эди»* (С. Аҳмад, Қадрдон далалар); *«Дастурхон башанг: иссиқ нон, патир, хилма-хил* ***пиширикдар****, қази-қарта, яхна гўшт, турли ширин нозу неъматларга тўла»* (Ойбек, Улуғ йўл).

Большой интерес представляет и тот факт, что узбекская ментальность и гастрономические традиции характеризуются наличием большого количества мучных похлебок, номинированных лексемой ***атала***:

ҚИЙМА(ЛИ) АТАЛА – «мучная похлебка с фаршем»;

ЁВҒОН АТАЛА – «мучная похлебка без масла»;

АТАЛА-УМОЧ – «всевозможные жидкие блюда из муки».

Более того, хотя русская и европейская картина мира подразумевает интерпретацию лексемы ***халва*** как «кондитерское изделие из растертых орехов, семян, смешанных с карамельной массой» (Ожегов), в узбекском языке это понятие имеет несколько другое толкование, поскольку узбекская халва состоит из других ингредиентов, одним из основных составляющих которой является мука. В частности, в «Толковом словаре узбекского языка» зафиксировано следующее толкование данной лексемы: «**ХОЛВА** [ширинлик; кандолат махсулоти] 1 Ун, шакар ва ёгдан, баъзан кунжут, мағиз қўшиб тайёрланган ширинлик, қандолат» [7, 549]. «Халва – сладкая еда, приготовленная из муки, масла; сладость, иногда с добавлением семян кунжута и орехов». Вследствие чего узбекская языковая картина представлена другими литературными лексемами ***халва***, на наш взгляд, выражающих понятие «мучные изделия», как репрезентанта концепта «нон», например:

ПАШМАК ҲОЛВА – «волокнистая халва, изготовленная из муки и сахарного сиропа»;

ҲОЛВАЙТАР – «сладкое блюдо, изготовленное из муки, сахара и масла»;

РУСТА – «вид халвы с добавлением урюка, миндаля и орехов»;

КУНЖУТ ҲОЛВА – «халва, изготовленная из муки, сахара и кунжута».

При использовании второго вида анализа для описания концепта – «от лексемы к категории», нами была выявлена отнесенность одной лексической единицы одновременно к нескольким категориям, например, такое лексическое обозначение одной разновидности мучных

изделий, как «чалпак», может быть соотнесено с несколькими категориями, в нашем случае с такими концептуальными признаками: 1. «изготовленный из пресного теста», 2. «жаренный на масле», 3. «принадлежность к традиции», 4. «толщина/тонкость мучного изделия».

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Issue Article

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DEVELOPMENT OF FUNCTIONAL LITERACY IN MATHEMATICS LESSONS

Abstract: *This article reveals the concept of functional literacy, describes some of its types, substantiates the need for its development. In addition, various examples of tasks aimed at developing functional literacy in mathematics lessons are given. It also presents the results of diagnostic methods that prove the development of functional literacy among students by solving the tasks given as an example in the article. The relevance of the issue considered in the article lies in the fact that the concept under consideration contributes to the development of students' ability to adapt the acquired knowledge and acquired skills to life. This work is significant in that, in addition to the theoretical justification of functional literacy and its types, it contains a variety of examples that contribute to the formation of the skill of applying knowledge by students in life. Methods used in this study: observation; analysis of theoretical sources on the research topic; questioning students; comparison of students' results based on the results of various tests, etc. The results obtained in the course of the study can be applied in the process of teaching students: to prepare students for the Pisa study, to prepare students for other exams containing practice-oriented tasks.*

Key words: *functional literacy, mathematical literacy, reading literacy, practice-oriented tasks, connection with life.*

Language: *Russian*

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РАЗВИТИЕ ФУНКЦИОНАЛЬНОЙ ГРАМОТНОСТИ НА УРОКАХ МАТЕМАТИКИ

Аннотация: *В данной статье раскрывается понятие функциональной грамотности, описываются некоторые ее виды, обосновывается необходимость ее развития. Помимо этого приводятся различные примеры заданий, направленных на развитие функциональной грамотности на уроках математики. А также представлены результаты диагностических методик, доказывающих развитие функциональной грамотности у учащихся посредством решения приведенных в качестве примера в статье задач. Актуальность рассматриваемого в статье вопроса заключается в том, что рассматриваемое понятие способствует развитию у учащихся умения адаптировать полученные знания и приобретенные навыки к жизни. Данная работа значима тем, что помимо теоретического обоснования функциональной грамотности и ее видов содержит разнообразные примеры, способствующие формированию навыка применения знаний учениками в жизни. Методы, применяемые в данном исследовании: наблюдение; анализ теоретических источников по теме исследования; анкетирование учащихся; сравнение результатов учеников по итогам выполнения различных проверочных работ и др. Результаты, полученные в ходе проведенного исследования, могут быть применимы в процессе обучения учащихся: для подготовки учеников*

к исследованию Pisa, для подготовки учащихся к другим экзаменам, содержащим практикоориентированные задания.

***Ключевые слова**: функциональная грамотность, математическая грамотность, читательская грамотность, практикоориентированные задания, связь с жизнью.*

Введение

Одна из основных проблем современного образования заключается в том, что успех в школе не гарантирует достижения успеха учащимися в жизни. Опыт доказывает малоэффективность существующей на протяжении длительного времени дисциплинарной модели содержания образования, направленной на воспроизведение знаний учащимися. Современный мир требует переосмысления и пересмотра педагогических методов и подходов обучения. В настоящий момент система школьного образования уже претерпела значительные изменения и выдвигает в первую очередь к выпускникам такие требования, как навыки работы в группе, проявление лидерских качеств, умения принимать нестандартные решения, творчески использовать полученные знания, финансовая и логическая грамотности и многое другое. И одним из основных ориентиров для достижения этой цели и улучшения качества образования должно стать развитие функциональной грамотности учащихся, которая выступает одним из главных показателей качества знаний и умений учащихся в аспекте международных сравнительных исследований.

В научной литературе рассматриваются различные определения функциональной грамотности. Например, советский и российский лингвист и психолог А.А. Леонтьев дал следующее определение: «Функциональная грамотность – это способность человека использовать приобретаемые в течение жизни знания для решения широкого диапазона жизненных задач в различных сферах человеческой деятельности, общения и социальных отношений». [1, с.1]

В международном исследовании PISA «функциональная математическая грамотность» рассматривается как «способность учащегося использовать математические знания, приобретенные им за время обучения в школе, для решения разнообразных задач межпредметного и практико-ориентированного содержания, для дальнейшего обучения и успешной социализации в обществе». [2, с.11]

Задачи, направленные на развитие функциональной грамотности учащихся можно разбить на несколько разделов:

читательская грамотность;

логическая грамотность;

финансовая грамотность;

геометрия;

работа с графическим представлением данных

и другие. [3, с.17]

Цель исследования, суть и результаты которого отражены в статье: выяснить, как задания на развитие функциональной учащихся влияют на результаты обученности учащихся, на их умение воспринимать окружающую действительность.

Гипотеза исследования: использование заданий на развитие функциональной учащихся приближает процесс обучения школьников к жизни, способствует формированию умения у учеников легче воспринимать окружающую их действительность, свободно решать задачи, имеющие связь с жизнью.

Исследовательские задачи:

– раскрыть понятие «функциональная грамотность» и рассмотреть ее виды;

– рассмотреть примеры заданий, развивающих функциональную грамотность учащихся;

– провести опытно-исследовательскую работу.

Методы исследования:

- наблюдение;

- анализ теоретических источников по теме исследования;

- анкетирование учащихся;

- анализ продуктов учебной деятельности (результаты СОР (Суммативное оценивание за раздел), СОЧ (Суммативное оценивание за четверть), СО (Внешнее суммативное оценивание), (Pisa Programme for International Student Assessment) и другие).

Методика исследования была построена в виде следующего алгоритма:

1) Проведение анкетирования среди учащихся с целью определения сформированности представления того, насколько применимы школьные знания, в частности, математические знания в жизни, какие разделы имеют большую связь с жизнью.

2) Выявление разделов или отдельных тем, изучение которых предполагает связь с жизнью.

3) Разработка и поиск заданий, развивающих функциональную грамотность учащихся. Использование данных заданий в процессе обучения. Формирования у учащихся умения работать с такими заданиями.

4) Проведение контроля (СОР, СОЧ, пробные СО, пробные Pisa, СО). Анализ полученных результатов.

5) Наблюдение за результатами учащимися, оценка уровня сформированности их умений решения практикоориентированных заданий,

оценка влияния работы с такими заданиями на динамику развития функциональной грамотности учеников.

Результаты и обсуждение

Согласно разработанной методике на первом этапе исследования было проведено анкетирование среди учащихся 9 классов (15 человек), 12 классов (15 человек) с целью определения сформированности представления того, насколько применимы школьные знания, в частности, математические знания в жизни, какие разделы имеют большую связь с жизнью. В ходе данного анкетирования учащимся было предложено несколько вопросов. Результаты проведенного анкетирования показаны на диаграммах ниже.

Диаграмма 1 - Распределение ответов на вопрос № 1 анкеты: Как вы считаете, применимы ли знания, полученные при обучении в школе в жизни?

Диаграмма 2 - Распределение ответов на вопрос № 2 анкеты: Как вы считаете, насколько применимы темы математики в жизни человека? Ответ укажите в процентах.

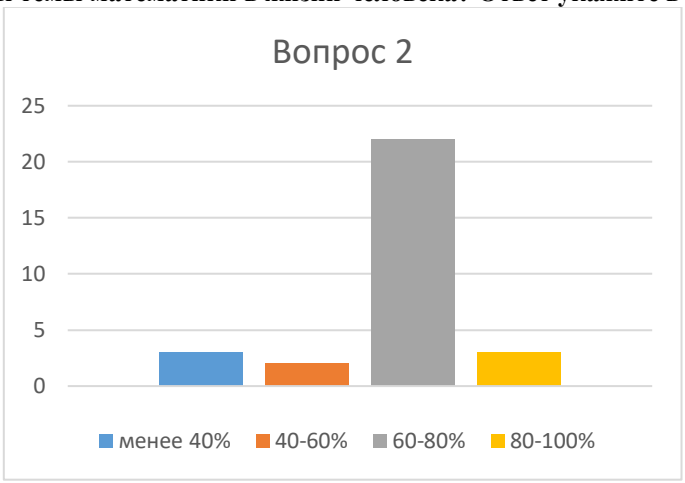
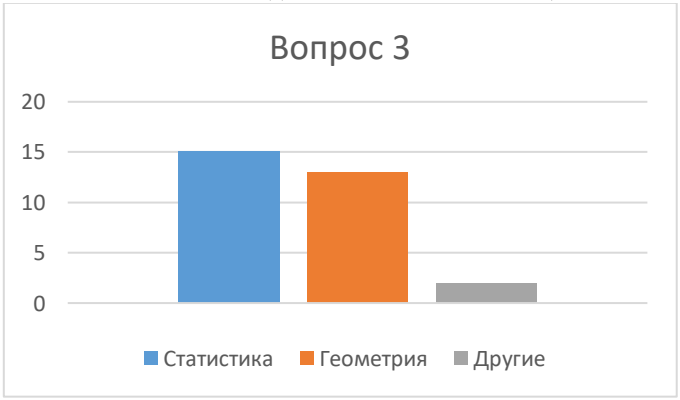


Диаграмма 3 - Распределение ответов на вопрос № 3 анкеты: Как вы думаете, знания каких разделов математики необходимы нам в жизни чаще всего?



Результаты данного анкетирования говорят о том, что большинство учащихся считают, что школьные знания в целом и знания предмета математика в частности применимы в жизни человека, но при этом также большая часть учащихся выделяют из применимых разделов математики в жизни только такие разделы, как статистика и геометрия.

Исходя из результатов анкетирования, были определены темы и разделы, при изучении которых также можно подчеркнуть связь математики с жизнью. Ниже демонстрируются примеры того, как можно развить функциональную грамотность учащихся при изучении того или иного раздела, в том или ином направлении функциональной грамотности. Приведенные ниже задачи можно использовать на разных этапах урока и во внеурочной деятельности.

Работа с графическим представлением данных

Умения строить и интерпретировать графики, таблицы и диаграммы, являются важными дисциплинарными навыками. Способность учащегося читать графики и диаграммы, в том числе анализировать представленную в них информацию, а также представлять данные в виде графиков и диаграмм — весьма важные навыки в настоящее время.

Оценка уровня сформированности умений работать с графиками, таблицами и диаграммами занимает значительное место в международных сравнительных исследованиях, одним из примеров которых является тест PISA, позволяющий проверить, способен ли учащийся применить знания на практике.

Ниже приведены примеры задач, направленных на формирование у учащихся умения анализировать информацию, читать и составлять графики и диаграммы.

Задача 1. В магазине среди случайной выборки из 104 подростков проведен опрос того, как много времени в часах они потратили в прошлом месяце на шопинг. Результаты опроса обобщены в таблице.

Таблица 1 - Результаты опроса подростков

Количество часов	Середина интервала	Частота
0-5	2,75	20
6-7	6,5	16
8-10	9	18
11-15	13	25
16-25	20,5	15
26-50	38	10

В построенной гистограмме по соответствующим табличным данным группа для 8-10 часов представлена прямоугольником шириной 1,5 см и высотой 3см. Вычислите ширину и высоту прямоугольника представляющего группу для 16-25 часов. Вычислите среднее значение и стандартное отклонение количества часов, потраченных на шопинг.

Задача 2. На диаграмме «Стебель и листья» уровень холестерина для 45 челоек, выполняющих какие-либо упражения ежедневно, и для 63 человек, не выполняющих упражнения. Числа в скобках показывают количество человек, соответстующее каждому множеству листьев.

Диаграмма 4 - Уровни холестерина людей, выполняющих упражнения, и людей, не выполняющих упражнения

Люди, выполняющие упражнения			Люди, выполняющие упражнения	
(9)	9 8 7 6 4 3 2 2 1	3	1 5 7 7	(4)
(12)	9 8 8 8 7 6 6 5 3 3 2 2	4	2 3 4 4 5 8	(6)
(9)	8 7 7 7 6 5 3 3 1	5	1 2 2 2 3 4 4 5 6 7 8 8 9	(13)
(7)	6 6 6 6 4 3 2	6	1 2 3 3 3 4 5 5 5 7 7 8 9 9	(14)
(3)	8 4 1	7	2 4 5 5 6 6 7 8 8	(9)
(4)	9 5 5 2	8	1 3 3 4 6 7 9 9 9	(9)
(1)	4	9	1 4 5 5 8	(5)
(0)		10	3 3 6	(3)

Ключ: 2|8|1 значит уровень холестерина 8,2 для человека, выполняющего упражнения, и 8,1 для человека, не выполняющего упражнения.

Отметьте особенности данной диаграммы, опираясь на данные. Найдите медиану и квартили уровня холестерина для людей, не выполняющих упражнения.

Данные задания являются хорошим средством для развития функциональной грамотности учащихся через работу с графическим представлением данных.

Читательская грамотность

В своей деятельность преподаватель применяет много разнообразных приемов и методов подготовки к занятиям. Наиболее широкое применение в современной практике имеет технология развития критического мышления, которая включает в себя различные способы смыслового чтения текстов.

Чтение сложных текстов, по которым не всегда можно определить, что именно необходимо отыскать в задаче - один из важнейших навыков функциональной грамотности в предмете математика. К сожалению, развитию этого навыка уделяется недостаточно времени и внимания, особенно в старшей школе. Статистика и практика проведения экзаменов для учащихся демонстрируют то, что даже в достаточно простых заданиях ученики допускают различные ошибки, неверно читая и понимая условия задач и отыскивая ответ не на тот вопрос, который формулировался в задании. [4 с.19]

Читательская грамотность – способность учащегося осмыслять и применять различные письменные тексты, а также возможность читать для того, чтобы достигать свои определенные цели, углублять знания и понимание, участвовать в жизни, окружающего нас общества.

Современное общество предъявляет к выпускнику требование уметь легко ориентироваться в большом потоке информации, общаться конструктивно, взаимодействовать, эффективно решать различные познавательные задачи, возникающие в окружающем нас мире. Развитие данных умений возможно только при условии овладения всеми учениками читательской грамотностью.

Работу с текстом на занятиях математики можно реализовывать в двух главных направлениях:

1. Работа с объяснительным текстом учебника.
2. Работа с текстом при решении текстовых задач.

1. Работа с объяснительным текстом учебника

Работа с объяснительным текстом учебника преследует цель донести новые знания до учащегося, позволяет ему более глубокого понять материал и сформировать прочные навыки осознанного чтения текста. Как правило, большое внимание на эту работу необходимо обращать в младшем школьном возрасте. Ведь то, насколько сформируются в данном возрасте навыки сознательно чтения, зависит дальнейшее умение учащегося воспринимать информацию в старших классах для решения более сложных задач.

Какие же приемы смогут помочь нам сопроводить процесс смыслового чтения текста учащимся процессом мышления? Существуют различные техники для формирования навыка осознанного чтения.

Например, «Верные или неверные утверждения» – этап, на котором учащимся можно предложить различные утверждения, истинность которых необходимо будет оценить. Или «Всегда-Иногда-Никогда» - этап, на котором предложенные утверждения необходимо распределить по столбцам таблицы с заголовками «всегда», «иногда», «никогда», рассуждая о том, всегда ли это утверждение верно.

Этап «Запись текста на математическом языке» достаточно распространен в математике, но и его можно проводить нестандартно, например, предложив перевести на математический язык различные утверждения, например, «за двумя зайцами погонишься, ни одного не поймаешь». Учащиеся должны заметить, что на математическом языке это можно выглядеть так: $x \in P \cap U$, где P – люди, берущиеся за несколько дел сразу, а U – не добивающиеся результатов.

На этапе «Задания на дополнение информации» можно предлагать учащимся тексты с пропусками, которые в дальнейшем необходимо заполнить. На этапе «Собери правило» можно предложить текст какого-либо правила, разрезанного по частям, ученикам необходимо установить нужную последовательность частей текста.

«Найди ошибку». Данный этап сам по себе вызывает всегда интерес у учеников. Но можно еще больше повысить заинтересованность учащихся в предмете путем рассмотрения на данном этапе математических софизмом, которые представляют собой ошибочное математическое утверждение, полученное с помощью рассуждений, которые кажутся правильными, но в действительности содержат ту или иную ошибку. [5, с.6]

Например, софизм «Один рубль не равен ста копейкам»:

Известно, что любые два неравенства можно перемножать почленно, не нарушая при этом равенства, т.е. если $a = b$, $c = d$, то $ac = bd$.

Применим это положение к двум очевидным равенствам:

1 рубль = 100 копеек,

10 рублей =10*100 копеек.

Перемножая эти равенства почленно, получим 10 рублей = 100 000 копеек. Наконец, разделив последнее равенство на 10, получим, что 1 рубль = 10 000 копеек, таким образом, один рубль не равен ста копейкам.

Ошибка, допущенная в этом софизме, состоит в нарушении правил действия с именованными величинами: *необходимо переходить к единым единицам измерения.* [6, с.9-10]

Один из самых распространенных примеров, применимых на этапе «Составление краткой записи задачи», - это запись условий задач на движение, работу, смеси и сплавы и другие. Например, решая задачи на движение, ученики могут выполнить краткую запись словами, также могут использовать для записи условия схемы или таблицы. Но в каждом из трех случаев они должны продемонстрировать умения анализировать текст задачи, определять известные и искомые величины, устанавливать между ними закономерность и взаимосвязь.

2. Работа с текстом при решении текстовых задач

Работа с текстом при решении текстовых задач требует сформированности ряда навыков, которые необходимы и при работе с объяснительным текстом учебника. Но в тоже время в отличие от работы с тем же объяснительным текстом учебника требует таких навыков, как умение по условию выполнять поиск способа решения задачи, составлять план решения, осуществлять план решения, анализировать решение и т.д. [6 с.23]

При этом стоит отметить, что для того, чтобы чтение в ходе решения задачи было максимально осмысленным, необходимо, чтобы оно было достаточно *медленным* и чтобы оно сопровождалось высокой концентрацией внимания.

Рассмотрим задания, позволяющие развить читательскую грамотность.

Ниже приведены примеры задач из раздела «Статистика», при решении которых учащемуся необходимо будет сформулировать нулевую и альтернативную гипотезы, отделить необходимые данные для решения от ненужных, продемонстрировать решение задачи, в результате которого принимается или отклоняется та или иная гипотеза, ответить на вопрос задачи в соответствии с поставленным вопросом.

Задача 1. Джеффри в возрасте восьми лет установил среднее время заплыва на 25 ярдов вольным стилем в 16,43 секунды со стандартным отклонением 0,8 секунды. Его отец, Фрэнк, думал, что Джеффри сможет быстрее проплыть 25 ярдов вольным стилем в очках. Фрэнк купил Джеффри новую пару дорогих очков и замерил время Джеффри для 40 заплывов вольным стилем на 25 ярдов. Среднее время Джеффри из 40 заплывов составило 16 секунд. Фрэнк думал, что очки помогли Джеффри плыть быстрее, чем 16,43 секунды. Проведите проверку гипотезы, используя предустановку $\alpha = 0{,}05$.

Задача 2. Джейн только что приступила к своей новой работе в качестве продавца в очень конкурентоспособной компании. В выборке из 36 торговых звонков было обнаружено, что она закрыла контракт на среднюю стоимость 108 долларов со стандартным отклонением 12 долларов. Политика компании требует, чтобы новые сотрудники отдела продаж в течение испытательного периода работы получали в среднем не менее 100 фунтов стерлингов за контракт. Можем ли мы заключить, что Джейн выполнила это требование на уровне значимости 95%?

Задача 3. Производитель заправок для салатов использует машины для дозирования жидких ингредиентов в бутылки, которые движутся вдоль линии розлива. Машина, выдающая заправки для салатов, работает нормально, когда выдается 8 унций. Предположим, что среднее количество, выдаваемое в конкретном образце из 35 бутылок, составляет 7,91 унции с дисперсией 0,03 унции в квадрате. Есть ли доказательства того, что машину следует остановить? Потери производства из-за остановки потенциально настолько велики, что руководство считает, что уровень значимости в анализе должен составлять 99%. [7 с.52]

При обучении решению таких задач учащимися лучше отдать предпочтение поэтапному обучению. Например, сначала, используя условия задач, сформировать навык формулировки нулевой и альтернативной гипотез.

Также можно привести пример задач практического содержания из раздела «Кривые второго порядка», которые также будут содействовать развитию читательской, а, значит, и функциональной грамотности учащихся:

Задача 1. Два радиолокационных узла отслеживают самолет, который летит по гиперболической траектории. Первый радарный участок расположен в точке (0,0) и показывает, что самолет находится на расстоянии 200 метров в определенное время. Второй радарный участок, расположенный в 160 милях к востоку от первого, показывает, что в это же время самолет находится на расстоянии 100 метров. Найти координаты всех возможных точек, где самолет может быть расположен. (Найти уравнение гиперболы, где могла бы располагаться плоскость). [8 с.4]

Задача 2. Каток имеет форму эллипса, длина 150 футов, ширина 75 футов. Какова ширина катка 15 футов от вершины?

Для повышения интереса к предмету и увеличения мотивации учащихся, также необходимо вовлекать не только в решение таких задач, но и в составление их условий (как по готовому решению, так и без каких-либо ограничений). Как показывает практика, такая постановка задания позволяет не только развить функциональную грамотность учащихся, но и способствует развитию креативности учеников, позволяет выявить нестандартно мыслящих школьников.

Геометрия

Текстовые задачи в геометрии – это один из сложных видов задач, так как в большинстве случаев помимо осмысления и краткой записи условия такой задачи, требуется умение строить чертеж, от которого, как правило, и зависит успешность решения задачи.

Геометрия окружает нас повсюду - в быту, в архитектуре и искусстве, картах. Поэтому очень важно развивать пространственное воображение, геометрическую интуицию, умения применять методы решения геометрических задач на практике.

Несмотря на то, что многие ученики испытывают трудности при решении геометрических задач, необходимо ознакомить их с большим числом нетрудных наглядных геометрических сюжетов, тем самым содействуя формированию навыка использовать геометрические методы на практике и в жизни.

При изучении геометрии в старших классах можно привести достаточно много примеров задач практического содержания на отыскание площадей поверхностей, объемов многогранников и тел вращения, на расчет разверток пространственных тел. Рассмотрим примеры:

Задание 1. Учащимся необходимо рассчитать выкройки национальных головных уборов (канотье, Нон Ла, феска) таких стран, как Франция, Вьетнам, страны Северной Африки. При этом каждая выкройка представляет собой развертку или часть развертки некоторого тела вращения, например, цилиндра, конуса, усеченного конуса. [9 с.7]

Задание 2. Учащимся необходимо найти площади поверхности чайников одинакового объема,

но различной при этом формы (например, в форме цилиндра, шара, полушара, усеченного конуса). Исходя из полученных данных, определить, какой чайник держит тепло дольше, а какой остывает быстрее. Тем самым определить, какой чайник лучше приобретать для дома. [10 с.13]

Как показала практика, уделение большого внимания решению таких задач дало следующие результаты:

- учащиеся более успешно строят и интерпретируют графики, таблицы и диаграммы, анализируют представленную в них информацию, представляют данные в виде графиков и диаграмм;

выполняют поиск способов решения задач, составляют план решения; записывают краткие условия геометрических задач, строят чертежи и т.д.;

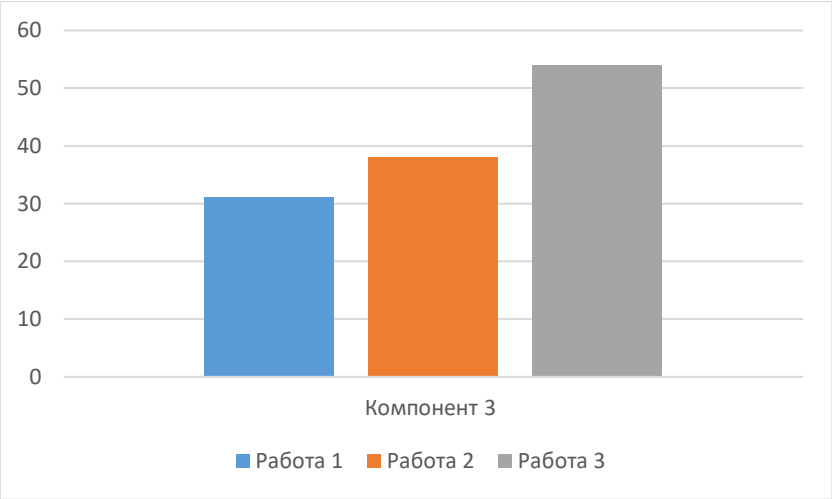
- процесс обучения стал более приближенным к жизни;

- улучшены показатели учащихся по таким работам, как пробные Pisa, СО.

Доказательствами достижения данных результатов являются следующие данные:

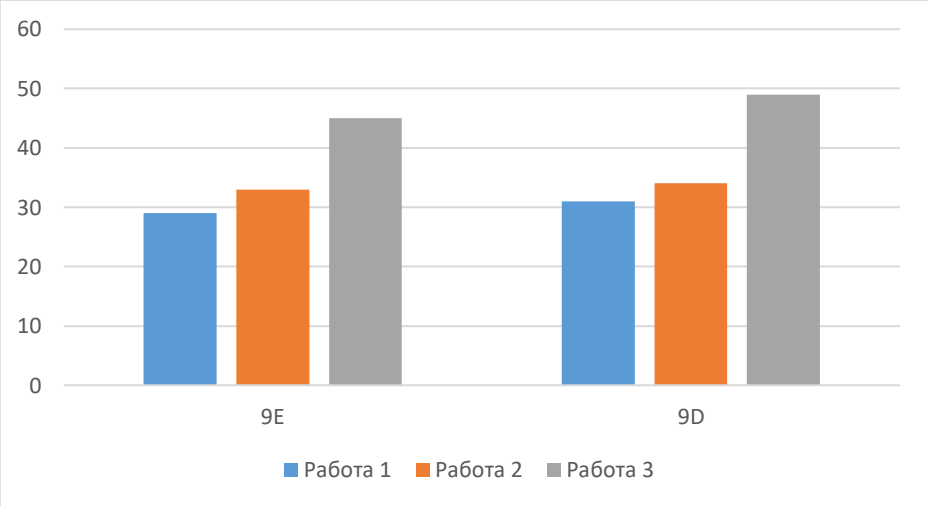
1) Количество баллов, полученных при выполнении 3 компонента пробных работ Внешнего суммативного оценивания учащимися 12 класса, которые в большей степени подразумевали решения задач практической направленности.

Диаграмма 5 - Результаты учащихся 12 класса по 3 компоненту пробных работ СО



2) Количество баллов, полученных при выполнении пробных работ по исследованию Pisa учащимися 9 классов, которые также подразумевали решения задач, условия которых максимально приближены к реальной жизни.

Диаграмма 6 - Результаты учащихся 9 класса по пробным работам Pisa



Исходя из полученных результатов, можно сделать вывод, что гипотеза исследования подтвердилась, т.е. использование заданий на развитие функциональной учащихся приближает процесс обучения школьников к жизни, способствует формированию умения у учеников легче воспринимать окружающую их действительность, свободно решать задачи, имеющие связь с жизнью.

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Issue Article

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SACRED IMAGES OF THE UPPER WORLD IN THE RELIGIOUS AND MYTHOLOGICAL VIEWS OF OSSETIANS

Abstract: *This article gives a brief description of the sacred characters of the upper world in the religious and mythological views of Ossetians. The three-part structure of the universe in the picture of the world of Ossetians is considered. The degree of popularity of the characters of the celestial sphere is determined.*

Key words: *sacred characters, religious and mythological views, world model, world picture, three-part structure of the universe.*

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САКРАЛЬНЫЕ ПЕРСОНАЖИ ВЕРХНЕГО МИРА В РЕЛИГИОЗНО-МИФОЛОГИЧЕСКИХ ВОЗЗРЕНИЯХ ОСЕТИН

Аннотация: *В данной статье дается краткая характеристика сакральным персонажам верхнего мира в религиозно-мифологических воззрениях осетин. Рассматриваются трехчастная структура мироздания в картине мира осетин. Определяется степень популярности персонажей небесной сферы.*

Ключевые слова: *сакральные персонажи, религиозно-мифологические воззрения, модель мира, картина мира, трехчастная структура мироздания.*

Введение

Религиозно-мифологические воззрения осетин представляют собой мозаичную картину мира, состоящую из синтеза различных религиозных систем. Исторический путь, пройденный осетинским народом, оставил заметный след в их воззрениях. Религиозно-мифологическая картина мира осетин складывалась в праиндоевропейскую и скифо-сакскую эпоху. Проводя осетино-авестийские параллели, В.И.Абаев пришел к выводу, что осетины сохранили древнеевропейские и древнеиранские религиозные понятия, однако, при этом, остались вне зороастрийского влияния [1, 104], что, безусловно, свидетельствует о дозороастрийском следе их воззрений. В аланскую эпоху, с укреплением алано-византийских связей, к предкам современных осетин стало проникать христианство, оставившее заметный след на теонимии сакральных персонажей небесной сферы. В конце XVIII – начале XIX века к осетинам стал проникать и ислам, оставивший также заметный след в восприятии сакральных персонажей [13, с. 133–150]. Определенное влияние на пантеон сакральных персонажей оказали и местные религиозно-мифологические воззрения народов Кавказа. Трансформационные процессы в восприятии сакральных образов небесной сферы продолжаются и в настоящее время под влиянием усиливающейся роли институтов официальных религий – христианства и ислама, – в связи с чем данное исследование приобретает особую актуальность.

Сакральные персонажи небесной сферы, как правило, рассматривались с позиций язычества, воспринимая их как пантеон языческих божеств. Даже то, что термин «божество» отсутствует в осетинском языке, а, значит, нет в их воззрениях и такого понятия, не препятствовало активному использованию его в научных работах. Кроме того, сакральные персонажи впервые становятся объектом исследований в контексте трехчастной структуры модели мира в традиционных религиозно-мифологических воззрениях осетин.

Основная часть

В религиозно-мифологической картине мира осетин особую роль играет структура мироздания, Модель мира. «Картина мира отражает особенности мировидения и познания» [11, с. 85]. Особенность мировидения осетин заключается в моделировании мироздания. В каждой религиозно-мифологической системе происхождение мира связывается с творения мира. С творения мира начинается и мировидение осетин. Безусловно, творение мира осуществляет Бог. Вначале Бог твори верхний и нижний миры [10, с. 26-27]. Затем он начинает творить средний мир [8, с. 11].

Верхний мир, согласно религиозно-мифологическим воззрениям осетин, символизирую сакральные персонажи небесной сферы – Хуцау (Бог), зэды и дауаги, а также антропоморфные образы – Солнце, орел, конь, олень. Средний мир символизируют люди и животные. Нижний мир символизируют существа, противопоставляемые человеку – далимоны (обитающие под землей), уалимоны (обитающие на земле), уайуги и черти.

Структура трехчастной модели мира настолько проникло в мировосприятие осетин, что все свои их ритуалы, обряды и молитвы были направлены для осуществления только одной единственной цели – сохранить статус-кво трех миров.

Так, например, вся свадебная церемония у осетин состоит из множества символов творения трех миров: во время церемонии шафер подводил невесту к надочажной цепи и обходил с ней вокруг очага, левой рукой прикладывая ее руку к цепи, покрытой копотью, а правой рукой ударяя кинжалом между звеньями цепи после каждого произнесенного молитвословия. Надочажная цепь выступала символом верхнего мира и одновременно – Осью мира. Копоть – символизировал нижний мир, а сам шафер – средний мир. Когда невесту приводили в дом жениха, то ставили ее возле центрального столба в традиционном осетинском жилище. Дом воспроизводил символ обустроенного дома, а столб – Ось мира. Когда же с невесты снимали фату, символизировавшую непорочность, [6, с. 318-336], то по представлениям осетин, воспроизводилось творение мира.

В то же время все действия, связанные с сохранением трех миров, осетины связывали с сакральными персонажами, относимыми к верхнему миру. Это, в первую очередь, *Хуцау*.

Хуцау, близкий христианскому и исламскому Богу, по представлениям осетин был рожден из хаоса. В незапамятные времена мир прибывал в темноте и хаосе. В какой-то момент в темноте зародилась искорка, которая, увеличившись, взорвалась, и родился свет. Этот свет и был *Хуцау.* Он является началом и концом мира [7, с. 389]. Примечателен тот факт, что в манихейских текстах *Хуцау,* как эпитет, применяется в дуалистическом манихейском пантеоне к Богу-Свету [4, с. 115].

В традиционно-мифологических воззрениях осетин идея Бога расходится с ортодоксальными религиозными представлениями о нем. Если в христианстве, исламе, и даже в зороастризме имеет место осознание противоположности света и тьмы, добра и зла, в результате чего Бог/Аллах/Ахура-Мазда воспринимается как «свет», «добро», а в роли тьмы и зла выступает Дьявол/Сатана/Анхра-Майнью, то в осетинской религиозно-мифологической системе у *Хуцау* явная оппозиция не сформировалась, сохранив единство света и тьмы, добра и зла [12, с. 5]. В.С.Уарзиати, отметивший наделение сакральных персонажей конкретными функциональными характеристиками, пишет о Хуцау, что тот, напротив, «лишен каких-либо индивидуальных черт и малоактивен» [14, с. 122].

Хотя *Хуцау* невидимое существо, в то же время у него бесчисленное множество проявлений. Одним из его проявлений – *Хуцауи Дзуар* (*букв.* ‘Божественный дух’), обладающий множеством функций, главным из которых – покровительство браков и чадородия. К святилище, посвященному *Хуцауи Дзуару*, приводили молодоженов и просили у него благодати. К святилище *Хуцауи Дзуар* было запрещено ходить с оружием. Всадник, проезжая мимо святилища, должен был спешиться. Во многих местах Осетии в святилище в его честь летом справляли ежегодный праздник, прося у него хорошего урожая и приплода скота.

Помимо *Хуцауи Дзуара* проявлениями *Хуцау* считаются также *зэды* и *дауаги.* Термин *зэд* (*зæд,* мн.ч. *зæдтæ*) В.И.Абаев считает восходящим к древнеиранскому *yazta-* ‘божество’, от *yaz-* ‘приносить жертву’ (*yazata-* ‘кому приносят жертвы’) [3, с. 291]. Термин *дауаг* (*дауæг, идауæг*) В.И. Абаев возводит к древнеиранскому *vi-tava-ka*, от *tava-* ‘сила’ – букв. «небесные силы» [2, с. 348].

По представлениям осетин *зэды* и *дауаги*, находящиеся ближе всех к *Хуцау*, выполняют

функции покровителей. Для всего есть свой *зэд*. У каждого человека в небесах существует свой покровитель, называемый *Саризад* [*Сæризæд*] (букв. '*зæд головы*'), близкий по своим функциям к христианскому Ангелу-хранителю. Своего *зэда* могут иметь и села – *Гауизад* /*Гъæуизæд/*, и долины – *Будуризад* /*Будуризæд*/ [9, с. 20].

Зэдов и *дауагов* бесчисленное множество, однако, некоторые из них имеют имена. Самым популярным среди *зэдов* является Уастырджи/Уасгерги.

В религиозно-мифологических представлениях Уастырджи выполняет функции покровителя воинов, мужчин и путников. В то же время осетины обращались за помощью к Уастырджи во всех сферах деятельности, считая его посредником между Богом и людьми. Потому ни одно осетинское застолье не обходилось без обращения к Уастырджи в соответствии с его функциями просьбой. О функциональных особенностях Уастырджи В.С.Газданова пишет: «Анализ функций Уастырджи свидетельствует о том, что он объединяет в себе жреческую, военную и хозяйственную функции одновременно» [5, с. 259]. О популярности Уастырджи говорит тот факт, что ему посвящено самое большое количество святилищ по всей Осетии. В горной части Осетии не было ни одного поселения, где не было посвященного ему святилища. О степени его популярности говорит тот факт, что имя Уастырджи в молитвах часто произносится с именем *Хуцау* – «Будь благословен *Хуцау* и Уастырджи!».

Имя Уастырджи табуировано для женщин, обращающиеся к нему «Лагти зэд» /«Лæгти изæд»/ (букв. «Зэд мужчин»). Запрет на произношение его имени женщинами существовал из-за его роли в сфере инициаций.

Большинство исследователей имя Уастырджи/Уасгерги считают производным от имени христианского святого Георгия. По этой причине и образ Уастырджи стали отождествляться с св.Георгием.

Уастырджи всегда изображается на трехногом коне и с плеткой в руке. В отличие от других *зэдов*, Уастырджи имеет право без позволения *Хуцау* посещать мир людей. Наделенный способностью перевоплощаться, он часто предстает то в образе погонщика волов, то в образе путника или в образе шафера. Но, непременно, на коне. При этом, трехногость его коня выдает хромота на левую переднюю ногу.

В число популярных сакральных персонажей верхнего мира, помимо Уастырджи, входит Уацилла/Уацелла/Елиа.

Функционально Уацилла покровительствует плодородию, урожаю, хлебным злакам, практически всего земледельческого труда. Он управляет и стихийными силами природы, отождествляется с богом-громовержцем. Молнии осетины считают кнутом или стрелой Уацилла. Когда от молнии погибает человек, его не хоронят в общем кладбище. Про убитого молнией говорили, что Уацилла ударил его своей стрелой (кнутом). Вначале, на том месте, где погиб, вокруг него устраивают ритуальный танец *цоппай*, затем хоронят на том же месте. Часто на месте удара молнии устраивают святилище, посвященное Уацилла.

Часто ипостасью Уацилла выступают Хоралдар /*Хорæлдар/* (букв. 'Злаковый князь'), Бурхорали (букв. 'Князь проса'). В фольклоре осетин Хоралдар и Бурхорали выступают в роли сыновей Уацилла. В обрядовых же песнях они стоят рядом с Уастырджи, Уацилла и другими *зэдами*.

Имя Уацилла отождествляется с христианским святым Ильей. Во многом образ Уацилла приобрел и черты св. Ильи.

В обрядовых песнях во время начала полевых работ высказывали пожелание, чтобы плугарем у них был Бурхорали, сеятелем – Хоралдар, а Уастырджи определял межи между полями.

Близок образу Уацилла и *зэд* Авриагд /Æвриагъд/ (букв. от *арвæй уагъд* 'с неба спущенный'), управляющий облаками и ливнями, покровительствует плодородию.

В фольклоре осетин путь герою часто заслоняют тучи, и на помощь ему приходит Авриагд, расчищающий ему путь.

Среди сакральных персонажей верхнего мира встречается *зэд*, управляющий эпидемиями, различными болезнями: оспой, корью, глазными болезнями – Аларды. Образ Аларды осетины представляли как красное, иногда белое крылатое чудовище. Его опасались, особенно дети и женщины, поэтому в молитвах, обращенных к нему, просили повернуться к ним спиной.

По мнению В.И.Абаева, праздник, посвященный Аларды, совпадает с днем Иоанна Крестителя, на которого и были перенесены черты древнего сакрального персонажа [2, с. 43].

Близок к образу Аларды и другой *зэд* – Рыныбардуаг (букв. от *рын* 'эпидемия, мор' + *бардуаг* 'повелитель'). По сравнению с Аларды Рыныбардуаг наделен более широкими полномочиями, управляя помимо эпидемическими поветриями и другими болезнями. Рыныбардуаг представляется страшным чудовищем, не имеющим конкретного облика.

Всем перечисленным *зэдам* посвящено множество святилищ по всей Осетии и ежегодно до настоящего времени справляются праздники в их честь. Однако в пантеоне сакральных персонажей есть еще немало *зэдов*, которым посвящены единичные святилища. Это Фалвара, покровитель мелкого рогатого скота. Хотя в честь

него ежегодно справляли праздник, святилище ему было посвящено только в одном месте, в Алагирском ущелье. Единичные святилища существовали и в честь Афсати /Æфсати/, покровителя диких зверей и охотников, и Никкола, покровителя равнинных осетин.

В религиозно-мифологической системе осетин, помимо названных *зэдов*, существует еще немало персонажей, в честь которых не строили святилища, не справляли праздники, однако играли существенную роль в их верованиях. К ним относятся *Уатиˌ хецау* – покровитель супружеского союза и женского плодородия, Уодесаг/Удхассаг – ангел-смерти, Анигол – покровитель пчел и пчеловодов, Барастар – повелитель загробного мира, Сафа – покровитель дома, домашнего очага, Галагон – повелитель ветров, Гарнагон – покровитель легких ветров, бризов, Тотур – покровитель волков и быков, Мигдау /Мигъдау/ - повелитель атмосферными явлениями (тучами, дождями, туманами), Растибараккен – содействующий всему доброму и справедливому.

Безусловно, сакральные персонажи верхнего мира в религиозно-мифологических воззрениях осетин не ограничиваются перечисленными персонажами, однако они характеризуют структуру пантеона верхнего мира. Наиболее популярные *зэды* – Уастырджи, Уацилла, Аларды – имеют повсеместно посвященные им святилища. При этом, праздники в их честь проводятся по настоящее время. Даже *зэдам*, которым посвящены единичные святилища, до сих пор справляют праздники. Так, в честь Никкола ежегодно справляется праздник в с. Лезгор Дигорского ущелья Осетии. Хотя имя Никкола восходит к христианскому святому Николаю, праздник в его честь проводится осетинами-мусульманами. Также ежегодно справляется праздник в честь Афсати на перевале между Дигорией и Балкарией охотниками. А в честь большинства *зэдов* на сегодняшний день не существует ни одного святилища, даже если ранее бытовали. Кроме того, в их честь не справляются праздники. Лишь иногда их вспоминают в молитвах и пожеланиях.

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Issue **Article**

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PSYCHEDELIA

Abstract: *It became an amazingly successful group. "The Dark Side of the moon", "Wish you were here", "Animals" and "The wall" are recognized as amazing music and he established the name of the group as a commercially successful group. Their amazing legendary shows shocked America at that time. It was as if the listener had woken up. It was a shock therapy that brought out the American youth from slumber, made them colorful, and showed them the perception of freedom from a completely different side. It was them, and no one else, who created the whole army of "Hip" who were looking for freedom within themselves. Roger Waters, who was the author of the texts that the group sang, was depressed by such success and refused to give concerts. Richard Wright brought success to the musicians who were left alone. (R. Wright - "Memories about friends" - 2004, p. 200)*

After 20 years, the separated Magors reunited on the London stage. Live 8 held in London turned out to be the last concert of the united Pink Floyd. And then the solo career of each of them began.

Key words: *music, shows, American youth.*

Language: *English*

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Introduction

To express my philosophical or non-philosophical thoughts about Samzeo, I would like toexplaito my readers what psychedelia means. This term was first introduced in the 60s of the 20th century and introduced by Syd Barrett, the founder of the rock band Pink Floyd. It is Pink Floyd who is the author of that progressive music, meaningful lyrics, moreover, thanks to the psychedelic lighting effects used at concerts and quadraphonic sound, she soon became famous and fascinated the whole society with such music. One of the founders of the group is Roger Keith Barrett, nicknamed Sid. That's why he is known as Syd Barrett to musicians and listeners of the 60s. At first Sid wanted to study architecture, so the whole family moved to Cambridge. 19-year-old Sid is already in London, where he is interested in music. The first thing he did with his college scholarship was to buy an acoustic guitar. This is his first purchase.

Here he met college students Nick Mason and Richard Wright.

They took their first steps in the blues right here in Cambridge and joined a band founded by Clive Metcalfe and Keith Noble, originally called "Sigma 6". And then they were called "Abdabs" or "Screaming Abdabs".Soon this group became a successful and fairly well-known group. Of course, success is not too late. The first rock band that was formed under the leadership of Syd Barrett was Leonard Lodgers.

(Leonard Residence) was named after him. The band consisted of: Syd Barrett - rhythm guitar, Roger Waters - bass guitar,

Nick Mason - drums

Bob Klaus - guitar and Mike Leonard - keyboards.

This group has been extremely successful. After playing a few gigs, the band reached its peak. But it was at this time that Richard Wright left the college and the band. He wanted to study music in depth and that is why he continued his education at King's College.

When I think about the success of these little boys, I understand that it was the love of music and rhythm that brought them to such heights. First, music, which is the first and most important, and then selfless work, professionalism, gradually formed in them, gave them the opportunity to be unique and

irreplaceable, first and inimitable. It was an explosion in the jazz world of the 60s of the 20th century. The name of the ensemble came quite naturally: Pink Floyd (Pink floda Sound) - thought Sid Barrett. He combined the names of his favorite musicians, Pink Anderson and Floyd Council, under the nickname (paint boy). Despite such a tight group, there were still big changes in them, which led to Sid Barrett's departure from the group.

In 1996, in November, the band performed on stage at Hornis College of Art

A concert of "psychedelic" music was offered to the listeners. "Light and Sound" was the main theme of this offer. The idea of Mike Leonard, who worked on the development of this entire system. This system involved sound-based control of lighting effects and was first used in recorded music and later in live performance.

By the early 70's, Bob Close left and Sid Barrett became the band leader, who made the music more improvised and original. You can also feel the influence of classical music, the elements of which were brought to the group by Richard Wright. This ensemble often appeared in the "Marky Club" and still played blues, but slowly began to use improvisations and abstract sounds. These voices were offered to them by Jenner. Andrew King, well known in show business, started working in the group with them.

Pink Floyd's performances were very noisy. Soon the studios started recording them. It was at this time that Pink Floyd recorded the soundtrack

For a documentary film made by "British film institute".

"Tonite let's all make love in London" (Let's make love tonight in London) In the same period, the American Johnny and Tony Brown were the first to use the light game created by projecting images on a stretched canvas for their show. This caused a sensation. Again, this period was the most fruitful for the period of the 60s.

Pink Floyd's demos were heard in several leading recording studios. On February 1, 1966, the group signed a contract with FM. This contract gave them great freedom.

In 1967, Syd Barrett wrote the song "Arnold Layne". This song is about a transvestite who stole a woman's underwear from a laundromat. Because of this text, radio channels refused to play this song for the first time, but it was still played live by the BBC. In 1967, on May 12, the first show of the group "Games for May" was held at the Queen Elizabeth Hall. Quadrophonic sound system was used for the first time in this show. Additional sound amplifiers were installed in the back of the stage, which created an all-changing sound effect. It was a miracle at the time, but promising for today. In addition, a modern screen was installed on the stage, on which images and colors alternated. The effects created by all this were enhanced by a special device that threw balloons and live flowers on the spectators' heads at the right moment. The group's promoter, classical music specialist Christopher Hunt, really took a risk when he included such elements in the show. At this show, the group performed several new compositions, including "Games for May", which was the inspiration for their next hit - "See Emily play". See Emily's Game) became the basis. Games for May received mostly positive reviews. In the press, "International Times" called the show the true chamber music of the 20th century, and the "Finenishel Times" - the loudest and most beautiful spectacle ever to be held on the South Bank. (Nick Mason biographical book Inside Out – a personal History of Pink Floyd) 2004 publishing house. p. 102

Unfortunately, the balloons and flowers dropped during the show damaged the chairs and carpets of the hall. Because of this, Pink Floyd was fined.

These two songs led to the recording of "See Emily play", and after "Games for May" the group began to have great success. They took much higher places in the charts than in the previous one. As it appeared in the BBC program "Top of the pops" and See Emily Play, which took the best place.

Emi was convinced that Pink Floyd was a good band that stood out from everyone else, that they made completely different music. Hence the name of their first album "The Wind in the Willows", which was named after Kenneth Grahame's fairy tale. The recorded album combined songs and instrumentals. "The piper at the gates of dawn". This album is from the 60s

It became one of the best psychedelic albums. By the end of 1967, the use of psychedelic effects was being questioned. According to the British weekly newspaper "News of the World", "Pink Floyd" wanted to show hallucinogenic drugs with similar lighting, and in general, the music was also a result of drug use.

(Nick Mason-biographical book: Inside out- a personal History of Pink Floyd)

Published in 2004 p.135 The term "psychedelia", as this newspaper explained, meant the use of unusual lights and sounds in shows.

Emi issued the opposite statement because the article of the "News of the World" newspaper caused terrible aggravation in the society. Emi wrote that the use of unusual lights and sounds in psychedelia is completely unrelated to the promotion of LSD and other drugs. Nevertheless, this group never got hold of the intention of using avant-garde musical material in their shows. Syd Barrett started using drugs to get out of this severe stressful situation. This did not calm him down, on the contrary, during the concert, he used to fight and fight on stage, while working in the studio, he became profanity. "Pink Floyd's managers announced that Syd had a nervous breakdown and postponed all concerts for a month.

In 1967, Pink Floyd toured the United States for the first time. Syd Barrett left the group altogether. He

often stood on stage in a frenzy, he did not play, he just strummed the strings of the guitar. He answered the interviews in a chaotic manner. Their concerts failed. By the end of 1967, the group changed course and this period became the slogan of the hits "Flower Power".

Syd Barrett could no longer write anything. Under the influence of drugs, he brought terrible chaos to the group. He asked for a saxophonist or a female vocalist to be added. The band recruited an additional guitarist, David Gilmour, but it soon became apparent that Syd Barrett was too much for the band. By 1968, the group had released a new album, in which Syd Barrett did not participate. There was neither psychedelia nor saxophone in this album, but the listeners still received it positively. In 1968-69, the group "Pink Floyd" conquers Europe and America. At this time he writes his best soundtrack "More" David Gilmour became one of the leaders of the group. In 1969, they provided music for the BBC broadcast of the Apollo 11 moon landing, which was watched by millions. This gave the group an unprecedented number of listeners. In 1970, the Italian director Michelangelo Antonioni created the film "Zabriskie Point", which tells the story of rebellious students. Three Pink Floyd compositions were included in this film. Soundtracks received a positive evaluation. This was followed by European tours. Very soon David Gilmour "David Jon Gilmour".

decided to collaborate with professional musicians. this. It was John Aldis. An experienced conductor was crucial both on stage and during recording.

In 1970 Hyde Park Hyde Park - Pink Floyd held amazing concerts. He performed "Atom heart mother" with orchestra and choir. They also performed old famous songs: Careful with that axe, Eugene and Set the controls for the heart of the sun" in Pise & music Echo review. With this live, they wrote: "Pink Floyd gave listeners a beautiful hour. Their sophisticated music soothes and prepares anyone to listen" (R. Wright, Memories of the Past, 2002 Publishing House, p. 57)

Soon they set their sights on releasing new albums. This album is "Relics a collection of bizarre antiques and curios" This album sold very well. In 1973 the USA. A large-scale tour. Richard Wright writes in his memoirs, "Sometimes I look at our helpless truck, tons of equipment, and think, oh my God, the only thing I have to do is play the organ." (R. Wright's memories of the past. 2002. Publishing house, p. 100)

In 1976, the group did not tour. They bought their own house in Islington, and Roger Waters was already here as the leader.

Richard Wright speaks again. "I did not resist Roger's actions. I thought I played well, but I didn't get paid much to write music. Roger wouldn't let me do that either. (R. Wright "Psychedelia. 1998, p. 97)

The group slowly began to disintegrate. Only David Gilmour, Nick Mason and Richard Wright remained. It turns out that they can survive without water. In my thoughts, I tried to include all the joys and sorrows that this amazing group went through.

In my opinion, Pink Floyd was one of the first to create that amazing music that today's listeners take for granted. And I think that whoever shines, Sid Barrett, Nick Mason, Richard Wright, Roger Withers, David Gilmour - are real shining stars Super Star - Psychodelia

What I told you above about Pink Floyd was a small analysis of their amazing music and work. I want to give you my conclusion about this unique group.

From the end of the 1960s and the beginning of the 1970s, "Pink Floyd"

It became an amazingly successful group. "The Dark Side of the moon", "Wish you were here", "Animals" and "The wall" are recognized as amazing music and he established the name of the group as a commercially successful group. Their amazing legendary shows shocked America at that time. It was as if the listener had woken up. It was a shock therapy that brought out the American youth from slumber, made them colorful, and showed them the perception of freedom from a completely different side. It was them, and no one else, who created the whole army of "Hip" who were looking for freedom within themselves. Roger Waters, who was the author of the texts that the group sang, was depressed by such success and refused to give concerts. Richard Wright brought success to the musicians who were left alone. (R. Wright - "Memories about friends" - 2004, p. 200)

After 20 years, the separated Magors reunited on the London stage. Live 8 held in London turned out to be the last concert of the united Pink Floyd. And then the solo career of each of them began.

For me, as the author of this article, Syd Barrett is still important. For some reason, his life fills me with sadness. Imagine a young man obsessed with music, who will pass his madness on to others. His "psychedelia", which brought unprecedented success to the team, and suddenly he leaves, leaving his friends. Perhaps, this "psychedelia" was also an echo of his soul. Syd Barrett and Syd Barrett again. It was he, and no one else, who became the shining star of the period and died out with the rise that is called "psychedelia".

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Issue Article

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TECHNICAL VOCABULARY ACQUISITION VIA TEXTBOOKS IN RUSSIAN LANGUAGE

Abstract: *While teaching a language to learners, first of all, they should be introduced to any topic of that language whether it is Alphabet of how to spell instructions focusing on context or story that concern different kind of features depicting state and condition. Furthermore, written materials are considered to be essential due to consisting of words which learners should know in order to able to understand and interpret what they read and listen in Russian language classes. Besides, learners may be able to gain and increase their vocabulary range through reading and studying the contexts the are engaged with. This paper illustrates peculiarities of vocabulary acquisition in Russian language and its importance in classes of language stated by linguists.*

Key words: *vocabulary, technical vocabulary, contexts, Russian language.*

Language: *English*

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Introduction

In the process of teaching Russian language to learners, we use a wide range of contexts which are full of technical and semi-technical vocabulary those promote them improving background knowledge with new data on study they learn. In the past years, foreign language learning has provided learners with endless opportunities and knowledge. Consequently, learners obtain a language via contexts focusing on a variety of episodes of life. At present, knowing Russian language is great requirement for students in the area of petroleum engineering by companies and organizations. As a consequence, vocabulary is considered as a main component to know the language. Koizumi & In'nami,(2013), Stæhr, (2008), Nation, (2006), Alsaif & Milton,(2012), Chujo, (2004), Koosha & Akbari, (2010), Marmol, (2011), Sakata, Tagashira, & Mochizuki, (2014) claimed that terminology knowledge has been perceived as a key factor of learning FL and concerning on high-frequency words which have been occurred in each context the learners encounter while studying a terminology in Russian. However, adult learners often are sure that some terms used in contexts appears to be less learnable ones in speech.

What's more, adult learners may have increasing number of chances to study semi-technical and technical terms one by one. They can learn semi-structured terms in stories, those are able to be used in everyday speech, but technical terms are very hard to guess and unable to utter in our daily orally context, those only used in the factories where a lot of engineers work at. Besides of that, we conducted a survey with a group of students who were invited to be interviewed with during Russian language class to find out the needs of learners in comprehending and interpreting the contexts. The research issues accomplished at the faculty of oil and gas, Karshi Engineering-Economic institute which was chosen as a place to make an experiment.

Essential characteristics of textbooks in acquisition of technical vocabulary

Alsaif and Milton (2012) claimed that language learners often depend on textbooks for exposure to the target language, especially when they learn the language far from where it is spoken. Russian learners

were indicated an increasing number of words in a textbook, which they are not able to follow in media, on TV, films and other electronic resources. Additionally, some scholars (Alsaif & Milton, 2012; Chujo, 2004; Koosha & Akbari, 2010; Marmol, 2011; Sakata et al., 2014) reveled that lexical frequency in textbooks is not congruent with general frequency; namely, many generally infrequent words were overly used, whereas some generally frequent words are missing. Linguist Kh. Abdinazarov stated about the importance of authentic material which is considered as a text; authentic material gives language teachers, learners new data which may reflect students in learning the subject matter, consequently, improve student's professionally-oriented knowledge in language; furthermore, it may support them with a lot of experience, instruction, description of works what they will be accustomed to. in addition to that, authentic material not only provides updated data on profession but also it prepares students for job-oriented purposes and develops their linguistic and professional skills in language.

Acquisition of semi-technical vocabulary

The students of petroleum engineering may study these contexts with simple words in Russian language as a beginner of the language. We took an extract from the text "Мама и футбол''

Моя мама – артистка. Она не только работает в театре, но и выступает по радио и телевизору. Однажды её театр был в Иркутске. Каждый день мама участвовала в концерте или была занята в театре. Она очень устала, и папа сказал, что ей нужно отдохнуть. Он купил ей путёвку в дом отдыха на юг. Мама положила в чемодан свои вещи и поехала в дом отдыха. Она отдыхала на юге месяц. Папа и я жили в Москве одни. Папа покупал в магазине мясо, хлеб, овощи и готовил обед. Я помогал ему. Вечером я готовил уроки, потом мы смотрели телевизор или играли в шахматы.

Воскресенье мы проводили очень весело. Мы ходили на стадион и с удовольствием смотрели футбол. Папа любит футбол, и я тоже люблю, а мама не любит.

Когда мама была дома, мы смотрели футбол только по телевизору. Месяц кончился очень скоро. «Завтра приедет мама», – сказал мне папа. Мы приготовили вкусный обед, купили цветы. И вот мама приехала. Мама была очень рада, и мы тоже были очень рады. Но как же теперь футбол? Мама не любит футбол, а воскресенье мы всегда проводим вместе (О.А. Климкович, И.Я. Кураш. 2013).

The learners as beginners of language learning are able to gain simple vocabulary words from this text and use in their everyday life.

Table 1

№	Semi-technical words
1	– артистка
2	работает в театре
3	выступает по радио и телевизору
4	театр был в Иркутске
5	участвовала в концерте
6	отдохнуть
7	купил ей путёвку
8	положила в чемодан свои вещи
9	поехала в дом отдыха
10	отдыхала на юге
11	покупал в магазине мясо,
12	хлеб, овощи и готовил обед
13	телевизор или играли в шахматы
14	ходили на стадион и с удовольствием
15	мы смотрели футбол только по телевизору
16	вкусный обед
17	купили цветы
18	помогал ему
19	любит футбол, и я тоже люблю,
20	мы всегда проводим вместе

Technical vocabulary to obtain

Technical vocabulary should be focused on specialty learners are busy to study and comprehend. In Russian for specific purposes materials should be mostly paper-based which involve engineering students in acquiring technical words with broadened

meaning. However, even if audio and video supplements are popular in classes of Russian language that can provide effectiveness in learning any profession in that language.

If we take a text from the book on oil and gas, we may see that comprehending terminology occurring in those texts are very complicated to guess. For instance;

1) Кондуктор служит также для установки противовыбросового устьевого оборудования и подвески последующих обсадных колонн. Кондуктор спускают на глубину нескольких сотен метров. Для надежного разобщения пластов, придания достаточной прочности и устойчивости кондуктор цементируется по всей длине.
2) Эксплуатационная колонна спускается в скважину для извлечения нефти, газа или нагнетания в продуктивный горизонт воды или газа с целью поддержания пластового давления. Высота подъема тампонажного раствора над кровлей продуктивных горизонтов, а также устройством ступенчатого цементирования или узлом соединения верхних секций обсадных колонн в нефтяных и газовых скважинах должна составлять соответственно не менее 150-300 м и 500 м.
3) Промежуточные (технические) колонны необходимо спускать, если невозможно пробурить до проектной глубины без предварительного разобщения зон осложнений (проявлений, обвалов). Решение об их спуске принимается после анализа соотношения давлений, возникающих при бурении в системе «скважина-пласт».
4) Если давление в скважине *Pc* меньше пластового *Рпл* (давления флюидов, насыщающих пласт), то флюиды из пласта будут поступать в скважину, произойдет проявление. В зависимости от интенсивности проявления сопровождаются смазливом жидкости (газа) на устье скважины (переливы), выбросами, открытым (неконтролируемым) фонтанированием. Эти явления осложняют процесс строительства скважины, создают угрозу отравлений, пожаров, взрывов.

Table 2

№	Terms in the field of oil and gas in Russian
1	противовыбросового устьевого оборудования
2	обсадных колонн
3	разобщения пластов
4	цементируется по всей длине
5	Эксплуатационная колонна
6	скважину для извлечения нефти, газа или нагнетания
7	пластового давления
8	тампонажного раствора
9	обсадных колонн в нефтяных и газовых скважинах
10	пробурить до проектной глубины

Conclusion

In learning Russian language, a Russian language teacher has to keep in mind that what kind of tasks and processing would be correspondent with particular contexts. Additionally, interpreting contexts is very complicated because of their linguistic range f technical vocabulary words complicates learners task to understand. What's more, translation is of highly essential for better comprehending specialized terminology, as it may help professionally oriented students to interpret scientific and technical texts of the oil and gas sector while scanning and skimming. In addition to, terminology of this field is being more required by officials in recent years due to the developments of oil and gas industry in our country. Additionally, learners feel a failure in translating specific vocabulary (technical terminology), which complicates the comprehension of context in the process of reading since they could hardly find L1 translation, and those translated from English into Uzbek, that indicates the lexical deficiency in the field of oil and gas in L1 (Kh. Abdinazarov. 2021:74).

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Issue Article

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TRANSLATING AUTHENTIC CONTEXTS VIA GOOGLE PLATFORM

Abstract: *In teaching and learning foreign languages at present time, is prosperous. In particular, due to vast changes in technology, there are increasing number of platforms which offer translation opportunities in different languages for learners in the world. However, translating through electronic platforms are not always effective because those platforms are constructed according to technology languages such as (Java Script, CSS, PHP and HTML). Additionally, electronic platforms are fast to translate and help learners find synonyms of words they research and need in web sites. That's why, researchers and non-linguists often use electronic platforms such as google-translator.*

Key words: *foreign language, electronic platform, translation, Russian language.*

Language: *English*

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Introduction

In learning Russian language, engineering students are always busy with translation technical and semi-technical words in Russian language even if this takes a lot of time and energy from them. Khasan Abdinazarov (2021) stated that learning FL for oil and gas engineering, specialist terminology acquisition is essential as it involves learners improving their profession in worldwide cooperation. Besides that, the students with petroleum engineering profile often accomplish tasks by using electronic platforms such google-translator in order to find L1 translation very fast especially, by using apps in the mobile phones. Meanwhile, they sometimes feel difficulty of finding relevant translation in Uzbek language via MT (Machine translation) such as google-translate platform. That platform is not yet fully enriched with oil and gas terminology in Uzbek language as they translate some profession-oriented words and combinations. Furthermore, google-translator platforms are helpful to find synonymous of the words we need. We carried out a research on the issues of how well that platform work in translating sentences from Russian into Uzbek language, especially, regarding to terminology in the field of oil and gas. Forty students were very active in responding to the questions which were organized by linguists.

Views of linguists about Translation Platforms

In modernized era, while reading technical contexts, the engineering students are too eager to apply to the active function of machine translation in order to accomplish tasks such as translating contexts from Russian Language into Uzbek due to be fast in short-time. According to the statement of Mundt and Groves [3] while GT is approaching the grammatical level of certain competence of learners in English, it lacks the human ability to satisfy the norms of a discourse community in features that go beyond the sentence level. Additionally, Josefsson [4] claimed that while he was conducting a research on the issues of google-translation, having interviewed with 46 Swedish students, the result was that a good deal of learners complained its inaccuracies in translation from English into Swedish. Bahri and Mahadi [5] also made an interview with 17 Malaysian students on the issues of GT and the collected data showed that machine translation (GT) as a useful tool in translation because it is inexpensive, and offer a wide range of languages. What's more, one of the advantages of GT,

it has technical ability to translate a written and spoken message into target language; consequently, it is gaining more and more momentum because businessmen in trade need fast and high-quality in translation of documents in written and spoken contexts. Lee, Seowon (2004 stated that learners face difficulty in comprehending meanings of words. Moreover, one of the issues of Russian language learners in translation is to perceive sementicity of terminology and define the meaning of authentic context, which means representation of ideas, actions, objects that leads to definition of meaning and is central to all linguistic concerns.

Linguists (Laufer, B., & Hill, M. (2000); Roby, W. B. (1999); Halliday, M.A.K., 1989a) stated that infiltration of numerous translation tools and free translation websites, electronic dictionaries, online dictionaries or vocabulary glosses those are integrated into language learning software or web pages learners may definite the meaning of text. As a consequence, technical language is endowed with many peculiarities regarding to grammar and linguistic structures; lexicon, terminology, style, and syntax.

Halliday, M.A.K., (1989a), Halliday, M.A.K., (1989b), Crespo, B., (2011), Zorita, C.H., Sandoval, A.M., (2016) revealed that in the process of translating texts with full of technical terminology learners often encounter widely use of nominalization. Nominalization is a type of word formation in which a verb or an adjective is used as a noun, nominalization together with pre-modification and compounding all tend to reduce the number of function words and make the text more ‘dense’ with lexical words.

Semi-technical vocabulary translating via google-translator

1) Мама не работала. Она говорила, что ее работа – это муж и сын. Каждое утро она вставала раньше всех, готовила завтрак. И каждое утро отец говорил маме: «До свидания, моя родная!» И Генка видел, как мама рада слышать эти слова. Они вместе с отцом выходили из дома, вместе шли по улице, как два мужчины. И Генке нравилось идти рядом с сильным, спокойным отцом.

2) А вечером он вместе с мамой ждал отца. Он очень хотел открыть дверь отцу, но видел, что мама хочет этого еще больше, поэтому всегда смотрел, как отец входит и говорит маме: «Здравствуй, моя родная!» И потом они вместе сидели и слушали рассказы отца о работе, о том, как много и долго нужно иногда работать. А Генка рассказывал о новом фильме, о школе. Это была счастливая, дружная семья.

3) Однажды летом я зашёл в сад. У меня была интересная книга. Я сел на скамейку и начал читать. Я читал до вечера. В саду уже никого не было. Я боялся, что сад закроется, встал и быстро пошёл к выходу. Вдруг я услышал, что кто-то плачет. Я повернул налево и увидел небольшой белый дом. Около стены дома стоял мальчик и громко плакал. Ему было 7–8 лет.

Technical words translating via google-translator

1.Кривошип 14 при помощи шатуна 15 приводит в колебательное движение балансирную раму. При опускании рамы оттяжной ролик натягивает канат и поднимает буровой снаряд над забоем. При подъеме рамы канат опускается, снаряд падает, и при ударе долота о породу последняя разрушается. По мере углубления скважины канат удлиняют, сматывая его с барабана. Цилиндричность скважины обеспечивается поворотом долота в результате раскручивания каната под нагрузкой (во время припадём бурового наряда) и скручивания его при снятии нагрузки (во время удара долота о породу).

2. В процессе разбуривания трещиноватых и вязких пород возможно заклинивание долота. Для освобождения долота в буровом снаряде применяют штангу-ножницы, изготовленные в виде двух удлиненных колец, соединенных друг с другом подобно звеньям цепи.

3. Процесс бурения будет тем эффективнее, чем меньшее сопротивление долоту бурового снаряда оказывает накапливающаяся на забое скважины выбуренная порода, перемешанная с пластовой жидкостью. При отсутствии или недостаточном притоке пластовой жидкости в скважину с устья периодически доливают воду.

Равномерное распределение частиц выбуренной породы в воде достигается периодическим расхаживанием (приподъемом и опусканием) бурового снаряда. По мере накопления на забое разрушеной породы (шлама) возникает необходимость в очистке скважины.

While we made a research analysis on the issues of translating technical and semi-technical words occurred in the above-mentioned contexts, we observed and found that engineering students could translate simple words which we use for everyday life. However, the students had difficulties in finding equivalents of terminology from Russian language into Uzbek.

Conclusion.

In translating technical terminology from Russian language into Uzbek, especially technical contexts is not easy and it may takes long and complex process. However, it showed that GT (google-translator platform) has a lot of lexical deficiency especially, in the area of oil and gas field which not yet enriched in Uzbek. Adult learners, professor-teachers, researchers, employees/officials often prefer

electronic dictionaries comparing to paper-based. What's more, we sometimes find technical terminology in both electronic and paper based dictionaries. While translating we may encounter with the issues concerning lexico-semantic, syntactic in GT in Uzbek. In reading comprehension learners are engaged in performing translation activities such as translating authentic contexts from Russian into Uzbek in order to understand the meaning of the context. Today, information technology is advanced due to capability of human mind, and all learners are interested in using mobile phones with internet access and apps. Therefore, they prefer employing machine translation (GT) in reading activities because it is fast and offers a word with multiple meanings, enable learners to choose appropriate word for translation but learners sometimes find errors in translation such as morphologicalsyntactic errors, lexicosemantic errors, and even orthographic errors.

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Issue Article

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COMPOUNDS CONSISTING OF ONE AND TWO TERMS IN THE FIELD OF PETROLEUM ENGINEERING

Abstract: *In studying the words or terminology in the system of oil and gas engineering in English and in Uzbek languages, we have found some distinctions between them. Furthermore, in reading contexts which are full of technical terms relating to oil and gas industry, we encountered with compounds containing a one or two components. However, there are an increasing number of compounds with one and two components in English but there is a few in Uzbek one. Therefore, in translating or comparing two languages with each other, we often cannot find equivalents in L1. Moreover, we conducted a research by collecting terms in the paper-based and electronic dictionaries in that field of.*

Key words: *nominal compounds, adjectival compounds, oil and gas, components.*

Language: *English*

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Introduction

A word is the main key in the language to communicate but a term is special phenomena for particular professions to communicate in their field of study or work. V. M. Leichik (1998) stated that the term "deductive" is the result of a contamination of two plans of content: a) such an approach, in which the concept of proof is first introduced, and then the concept of a provable formula is defined through it, and b) the concept of deduction as a process of deriving a theory, the beginning of which is a hypothesis that has a common character, and at the end - the consequences of the premises, something private. Hence the theory based on the principle of deduction, is defined in the text as "deductive". But this definition of didactics is not sufficient when studying objects of computer technology, so the text contains lives a different definition, where the concept of didactics is narrowed for the specified area of application and concretized. Furthermore, the term can also be understood as a word or phrase that names a special concept of any sphere of production, science, art. Each term is necessarily based on the definition (definition) of the reality it denotes, due to which the terms represent a capacious and at the same time concise description of an object or phenomenon. It is important to clarify that in a large number of cases the term is not a special word, but is an ordinary word used in an unusual role for it. In this paper, we study only those terms that have received the status of a term in only one of the meanings of the word. A term is a word that has strictly defined boundaries of meaning and therefore is the most important part of the vocabulary of scientific and technical (Г.Е. Бартенев, И.В. Гредина. 2013). In Uzbek and English languages we often find a nominal as a phrase, a word, term which specifies the exact object regarding to specific profession we intend to study and conduct a research what it is. A compound word is two or more words linked together to produce a word with a new meaning regardless of their part of speech and grammatical, phonetical and semantic and morphological composition. Semantic transparency refers to the extent to which the meaning of a multimorphemic word can be determined from the meaning of its constituents (X. Abdinazarov. 2022).

View of linguists according to the terms and its formation

The second feature of terms, which is related to the first one, is their belonging to a certain natural language. Since terms, as common nouns, are formed according to the rules of the natural (ethnic) language to which they belong, it is the terms that provide the most transition from a given language for special purposes to a given natural language as a whole - Russian, English, French, etc. (nomenclature units and proper names can have a specific form, for example, include numbers and other signs, create special ways of word formation that are not typical for a natural language (V.M. Leichik. 2009:78). As a consequence, the example is interesting in that the search term "oil pool" is generated on the basis of the negation of the original definition of the word "pool". In the explanatory dictionary, the word "pool" means "a temporary or casual collection of water or other liquid". The new denotation is defined in the sentence through the negation of the old one. Let us show the nature of the relationships between concepts graphically (M.L. Alekseiva. 1998): An **oil pool** is not at open underground lake but a porous rock, more or less saturated with oil. Hence a "reservoir rock", usually a porous sandstone or limestone, is required. Oil will not accumulate unless there is a place for it to come from. Hence, there must be "source rocks", usually shale beds containing organic matter. Oil would not be held in a particular place unless there were something to prevent its further migration from that place. Hence, there must be an impervious "cap rock" or other trapping condition above the adjacent to the reservoir rock".

The issues concerning compounding words have been widely investigated by a lot of scholars such as Plag (2018), Masini (2009), Scalise and Vogel, (2010) revealed morphological, Peter and Neeleman,(2010) found the phonological syntactic, Jarema (2006), Fehringer (2012), Kuperman and Bertram (2013) pointed out cognitive and Pirrelli et al (2010) computational peculiarities. If we join two (or more) words to form a new word, it will actually be a compound, that usually provides a new meaning. The meaning of this compound could be similar to or different from the meaning of its components in isolation. According to the statement of Kun Sun, R. Harald Baayen (2021), compounds are divided into three types with respect to their orthographic forms, namely, open compounds (there is a space between the words, such as "firing squad"), hyphenated compounds (such as "long-term"), and closed compounds (a solid form, such as "blackboard"). There are also criteria based on the part of speech which entire compound belongs to. Two-, three- and four-word compounds can be found if the number of components in a compound is used as the criterion. A hyphenated compound can be understood simply as a compound consisting of two (or more) words with hyphenation. Dressler (2007) compounds are found in many languages around the world, and more importantly, compounding is one of the most widespread morphological techniques. Furthermore, Booij (2012) claimed that compounding is also "the most frequently used way of making new lexemes in many languages" Moreover, compounding plays an important role in English word-formation.

Contexts containing compounds in the area of petroleum engineering

1) Boreholes can be vertical, in other words, they go straight down. If a bit meets hard rock, the well may deviate; that' s, it accidentally changes direction. However, with modern technology drillers choose deviated boreholes from the very beginning. In fact, this kind of drilling is more common than entirely vertical wells. Most oil-bearing strata are approximately horizontal so deviated drilling allows drillers to enter horizontally across oil-bearing rocks. Horizontal drilling is much more efficient than the older, vertical wells. It is possible in some circumstances to drill into an undersea oil reservoir from a land-based derrick. It can be also useful which the oil is under, say, a large mountain.
2) Deep water offshore platforms use multiple deviated wells from a single well. The Cognac platform in the Gulf of Mexico has sixty-two deviated wells running from it. This way a single can be used to exploit large area.
3) A horizontal well can discover five or six times more oil than a straight-down well. It also means that fewer vertical wells are dug and less damage is done to the surface.
4) The semi-submersible drilling rig has vertical columns that are connected to pontoons below the water. They often have an engine. This allows them to move easily into position. The pontoons can be filled with water. This lets the rig go down into water and makes it more stable. They can be used in water up to 300 metes deep.
5) Drill ships can move easily into position. They are able to drill in deep water of more than 1.500 meters.
6) The jack-up unit is like a floating with legs. It has to be pulled into position by ship. When the platform is in position, the legs are lowered to the seabed and then the platform is lifted out of the water. It is stable and can be used in water up to 100 meters deep.
7) Platforms and pipelines, oil rig structures and equipment used offshore are engineered by offshore engineers. It is difficult

environment offshore. Weather conditions can change quickly. Rain, wind, ice and the heat of the sun all have an effect. Equipment has to be strong to survive the weather as well as the power of the seas and saline (salt) conditions.

8) Gas gathering is where gas is captured and piped from the well head to the gathering center where it is prepared for transportation to its final distribution center. This involves dehydration and the Sulphur compounds that cause corrosion particularly H2S.
9) Friction in the pipes reduces pressure and flow, so intermediate compressor stations are used every 10 to 40 kilometers along the pipeline to maintain pressure.
10) The transmission of correct pressure and flow data to control stations ensure that the gas arrives safely at its destination (Jon Naunton and Alison Pohl. 2011).

Table 1

№	Compound terms
1	Boreholes
2	deviated boreholes
3	oil-bearing
5	deviated drilling
6	a land-based derrick
7	Cognac platform
8	a straight-down well
9	The semi-submersible drilling rig
10	The jack-up unit
11	Platforms and pipelines
12	Gas gathering
13	Dehydration
14	offshore platforms

Table 2

№	Simple terms
1	Well
2	Exploit
3	Horizontal
4	Drill ships
5	The pontoons
6	Compressor
7	Flow data
8	Drillers

Conclusion

In studying compounds in the termino-system of oil and gas engineering, we have found nominal and adjectival compounds which consist of two or more terms relating to that area of expertise. We have reviewed the written data the linguists have made a contribution to formation of terms and compounds in the sphere of oil and gas industry. What's more, we collected contexts taken from the book based on issues of oil and gas industry. As a result, we made analysis on compounds indicated in the tables 1 and 2. Kun Sun, R. Harald Baayen (2021) stated that some core characteristics of compounds and hyphenated compounds in English must be considered before we pursue an in-depth quantitative and diachronic analysis of this phenomenon. According to past studies, most English compound words have three core characteristics specifically: right-headedness, idiom-likeness and a syntactic order. Additionally, compounding is usually treated as an important morphological strategy. However, an important principle for creating compounds is the combination of words that follow the syntactic order (the syntactic order of functional elements that constitute a linguistic unit).

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Issue Article

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ENGINEERING FEATURES OF SMALL SEWING ENTERPRISES WITH LEAN CLOTHING PRODUCTION

Abstract: *The article presents the main stages of engineering small sewing enterprises with introduction of lean manufacturing. The features of the functioning of enterprises in modern conditions are taken into account. The issues of designing flexible production systems, the use of lean production tools are considered.*

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ОСОБЕННОСТИ ПРОЕКТИРОВАНИЯ МАЛЫХ ШВЕЙНЫХ ПРЕДПРИЯТИЙ С БЕРЕЖЛИВЫМ ПРОИЗВОДСТВОМ ОДЕЖДЫ

Аннотация: *В статье представлены основные этапы проектирования малых швейных предприятий при внедрении бережливого производства. Учтены особенности функционирования предприятий в современных условиях. Рассмотрены вопросы проектирования гибких производственных систем, использования инструментов бережливого производства.*

Ключевые слова: *малое швейное предприятие, бережливое производство, проектирование.*

Введение

В условиях политики импортозамещения, масштабных экономических и технологических санкций против России и других стран и зеркальных российских мер, в условиях снижения делового доверия и инвестиций, а также из-за последствий ограничений, вызванных пандемией COVID 19 [1], перед отечественной швейной промышленностью открываются новые перспективы. Российские швейные предприятия должны использовать сложившуюся ситуацию как трамплин для своего развития. Роль швейной отрасли в экономике страны высока, велика ее социальная значимость.

Для наполнения внутреннего рынка качественной и востребованной продукцией швейные предприятия должны быстро реагировать на внешние воздействия, быть способными перестраивать процессы на выпуск новой продукции без существенных производственных потерь, то есть быть гибкими. В таких условиях эффективно использование на предприятиях концепции бережливого производства. Для существующих предприятий актуально использование методик анализа и самоанализа бизнес-процессов на предприятии с целью устранения потерь [2] и внедрения инструментов бережливого производства [3]. Для новых предприятий важно закладывать принципы бережливого производства на стадии их проектирования, а также планировать использование инструментов бережливого производства при производстве одежды.

В настоящее время доля малых предприятий (с численностью персонала до 100 человек), в том числе микропредприятий (с численностью персонала до 15 человек) [4] в швейной отрасли очень велика. Существующие методики

проектирования традиционных швейных предприятий претерпевают серьезные изменения. На каждом этапе проектирования малого швейного предприятия нужно учитывать особенности, вызванные малочисленностью исполнителей. Значительный вклад в модернизацию методики проектирования малых предприятий внесли преподаватели кафедры Технологии и конструирования швейных изделий Новосибирского технологического института (филиала) ФГБОУ ВО «Российский государственный университет им. А.Н.Косыгина (Технологии. Дизайн. Искусство» доцент, канд. техн. наук Яковлева С. В., доцент Низовских Е. В. Под руководством профессора, д-ра техн. наук Мокеевой Н. С. Данная методика апробирована при выполнении множества дипломных проектов и проведении лабораторных работ по дисциплине «Проектирование малых предприятий» [5]. Существующая методика учитывает особенности малых швейных предприятий, но не закладывает принципы организации гибких производственных процессов, не предполагает использование инструментов бережливого производства, а также не устанавливает минимальных границ площади проектируемых участков. Ниже рассмотрены особенности поэтапного проектирования малых предприятий с бережливым производством одежды.

Исходными данными для расчета малого предприятия является производственная программа с указанием проектируемой мощности предприятия по каждому виду швейных изделий. Часто в качестве отправных показателей используется фактическая площадь предприятия, как правило, с планом помещений, где планируется размещать производство. Тогда значения мощностей в производственной программы рассчитывают/уточняют, исходя из нормы площади на одного рабочего швейного предприятия.

Первый этап проектирования малого швейного предприятия – предварительный расчет производства. Предварительный расчет включает в себя несколько стадий.

На стадии выбора схемы производства решается вопрос о процессах, протекающих на предприятии. Будут ли вынесены ли какие-то операции на аутсорсинг, необходимы ли рабочие места для механика и электрика, инженера по обслуживанию электроники и т.д. Чаще всего на малом предприятии планируется бесцеховая структура:

- участок технической подготовки производства изделий – ТППИ (взамен экспериментального цеха);
- участок подготовки материала к раскрою – ПМР (взамен подготовительного цеха);
- участок раскроя материалов – РМ (взамен раскройного цеха);
- швейные участки,
- склад готовой продукции с расширенными функциями – операции складского хранения товаров, прием и обработка заказов, комплектация и упаковка заказов, доставка и работа с возвратами.

На данном этапе рекомендуется выполнить моделирование бизнес-процессов «КАК ДОЛЖНО БЫТЬ» с использованием любого доступного инструмента (например, методологий IDEF0 или BPMN). Данный этап в отличие от традиционной методики предварительного расчета выполняется первым, предваряя определение производственной структуры.

На стадии выбора структуры малого предприятия устанавливается перечень помещений (производственных, подсобно-производственных и вспомогательных), размещаемых на площади предприятия. При этом важно учитывать схему производства и если есть, фактическую площадь предприятия. Как правило, на малых предприятиях помещения размещаются в одном здании, чаще на одном этаже.

Основным процессом производства одежды является процесс швейного участка. С него начинается расчет потребной площади. Если площадь предприятия задана в качестве исходных данных, рекомендуется использовать уточненные рекомендации по удельным весам участков по занимаемой ими площади. В табл. 1 представлены скорректированные с учетом минимально необходимых площадей удельные веса производственных участков.

Таблица 1. Рекомендуемые удельные веса производственных помещений

Название цеха/участка	Удельный вес участка γ,%	
	традиционный	рекомендуемый
1	2	3
Швейный	50 - 62	не менее 50
Экспериментальный цех/ участок ТППИ	3 - 5	20 - 25
Подготовительный цех/ участок ПМР	13 - 15	10 - 15
Раскройный цех/участок РМ	14 - 16	12 - 15
Склад готовой продукции	6 - 9	3 - 5

Чтобы проектируемое предприятие было гибким, т.е. способным без потерь перестраиваться на выпуск новой продукции, необходимо на стадии предварительного расчета определиться с типом швейных потоков. Рекомендуется использование гибких модульных потоков (ГМП) [6], организовать вытягивающее производство с использованием инструмента «точно-вовремя» и систему взаимодействия процессов с использованием карточек «канбан». Работа должна осуществляться непрерывным потоком по такту [3]. Если площадь помещений не задана, расчет ведется по производственной программе, исходя из количества исполнителей в швейных потоках. При этом норма площади на одного рабочего, установленная по «Инструкции по расчету производственных мощностей» [7] увеличивается в 1,5 - 2 раза из-за особенностей размещения оборудования в ГМП [6].

Следующая стадия предварительного расчета – определение общей площади предприятия и площадей отдельных участков. Если площадь предприятия задана, она является отправным показателем для расчета остальных площадей. При этом используются рекомендуемые удельные веса участков – графа 3 таблицы 1. При установлении конкретных значений удельных весов следует учитывать особенности протекания процессов, используемое оборудование, а также, чтобы сумма удельных весов всех производственных участков составляла 100%.

Завершающей стадией предварительного расчета является разработка схемы грузопотоков и размещение участков на площади предприятия. В отличие от традиционного предприятия все участки малого предприятия размещаются в непосредственной близости друг от друга, зачастую не отделяются стенами и перегородками или наоборот, в соответствии с исходным планом располагаются в разных помещениях. Главным требованием к размещению участков на плане предприятия эффективное использование производственной площади и удобство связи с другими участками. Для оценки качества проектных решений рекомендуется использовать диаграмму спагетти. Этот инструмент позволит визуализировать перемещения рабочих и транспортировку материальных объектов, оценить длительности маршрутов, наличие или отсутствие пересечений, выбрать оптимальный вариант схемы грузопотоков и построить рациональную предварительную планировку участков.

На рисунке 1 представлена схема методики предварительного расчета малого швейного предприятия с учетом его особенностей и применяемых на стадии проектирования инструментов бережливого производства.

Рисунок 1 - Схема методики предварительного расчета малого швейного предприятия

Второй этап проектирования малого швейного предприятия – проектирование швейных участков.

Сначала производится разработка конструкторско-технологической документации на проектируемые модели. Минимально необходимый перечень документов: описание внешнего вида, спецификация деталей кроя, рекомендации по методам и режимам обработки, технологическая последовательность с нормами времени. Особенностью малых предприятий является большое видовое разнообразие выпускаемой продукции. Следовательно, необходимо проектировать многоассортиментные гибкие потоки, в которых можно последовательно или параллельно изготавливать разные виды швейных изделий в рамках технологических характеристик оборудования. При этом должна осуществляться унификация конструкторских и технологических решений. Нормирование затрат времени следует производить с использованием существующих аналитически-расчетных методов [8], дополненных результатами, полученными аналитически-исследовательскими методами. Итоговые значения трудоемкостей не должны превышать установленные по отрасли для предприятий малой мощности по «Инструкции по расчету производственных мощностей» [7].

Следующей стадией является выбор технологического оборудования и оборудования для влажно-тепловой обработки. В современной сложившейся ситуации требуется тщательно подходить к выбору поставщиков, так как в условиях санкций многие производители не осуществляют поставку оборудования в страну. Главное при выполнении проекта дать детальную техническую характеристику каждого вида оборудования, чтобы обеспечить возможность принятия решений в условиях неопределенности. Технические характеристики выбранного оборудования нужно учитывать при выборе методов и режимов обработки, нормировании времени технологических операций. Парк оборудования должен быть универсальным, быстро переналаживаться на выпуск новых видов изделий.

Далее выполняется распределение работ между исполнителями. Для гибкого модульного потока рекомендуется балансировка работ с учетом индивидуальной производительности труда (ИПТ) рабочих [6]. При новом проектировании данные о конкретных рабочих могут отсутствовать. В этом случае проектирование организационно-технологических схем (ОТС) потока ведется по усредненным коэффициентам ИПТ. При проектировании многоассортиментных потоков также рекомендуется выполнить выравнивание загрузки, формируя график запуска моделей в поток с учетом запросов потребителей (инструмент «хейдзунка») и возможности быстрой переналадки оборудования (инструмент SMED).

После этого выполняется анализ распределения работ между исполнителями. Можно использовать традиционную методику анализа ОТС или методику, предложенную для гибких потоков. Также рекомендуется на данной стадии выполнить картирование потока создания ценности для предварительного расчета производственного цикла.

Итоговой стадией проектирования швейных потоков является разработка планировочного решения. Размещение рабочих мест на плане участка должно производиться с соблюдением норм пожарной безопасности, быть рациональным и экономичным. Для визуализации принятых решений рекомендуется использовать диаграмму «спагетти».

На рисунке 2 представлена схема методики проектирования швейных участков малого предприятия.

Рисунок 2 - Схема методики проектирования швейных участков

Третий этап проектирования малого швейного предприятия – проектирование экспериментального производства – участка ТППИ. Процесс разработки конструкторско-технологической документации очень важен для малого предприятия. Поскольку время технической подготовки производства занимает значительную часть производственного цикла, перед малым швейным предприятием стоит задача сократить сроки разработки документации. Не рекомендуется делать это за счет исключения некоторых операций. Для эффективного производства одежды очень важен детально проработанный пакет конструкторско-технологической с обоснованными нормами расхода материалов и времени технологических операций. Поэтому все больше малых предприятий отдает предпочтение установке САПР на рабочих местах экспериментального производства. Подсистема для создания эскизов – рабочее место дизайнера. Модуль для разработки базовых и модельных конструкций, разработки и размножения лекал – рабочее место конструктора. Модуль для выполнения экспериментальных раскладок – рабочее место нормировщика-раскладчика. Модуль для составления технологической последовательности и распределения работ между исполнителями – рабочее место технолога. После выбора марки САПР и установления необходимой и достаточной конфигурации рабочих мест выполняется расчет потребного количества рабочих мест – модулей САПР. При необходимости работы объединяются. На один персональный компьютер можно устанавливать различные модули САПР. Также устанавливается набор периферийного оборудования – принтеры, плоттеры, каттеры. Использование САПР предполагает создание и накопление баз данных конструктивных и технологических решений, что делает возможным использование унификации и стандартизации на рабочих местах даже при изготовлении изделий разнообразного быстроменяющегося ассортимента.

На следующей стадии выполняется расчет участка изготовления образцов изделий. При расчете потребного количества рабочих и оборудования устанавливается рациональное число проработочных образцов и образцов-эталонов. Рекомендуется изготавливать один-два проработочных и один образец-эталон, который далее в составе пакета конструкторско-технологической документации передается на швейные участки. Для оценки необходимости установки стола для раскроя образцов нужно оценить загрузку настилочного стола. Как правило, она невысока, а это значит, что настилочный стол можно использовать для раскроя образцов в целях экономии места. Для каждого лаборанта-портного устанавливается

универсальная машина. Вид специального и утюжильного оборудования определяется ассортиментом изделий. Рекомендуемое количество – по одной единице каждого вида оборудования.

Далее формируется сводная таблица рабочей силы, оборудования и площади участка ТППИ. В данной таблице указывают расчетное и фактическое количество исполнителей. При этом необходимо рационально совмещать выполняемые операции, например, совмещать работы дизайнера и конструктора или технолога и нормировщика. По фактическому количеству исполнителей устанавливается количество оборудования. При последующей организации работ рекомендуется использовать инструменты бережливого производства для совершенствования работы исполнителей: система 5С, различные способы визуализации, стандартизации на рабочих местах.

Далее разрабатывается планировочное решение участка ТППИ. Рабочие места операторов САПР желательно изолировать. Если используется шумное оборудование для печати/вырезания лекал, его тоже необходимо поместить в отдельном помещении. Для размещения рабочих мест лаборантов-портных желательно выбирать участок на плане цеха с естественным освещением, рабочие места можно размещать модульно или в виде агрегата. Рабочие места располагают рационально, обеспечивая эффективное использование площади. Для анализа рациональности процесса можно использовать такой инструмент бережливого производства, как диаграмму «спагетти».

На рисунке 3 представлена схема методики проектирования участка технической подготовки производства изделий малого предприятия.

Рисунок 3 – Схема методики проектирования участка технической подготовки производства изделий малого предприятия

Четвертый этап проектирования малого швейного предприятия – проектирование подготовительно-раскройного производства – участков ПМР и РМ.

Исходными данными для расчета являются производственная программа и материальная смета предприятия. Для расчета норм расхода материалов на стадии проектирования рекомендуется использовать «Инструкцию по нормированию расхода материалов в массовом производстве швейных изделий» [9]. Также необходимо установить сроки хранения материалов на каждой стадии технологического процесса. При этом надо учитывать логистические взаимодействия проектируемого предприятия с поставщиками, способы и частоту отгрузки готовой продукции, способы взаимодействия с заказчиками, наличие площадей, которые можно использовать для хранения материалов, разнообразие видов материалов. Для эффективной работы предприятия необходимо предусмотреть систему вытягивания как внутри предприятия, так и при взаимодействии с внешними поставщиками [10]. Также для задания рекомендуемых сроков

хранения материалов можно воспользоваться картой потока создания ценности, позволяющей определить места возникновения запасов и время их хранения.

На следующей стадии выполняется расчет отделений участка подготовки материалов к раскрою. Особенностями расчета являются:

- малочисленность персонала, что в расчете выражается долями ставки, рассчитываемыми на каждую операцию;

- ограниченные площади для использования механизированных и электрических транспортных средств, что приводит к необходимости использования ручных транспортных средств и оборудования для хранения материалов ограниченной высоты (не более 1,8 – 2 м);

- малые значения площадей для хранения материалов на разных стадиях процесса: нераспакованных, распакованных, у мест разбраковки, разбракованных, подсортированных, что вызывает необходимость совместного хранения материалов (например, в разных секциях полочных стеллажей).

Особенно важно на малом предприятии максимально сохранить традиционный технологический процесс, так как из-за ограниченности площади часто принимают решение отказаться от некоторых операций, например, не выполняют разбраковку и расчет кусков. Это приводит к неэффективному расходу материалов, а главное, снижает качество готовых изделий, что недопустимо в концепции бережливого производства.

Результаты расчета операций участка ПМР оформляют в виде сводной таблицы рабочей силы, оборудования и площади. Сводная таблица определяет штатное расписание персонала участка ПМР, а также служит исходными данными для построения планировочного решения. При составлении сводной таблицы очень важно правильно объединить расчетные значения количества исполнителей по каждой технологической операции с целью определения фактического количества работающих и круга их обязанностей.

Далее выполняется расчет участка раскроя. Как правило, на малых предприятий ввиду ограниченных площадей и малой мощности используется ручной способ настилания и механизированный раскрой. Раскрой проводится в два этапа: рассекание настила на части и последующее вырезание на раскройной ленточной машине или сразу на настилочных столах «в чистый край» посредством передвижных раскройных машин с прямым ножом. Способ настилания, как правило, последовательный. Работа осуществляется комплексно-универсальной бригадой (КУБ). Операцию настилания широких тканей выполняют две работницы, а расчетная загрузка их невелика, поэтому рабочими КУБ выполняются как настилание, так и раскрой, а также часть заключительных операций раскройного производства. Необходимо предусмотреть систему вытягивания при взаимодействии со швейными участками и участком ПМР.

Результаты расчета операций раскройного производства оформляют в виде сводной таблицы. При этом учитывают расчетное число исполнителей по каждой операции, объединяя их таким образом, чтобы загрузить рабочих бригады. При малых расчетных значениях общего количества рабочих в бригаде, можно дополнить их работами участка ПМР. Для совершенствования работы исполнителей на рабочих местах также рекомендуется использовать инструменты бережливого производства.

Итоговой стадией является разработка планировочного решения участков подготовительно-раскройного производства. При этом необходимо учитывать требования безопасности, не допускать пересечения людских и грузопотоков, учитывать совмещение операций, а также соблюдать все традиционные требования к размещению технологического оборудования, оборудования для хранения и подъемно-транспортного оборудования. Необходимо продумать способ взаимодействия участков – размещение элементов системы «канбан». Для оценки качества планировочных решений рекомендуется использовать диаграмму «спагетти».

На рисунке 4 представлена схема методики проектирования участков подготовки материалов к раскрою и раскроя материалов малого предприятия.

Рисунок 4 - Схема методики проектирования участков подготовительно-раскройного производства

В современных условиях ключевым фактором успешной работы швейного предприятия является удовлетворение потребности заказчика изделиями нужного качества в нужном количестве, поступившим точно вовремя удобным для него способом. Поэтому особенно важно совмещать функции складского хранения товаров, прием и обработку заказов, комплектацию и упаковку заказов, доставку и работу с возвратами. Таким образом, склад готовой продукции выполняет роль фулфилмента [11]. На складе готовой продукции должен располагаться стол с персональным компьютером, стол для упаковки и стеллаж для хранения готовых изделий. На малом швейном предприятии рекомендуется проектировать небольшой по площади участок хранения готовых изделий, т.к. предполагается частая отгрузка изделий на склады торговых подразделений (магазины, маркетплейсы) или отправка заказов покупателям.

Таким образом, предложенная методика проектирования малого швейного предприятия учитывает особенности его функционирования в современных условиях, предполагает использование инструментов бережливого производства. Это позволяет предприятию быть конкурентоспособным, обеспечивать своевременное изготовление продукции, востребованной заказчиком, быстро реагировать на изменения без значительных потерь.

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Issue Article

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ON THE EFFICIENCY OF MANAGEMENT OF THE QUALITY OF THE TECHNOLOGICAL PROCESS OF PRODUCTION OF PRIORITY AND DEMANDED PRODUCTS

Abstract: *The article considers the possibilities of producing competitive and in-demand products, which are possible only if there are managers who are professionally trained and motivated for the results of their activities. The authors believe that the motivated responsibility of the leaders of light industry enterprises is the highest measure of expression of their professionalism. But if they do not fulfill promises and statements, this is evidence either of their inability to engage in economic policy, or the use of economic management is carried out by them in interests alien to the interests of society, provoking the impoverishment of the people, characterizing the immorality of leaders, which, of course, is unacceptable. The results of the research justifiably assert the feasibility of an integrated approach in managing the quality of the technological process for the production of demanded and competitive products, which will allow manufacturers to guarantee themselves a stable financial condition, and provide consumers with preferences in the purchase of domestic products.*

Key words: *preference, demand, quality control, quality assessment, set of properties, product, product, object, satisfaction of requirements, market, competitiveness, priority, defects, their classification.*

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Introduction

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A new economic reality emerged in the 1970s under the direct influence of the scientific and technological revolution. The technical complexity of the product has increased, the warranty period has increased. The changes that have taken place forced us to abandon the simplified model for determining the cost of quality. The concept of the cost of quality was born, based on reducing the cost of quality through more rational financing and reducing the overall cost of producing a product. They tried to make the economy economical:

The first is that the emphasis in quality management has shifted towards solving the general problems of developing production, its standardization. G. Taguchi generally called its cost a measure of quality and gave the following calculations: one wash of a shirt costs 250 yen, usually a shirt is washed 80 times during the service. Laundry costs are 20,000 yen. If they can make a shirt that wrinkles and gets dirty twice as fast, the consumer can save up to 10,000 yen. Suppose a new shirt costs the manufacturer 1,000 yen more, and sales increase by 2,000 yen, the manufacturer will receive 1,000 yen in revenue, and the consumer will benefit 8,000 yen. Society will save 9,000 yen plus reduced

environmental spending because there will be less laundry waste. We are not against quality manipulation. Within certain limits, this is a forced measure, indicating the limitations of cognitive and other possibilities. The theory need not be conservative, but quality manipulation is a tactical level of management as opposed to the strategic value and significance of quality management. Manipulation is one of the management tools, and it must remain a private, changing matter in the quality management system.

The second thing to keep in mind when analyzing the perspective of private self-quality control. Private initiative is conditioned by the general political and economic situation. Socialism could be built in a single country, but it turned out to be impossible at this historical time to ensure the competitiveness of socialism. Capitalism is still strong. The same situation awaits private producers. He delivers a quality product. Will he be able to work sustainably in an environment that is not ripe for such a practice.

Quality represents a system essential for the productproperties -it is commonplace and well-known, which is actively used, replacing properties, or their consistency in a quality product. Essential properties are those that are not just inherent in the product, they determine its functionality. Such properties, as a rule, are revealed in the process of "work" of the product for its intended purpose, they are hidden from the unprofessional view of the consumer. In its “pure” form, the market is an intermediary and should not be interested in the quality of products. The task of the market in the theory of the organization of commodity production is the organization of exchange between the producer and the consumer. The development of the market stimulates the increase in production in the interests of the consumer within the infrastructural status of the market.

Surprisingly, but, nevertheless, the fact that the study has to start classically with the formulation and the general problem of a comprehensive study of quality management, which remain a "hedgehog" in a dense fog. The reason is simple, because the promise of a comprehensive study of the problem remains a wish. The content of studies usually does not go beyond one or two aspects of considering quality and the possibility of quality management. The remaining angles are either declared or applied in such a sequestered state that their presence is perceived as a kind of burden for the pleasure of joining the author's reasoning on a topic that is certainly relevant at all times and for any activity.

The noted shortcoming is also inherent in our works devoted to the problem of quality. To some extent, we are excused only by the fact that we have so far avoided making an application for a comprehensive study of quality in the context of management. A harsh reaction from our critics is quite possible and even predictable. They, apparently, will overturn our conclusions on us, having found a weak link in our opus. And they will do it right. Others - and we, taking into account criticism, will step further, forward, collectively solving what is beyond the power of individual researchers, even when they combine their various cognitive resources and when, for example, in our case, industry specialist, systems economist and philosopher.

The basis of the theory of quality management is the philosophical development of this concept. “Quality” is a philosophical category, and the solution of the task put forward depends on how the philosophical component is represented in the theory of quality management. In philosophy, there has never been a single interpretation of quality, and there is no mutual understanding even in our time. An important conclusion follows from this: before building a quality management strategy, you need to decide on which philosophical “shore” you are going to land.

Quality is a general and fairly stable certainty of the subject set. More stable than quality is only the form of being and its substance - the only thing that is invariable by definition. Quality, however, also flows along the river of time and changes. The quality within itself changes, changing its states, and radically, losing its certainty, turning into another quality.

Differences in the philosophical understanding of quality are due to the complexity of quality as a subject of research, but to an even greater extent they are a consequence of the philosophical worldview and the methodology on which it is formed.

“Materialism”, “idealism”, “metaphysics”, “dialectics” are philosophical concepts that have been fairly battered by class ideology. Philosophers-conservatives in Soviet times settled down quite well, erecting barricades, because of which they shot arrows of anger at their enemies, absolutizing the political background of philosophical movements. The critics triumphing in the arms of liberal democracy, cracking down on a restless legacy, do not look in the best light either. Encouraged by "noble anger", they have essentially turned to the past and are not so much "trampling" this hateful past as they are marking time, slowing down the movement of the cognitive process.

“Materialism”, “idealism”, “metaphysics”, “dialectics” should not be abandoned, but they should be cleared of pseudo-ideological “husk”, thereby revealing the inherent rational meaning in these phenomena. These concepts are a kind of "boundary pillars" of philosophical and scientific knowledge, warning, on the one hand, of the need to adhere to certain guidelines in cognition, and on the other, requiring the development of conditions for boundary interaction.

Boundaries in knowledge are designed not to limit, but to isolate one from the other. Their rationality lies in the fact that they regulate the

cognitive process. K. Marx, who wrote that G. Hegel's idealism is "materialism put on its head", is not responsible for his followers who simplified Marxism and, in particular, the philosophy of Marxism - dialectical materialism.

The idealist G. Hegel is equally not to blame for the fact that E. Mach brought the idealist idea to solipsism, and with his philosophical exercises damaged the rationality inherent in the highest achievements of idealist philosophy.

The history of philosophy warns everyone who has embarked on the path of knowledge: most of all be afraid of one-sidedness. It inevitably leads to absolutization, a state of cognition, in which the natural connection between the ideal and the material in it is broken, and the movement towards truth is closed.

Quality management begins with a philosophical, that is, philosophical and methodological orientation of the theory. There are no alternative options. In the development of management theory, it is pointless to deviate from philosophical foundations. Collaboration with a rationally interpreted philosophy must be actively sought.

The question: where is it, this rational philosophy, has long become a rhetorical one, since the time of the first philosophers. It was not ready-made, no, and will not be like a "magic wand", "self-made tablecloth", "philosopher's stone".

Rationally interpreted philosophy is an exclusive product of the interaction of professional thinking with the philosophical heritage. Objections like "not everyone can do this" is quite suitable for the situation. True, this is given to everyone, but not everyone takes the responsibility of building a quality management system. Most are waiting for instructions and regulatory materials in a complete set. According to the current fashion: a briefcase with documents.

Our Russian market not only ugly tore the national economy, giving some fatty pieces, leaving others a ghostly hope that someday their Lenten life will change and a holiday will come to their street. The Russian market has deprived us of national unity, devaluing what is widely known as the "mysterious Russian soul", or, simply put, our inherent craving for reflection "for life in general", including personal and national problems. The German is distinguished by law-abidingness, the American from the USA is adventurism, the Italian is spontaneity. Our ancestors were distinguished by responsibility, fading before our eyes.

The philosophy of quality is a collective concept, synthetically built. The understanding of quality in various philosophical theories differs significantly, because it is “tailored” to the system and the method used in its development.

In such an ambiguous situation, one must begin with the conclusion: everyone is right and no one is right. What kind of abracadabra, - one who is accustomed to thinking according to the formula laid down by nature “either - or”, will say, - We do not need riddles, we want everything to be according to the principle: “to each his own”. The task is precisely to put everything “on the shelves”. It's easier, clearer, you can't go wrong.

Main part

A new economic reality emerged in the 1970s under the direct influence of the scientific and technological revolution. The technical complexity of the product has increased, the warranty period has increased. The changes that have taken place forced us to abandon the simplified model for determining the cost of quality. The concept of the cost of quality was born, based on reducing the cost of quality through more rational financing and reducing the overall cost of producing a product. They tried to make the economy economical:

The first is that the emphasis in quality management has shifted towards solving the general problems of developing production, its standardization. G. Taguchi generally called its cost a measure of quality and gave the following calculations: one wash of a shirt costs 250 yen, usually a shirt is washed 80 times during the service. Laundry costs are 20,000 yen. If they can make a shirt that wrinkles and gets dirty twice as fast, the consumer can save up to 10,000 yen. Suppose a new shirt costs the manufacturer 1,000 yen more, and sales increase by 2,000 yen, the manufacturer will receive 1,000 yen in revenue, and the consumer will benefit 8,000 yen. Society will save 9,000 yen plus reduced environmental spending because there will be less laundry waste. We are not against quality manipulation. Within certain limits, this is a forced measure, indicating the limitations of cognitive and other possibilities. The theory need not be conservative, but quality manipulation is a tactical level of management as opposed to the strategic value and significance of quality management. Manipulation is one of the management tools, and it must remain a private, changing matter in the quality management system.

The second thing to keep in mind when analyzing the perspective of private self-quality control. Private initiative is conditioned by the general political and economic situation. Socialism could be built in a single country, but it turned out to be impossible at this historical time to ensure the competitiveness of socialism. Capitalism is still strong. The same situation awaits private producers. He delivers a quality product. Will he be able to work sustainably in an environment that is not ripe for such a practice.

Quality represents a system essential for the productproperties -it is commonplace and well-known, which is actively used, replacing properties,

or their consistency in a quality product. Essential properties are those that are not just inherent in the product, they determine its functionality. Such properties, as a rule, are revealed in the process of "work" of the product for its intended purpose, they are hidden from the unprofessional view of the consumer. In its “pure” form, the market is an intermediary and should not be interested in the quality of products. The task of the market in the theory of the organization of commodity production is the organization of exchange between the producer and the consumer. The development of the market stimulates the increase in production in the interests of the consumer within the infrastructural status of the market.As a result of the research, it was confirmed that the interaction of the assortment policy with innovative technological processes, formed on the basis of the use of universal and multifunctional equipment, allows the heads of light industry enterprises to form such a price niche that guarantees them the replacement of imported products in the sales markets in the regions of the Southern Federal District and the North Caucasus Federal District with domestic, demanded products, and the population of these regions - to create new jobs and provide them with social protection from the economic crisis.

In addition, the authors analyzed the possibilities of the company's policy and goals in the field of quality within the framework of the QMS in order to fight for defect-free production, to reduce defects and guarantee consumers high quality of manufactured products. The use of software for assessing the validity of the choice of innovative technological solutions for the production of priority products by domestic enterprises creates the prerequisites for its demand and competitiveness not only in the domestic market, but, most importantly, in its export. The need to improve the quality management system at domestic enterprises is due to the following important reasons:

firstly, it is an increase in the confidence of potential consumers in the products that will be produced by domestic enterprises;

secondly, it is an opportunity to significantly strengthen one's position in existing markets, as well as significantly expand spheres of influence by entering new domestic and foreign markets;

and thirdly, this is a significant increase in labor productivity of any industrial enterprise, which is supposed to introduce a QMS using participatory management.

The choice of light industry enterprises as an object for assessing the effectiveness of the socio-psychological factor in the implementation of the QMS is due to the fact that these enterprises are characterized by the presence of highly qualified workers and specialists. Thus, the Policy of goals and objectives of the QMS will be implemented much more professionally and at a lower cost due to three main aspects: employee involvement, process approach and systematic approach. In addition, the personnel of light industry enterprises are more effectively able to realize the goals and objectives of the QMS also because control activities are more professionally carried out to fulfill the following situations: persuasion, execution of delegated powers, creation of conditions for increasing productivity and effective use of the business qualities of employees.

The authors of most studies justifiably paid attention to solving the problem of combining state and market mechanisms for managing competitiveness.because it becomes a strategic resource for the economy of these regions. Today, and even more so tomorrow, in the global economy, the place of price competitiveness will be taken by the competitiveness of quality levels, which has widely increased its importance in connection with Russia's accession to the WTO and the need to use the ISO 9000 series. In this regard, the increasing importance of the quality factor of the results of the domestic light industry in the strategy of competitive struggle in the world markets will become a priority and will be a long-term trend.

The task of increasing competitiveness is especially urgent for those enterprises that, due to external factors (increased competition due to globalization, the global financial crisis) and internal factors (inefficient management), have lost their competitive positions in the domestic and foreign markets. In response to negative processes in the external environment, the processes of regionalization and the creation of various network structures are intensifying, one of which is the formation of a union of producers and the state.

The formal logic of thinking, formed spontaneously, reflects the world of things in the first approximation, roughly. F. Engels rightly compared it with elementary mathematics, which is not capable of describing the process, therefore it is limited to actions with finite values. “What is good and what is bad” is the lot of formally logical reasoning, for which “there is no silver lining”, or “two different sides of the same coin” - judgments that are not according to the rules, forbidden.

Political ideology also imposes prohibitions on thinking, dividing thoughts into own and hostile, right and wrong, forcing the public consciousness to work according to the simplified rules of the formal logic of individual thinking. Logical blinkers are justified, pseudo-ideological justifications have no just as well as the actions of those who have views that are different from their ideology, deafening, unwilling or unable to critically comprehend them.

The Marxist and Hegelian concepts of quality have more in common than differences.

The main thing is that the most essential thing in understanding quality is the same. K. Marx and F. Engels, distancing themselves from Hegelian idealism, protected his dialectical understanding of

thinking in every possible way, developed the positions put forward by him, and protected them from criticism. They were better than anyone aware of the reserve inherent in the Hegelian dialectic of knowledge.

The quality for both Hegel and the founders of dialectical materialism, who worked after Hegel, was:

- firstly, a set in a certain way, related essential properties of phenomena;
- secondly, they understood quality as an objective state, even in the case when it is created by human consciousness, since consciousness creates quality according to the objective order of the world. Quality is invariantly objective;
- thirdly, in their understanding, the quality changes in accordance with the dialectic of the development of the world. It has a concrete-historical way of expression.

All three of the above characteristics of quality form a methodological framework: quality theories and quality management strategies.

The famous predecessor of G. Hegel, the English philosopher J. Locke, also made his contribution to the philosophy of quality. J. Locke divided the quality into two groups: the objective qualities of things that are significantly inherent in them, and the qualities that arise in the process of cognition. The latter are absent in things, but are formed during the interaction of things and human feelings. Things excite certain feelings and they react with the formation of qualities corresponding to the received signal - sensations. The duality theory of quality by J. Locke was not criticized only by the laziest. He got it from the materialists for concessions to idealism: the idealists did not spare him for a group of objective qualities.

Does such an active criticism of the English thinker's beliefs mean that he was wrong in everything, getting lost in the wilds of the philosophy of quality? Not at all. The ideas of an intelligent person cannot be stupid if they are not a joke, and J. Locke was not joking.

The philosopher tried to find a solution to the contradictions in the development of the doctrine of quality. He was not satisfied with the view of the quality of either simplified materialism or subjective idealists, whose judgments led to a dead end.

J. Locke was far from being able to combine the ideas of opponents, and to overcome the existing conflict with such a primitive method. He wanted to emphasize the role of consciousness in the history of the formation of quality, the activity of the subject, but he could not consistently implement his plan. The essence of his initiative - the desire to include the activity of the subject in the theory of quality - deserves special attention.

Time passed, the idea matured under the influence of practical factors. Philosophers returned, but not to the philosophy of J. Locke, to his idea of the activity of the subject and the role of his activity in shaping the quality of things. Not to mention the fact that the problem of the originality of the quality of the activity itself, which creates the quality of things, has also become topical.

Suffice it to recall the modern, international quality control system ISO-9001. It is the idea of the quality of activity that is basic in it. It would be a mistake to equate quality and thing. As a particular combination of properties, a quality is, by definition, not the same as a thing. G. Hegel defined the quality of a phenomenon simply and, within the limits of philosophical understanding, which in the conditions of market relations fits in with consumer assessment, the concept: "quality is that, losing something, the object ceases to be itself." “Ceases to be itself,” but does not cease to exist at all.

Not meeting the requirements of quality, the phenomenon turns from one state into another, or into another phenomenon. The examination gave a conclusion about the non-compliance of the goods with technical (and consumer) parameters. The goods were transferred to the category of out of condition, defective product, but the thing remained and along with it some prospect of its disposal was preserved: elimination of non-compliance with the standard, processing. You can’t wear shoes, you can try to bail water out of a leaking boat with it, tamp down tow, chat, but you never know what a failed boot can fit in a big household - you can even put it on a samovar.

It is a mistake to tear quality away from the subject not only from a philosophical position, but also from the point of view of non-philosophical understanding, otherwise the quality will turn into something independent, like “The Nose” from the story by N.V. Gogol, and quality management will lose subject certainty. F. Engels emphasized: "There are not qualities, but only things that have quality, and, moreover, infinitely many qualities."

Experts distinguish the shift in market needs towards quality products. The market is maturing. This confirms the monitoring of demand. In this long-awaited situation, it is important not to lose the philosophical ground, developing a business plan, according to new circumstances.

Quality is the highest and permanent goal at the same time, so you need to have one for the future, and give the other a modern image. Only the correct orientation in a specific time as a life interval, when it is relevant, guarantees the success of the sale of goods.

The manufacturer and seller must be modern. Their modernity is due to the ability to provide an optimal product range and match a specific product with the expected quality level in order to fall into the optimal price range dictated by the effective demand of the product consumer, expressing his need for the product.

Quality for the consumer is not an abstraction created by the professional thinking of the

manufacturer. The consumer looks at quality through the sight of the wallet. As long as the market exists, the price remains its hallmark. If the buyer first asks to see the product and only then asks how much it costs, then the result does not change from the rearrangement of behavior elements. The client will definitely ask his sacramental question, the answer to which will determine how the act of sale and purchase will be resolved.

Quality is not adapted to independent existence. As a thing is presented, when it is on the market - a commodity. And here the main thing in the theory of quality begins, so let's stop and analyze the problem in more detail.

The quality of things that form nature arose naturally, spontaneously, according to a complex combination of natural laws. It follows that the quality of such naturally created phenomena is unequivocally objective in all respects.

The history of the quality of phenomena created by human activity turns out to be different. In public practice, the spiritual component of a person is realized. A person builds a house, sews shoes, clothes, coordinating his actions with the mechanical, physical, chemical, biological properties of natural things, but we are not making the final product for nature - we will omit special cases. We realize our goals, needs, interests in the created thing, its properties, in its quality: we either materialize or objectify. Differences in the objectivity of the quality of a natural phenomenon and that created by man is the formation of the quality of a thing in a thing in the nature of social practice. Quality is built consciously, aimlessly and unconsciously, in order to “humanize” a thing, to give the objectivity of quality to it the necessary meaning,

As things produced by the practical activity of man, as this activity itself, the objective properties of things and the subjective forms of human being are intertwined, fused. The quality of things made by man is objective, but in their objectivity the reasonableness (or unreasonableness) of a person is expressed. And here is precisely the knot of contradictions between the producer and the consumer.

It can only be unleashed by coordinating views on the consumer properties of the manufacturer's goods with a real assessment of consumer needs and opportunities. The quality of goods should be developed solely with regard to careful marketing monitoring, respectively, pulling up production reserves. We continue to observe a divided market mechanism. Hence the problems with the sale of domestic products.

Professional activity, like a sculptor, sculpts the quality of a thing, relying on the natural properties of the material, elevating them through talent and labor to a state that awakens the specific interest of consciousness. Things of natural origin also attract human interest by the ability to evoke aesthetic feelings, have a therapeutic effect, be a material or a condition for the production of everyday life, which is understandable - a person “came out” of nature, remaining a special part of it. However, their quality retains its "natural purity". Professional activity is a systemic factor in ensuring the quality of a value-added product. According to the position, it should also be the initial link in the development of the ideology of quality management.

A quality thing can be produced exclusively by high-quality professional activity - this is the first and basic law of production quality. Natural disasters can do a lot. They are people acquiring gems, techniques, building materials. Diamond is the brainchild of the natural elements. The mineral has an original unique natural quality, but diamond products build on natural quality so many new qualities in which people are interested that natural quality remains essentially important only for natural stone processors.

The end product of a diamond, be it a piece of jewelry or a technical element, is the result of professional work. In the gemstone market, there is a difference in interest in the source material - what deposits it comes from, but most importantly, in who will turn diamonds into polished diamonds. The quality of a diamond is due to the combination of raw materials and craftsmanship in the product. And since the master chooses raw materials, the contribution of his professionalism to the quality of the product is of decisive importance.

Hence the second law of production quality: to ensure the quality of the product, it is necessary to have high-quality training of specialists capable of maintaining and increasing professional skills.

The third law of production quality requires the focus of professional activity on improving the technological process through integration with science and technological progress.

The concept of "quality", reflecting the subject diversity of the world, is thereby obliged to reproduce in itself an objective difference. This is done through quality structuring. Structured quality is a particularly significant factor in the theory of quality management. It is advisable to divide the quality into the following seven structural levels according to the level of significance from the contribution of the "human factor":

- the quality of natural objects;
- quality of natural material;
- the quality of the processed natural material;
- quality of technical equipment;
- the quality of the software product;
- the quality of production activities;
- quality of organization and production management.

Organizational and managerial activities aimed at producing a high-quality salable product itself require quality control. Audit of the quality of the

organization and quality management of production involves the structuring of the relevant activities. Our research experience of the problem suggests that the process of organization and management should be decomposed into four components.

The logic of creating the quality of things created by man pushes the quality of activity to the fore, close-up, focuses research attention on the signs of quality activity, the need to build their systemic relationships. Philosophical literature on the selected issues is more "silent". Philosophers are still at war. Supporters of the objectivity of quality prove the inconsistency of the views of their opponents, instead of looking at quality not only in the context of the objective reality of the world, but also in the context of human, professional activity that transforms the material world. In the spirit of pre-Marxist materialism, it is impossible to develop a scientific-philosophical doctrine of quality, because the old materialism was, in essence, a philosophy of contemplation, and not of transformation of the world. No wonder K. Marx taught: it is necessary not only to reflect the world, but also to change it. Dialectics - a materialistic worldview based on the practical interaction of man and nature. Activity, primarily creative, is the creed of dialectical philosophy and science.

The universal model of relations between the system properties of professional activity is explained by the scheme already given and proposed by us: The signs of professional activity included in the scheme are well known. Professionalism is usually associated with them both in scientific and practical consciousness. The novelty does not lie in the signs themselves, but in their representation by a systemic formation, which gives them a new level of significance. When presenting a system, researchers usually refer to the discovered by Bertollanffy effect of the system connection of properties: the discrepancy between the sum of the system's features and the sum of the features of the elements that form the system. The effect described by Bertollanffy makes it possible to judge the systemic organization of properties, actions, phenomena as the most effective form of relations, which is important for the effectiveness of management, on the one hand, and the perfection of the organization.

Quality management, building on its philosophical interpretation, takes its next step along the path of systemic organization of the activity program, sorting out the location of systemic signs of activity so that the built system would be vitally stable, relevant and reasonably safe.

A systematic approach is currently the most qualitative way of knowing and organizing the management of any complex activity. There are probably no more doubts about the greatest efficiency of using a systematic approach. There are those who inadequately perceive and evaluate the indisputable advantages of a systematic approach, absolutizing its importance to the detriment of other methods, in particular, an integrated approach. An integrated approach in theory and practice has not squandered its value in competition with a systematic approach. They are not very badly combined, complementing each other, and increasing the efficiency of both organizational and managerial and cognitive activities. It is more convenient to analyze the quality of activity from the standpoint of a systematic approach. The theory of quality management, it seems to us, is more reasonable to build on the foundation of a comprehensive consideration.

The system approach is fundamentally distinguished by the way of building knowledge, in which the relationships that form the phenomena of elements, features, are built depending on the basic relationship, called the system-forming factor. The system is formed like a crystallization process by successive increments to its constituent parts.

It is systematically expedient to build, for example, products made of leather, fur, textiles, when a certain, agreed state of the quality of the material is taken as a system-forming factor and the entire series proposed for production is “attached” to it. The quality and place in the market in this case will be determined by the quality of the corresponding state of the material used in the manufacture of each specific range of products.

An integrated approach is based on a certain qualitative basis and requires a comprehensive analysis of the quality of the phenomenon, and aspects of research can be equivalent, and act in some rating dependence. A good example of using an integrated approach is the construction of quality management.

The above scheme demonstrates the relationship and role responsibility of the main elements of the preparation and implementation of the production quality management process. It quite clearly shows the key relationships: the connection of the philosophical aspect with technical regulation, which makes it possible to concretize methodological and theoretical studies to the level of normative and technical tasks; technical regulation with a right aspect, including the latter, the use of patent and licensed elements: philosophical and economic analysis, giving the first a specific subject orientation in market conditions, and the second a methodological perspective, the dependence of the quality of production on the technological state of production and scientific equipment

To complete the philosophical analysis of quality at the level necessary for the use of this knowledge in the practice of economic management of production quality, a schematic diagram of the relationship between philosophical concepts describing quality, docked with economic categories, will help. It was developed by us several years ago. Our return to it is forced. The reason is that we didn't have a choice. Philosophers continue to analyze quality abstracted

from specific forms of economic practice in the light of their professional interests. Economists represent quality narrowly empirically within the framework of mercantile interest.

Philosophy warns that the objectification of quality has real meaning only in the epistemological aspect of its consideration: when deciding on the nature of quality. Indeed, in terms of the relationship "object - subject", the quality is primary - it is objective in nature. Even constructing quality, we are deprived of absolute freedom in our creativity. Professional creativity is limited by the objective roots of the quality created by creativity. The quality of both things and theories is objective, with the only difference that the quality of a thing is objective in material terms, while the quality of a scientific theory is objectified by the adequacy of the reflection in it of the objective quality of a thing, the relations of which are reproduced in a scientific theory.

In the theory of quality management, it is important to correctly understand the dialectic as the organization of production; as an activity organized by production, and finally, as an objective and subjective commodity produced. Prominent domestic scientist, public figure L.P. Krasavin, in order to emphasize the active nature of quality associated with the subjective creativity of a professional, coined the term "quality".

The subjective side of the quality of goods is revealed on the market through complex relationships between creators, intermediaries and consumers. The originality of the national mentality intersects with them - in the United States and Western European countries, a pragmatic, utilitarian approach dominates in the interpretation of quality on the market; use.

Creators and producers of quality goods need to educate the consciousness of potential consumers of their products, based on the fact that in market conditions the quality of goods is a collective image. The image of the quality of a product, branded production, of course, can be promoted with the help of advertising, but such one-sidedness is uninhibited and dangerous.

The stability of the reputation of a quality product is ensured by the entire mechanism of the market, including its extensive infrastructure. An enlightened consumer is actively involved in the process of "struggle" for quality. It is necessary for the market, like a pike in a pond, so that crucian does not doze off.

Unfortunately, many Russian manufacturers are not afraid of the boomerang. They know that they will not stay in this sector of production for a long time. As long as the market puts everything in its place, reacts appropriately to the pseudo quality, they will be different and this "crap" will lose its relevance for them. Although experts believe that the Russian market has swung in the direction of product quality, objectively the situation on the market has not changed significantly. Those small percentages on which encouraging conclusions are based are far from being qualitative characteristics. The shift towards interest in the quality of goods must go through the obligatory stage of expanding the range of available goods for the mass buyer, and this stage has not been passed by the Russians, which, in other words, does not mean deactivation of the quality of the goods.

Integrating what has been said, we will give a formula that allows us to reveal the terms of the quality of a product, that is, a product produced by a person to meet certain needs. Phenomena of natural origin included in market relations can also be summed up under it: clean air, mineral springs, therapeutic mud, clay, warm sea, etc., as well as those whose production is not designed for sale, considering these cases as a simplified option. Why is it necessary to expand the interpretation of the concept of "natural properties" by including in its content the intellectual and psychophysiological prerequisites for creative activity. An economic understanding of quality, on the basis of which all known concepts of production quality management were directly developed. Evolved according to dialectical laws, moreover,

The development of economic awareness of quality was carried out "under the influence of contradictions between the internal and external goals of the manufacturer - ensuring the quality of products and, accordingly, strengthening the position of the manufacturer in the market (external goal), as well as increasing production efficiency, that is, increasing the profits of companies (internal goal). At each stage of production, market and society, this contradiction had its own specifics and was resolved in different ways.

B.S. Alyoshin and co-authors distinguish four phases in the development of the modern philosophical and economic interpretation of quality: the “rejection phase”, the “quality management phase”, the “continuous quality improvement phase” and the “quality management program”.

The history of economic quality management goes back to the era of workshop production. In medieval cities, guild organizations were necessarily created, one of the most important functions of which was the certification of craftsmen. To become a recognized master, it was necessary to pass a serious test of their products for quality. All products of shop craftsmen had the author's "brand" and were unique in their kind. Quality management was simplified by the production itself, its manufacturing nature, which did not allow production to unfold on a scale. No agreed quality standards at that time, of course, did not exist due to the difficulty of comparing strictly individual products of masters and, even more so, trying to develop some kind of model to follow. The uniqueness of the work of the master ruled out imitation of anything in principle.

Only much later, at the arms factories of S. Colt, standardization of the quality of products appeared.

Such an unusual decision was prompted by the fact that in the conditions of mass production, the final product began to be assembled not from specially made and fitted parts, but from randomly selected parts from the corresponding batch. For the first time, production was equipped with special calibers, and trained inspectors checked parts on them before assembly.

The heyday of the idea of standardization fell on the era of mastering the production of cars in the United States. G. Leland, the creator of the Cadillac company, came up with a pair: "through" and "non-pass" caliber. G. Ford, having built an assembly line, went further. He replaced input control of components with output control, thanks to which calibrated, high-quality parts were delivered to the main production - assembly, which significantly increased labor productivity and significantly improved the quality of the final product. For the first time, a technical control service independent of production was also created at Ford factories.

Like-minded H. Ford F. Taylor, who worked in a creative connection with his patron, did a serious job of scientific understanding of innovations in production. As a result, he managed to formulate the principles of scientific management focused on the quality of production: a systematic approach; personnel management; mandatory division of responsibility between performers and organizers in achieving high-quality and efficient work; the need for science-based labor rationing.

UGH. Taylor, the undisputed founder of scientific management. It was he who first discovered the "exhaustion" of the effectiveness of the main provision in management practice: "initiative - encouragement" for the quality of work. “In contrast, F.W. Taylor, the development of the scientific organization of labor suggests the development of numerous rules, laws, formulas that will replace the personal judgment of the individual worker and which can be usefully applied only after a systematic accounting of measurement has been made, etc. their actions."

One cannot but agree with the summary of D.M. Gvisani: what Taylorism has in the strict sense of the term boils down to this:

creation of a scientific foundation that replaces the old, traditional, practically established methods of work, scientific research of each of its individual elements.

Cooperation between the administration and workers in the practical implementation of a scientifically developed system of labor organization.

Equal distribution of labor and responsibility between management and workers.

F. Taylor himself imagined the guarantees of the quality of production and its efficiency as follows: “Science instead of traditional skills; harmony instead of contradictions; cooperation instead of individual work; maximum performance instead of performance limitation; development of each individual worker to the maximum available to him productivity and maximum well-being.

Try to reasonedly object to F. Taylor. It is not surprising that his view of the organization and management of machine production hypnotized his contemporaries.

There is an opinion according to which the concept of F. Taylor, G. Ford, A. Foyle and M. Weber “Basically has existed to this day and has become a model for organizing the production of most modern enterprises. It was only in the 1970s that another concept began to replace it - the Toyota Production System.

The ideology of the “rejection phase” was simple and clear: only high-quality products should be at the output of production; a meeting between the consumer and defective products cannot be allowed. The main efforts of managers should be focused on quality control of components and assembly of finished products. In the relative simplicity of the concept of "rejection phase" was its reliability and the relativity of its reliability, led to the need for innovation in the future.

The reliance in the ideology of production quality on the “rejection phase” has had a practical effect. It would be surprising if the result was not positive. Increased attention to quality control is logically presupposed as a condition for the functioning of production. This requirement at the market level of understanding accompanied the development of production activity throughout its existence.

The stability of the economic (and, to a certain extent, social) effect achieved by the pioneers in the development of a scientific solution to the problem of managing the quality of production is surprising.

And yet, the side of the “rejection phase” hidden until the time had to emerge. The shift of management to the phase of high-quality pre-production - in fact, towards the special status of control functions, signaled an increase in the corresponding costs for providing high-quality products.

The quality of production and the quality of manufactured products are a single whole, but not the same thing. The development of production is undoubtedly due to the quality of manufactured goods. E. Deming rightly placed at the head of the list of the "seven deadly diseases" of modern production "production planning that is not focused on such goods and services for which the market is in demand."

Production in the transition from an industrial to a post-industrial society of a mass consumer is increasingly becoming a function of the market “The buyer is always right” - no matter how the well-known judgment is contrary to the seller, who is forced to adapt to the demand of the buyer, he has no choice.

There is no choice for the manufacturer, for which the "seller" is the "buyer".

The quality of the product is a special “song” of production. Only a "concert" cannot consist of one song. The quality of production is also characterized by its economic efficiency. The pursuit of product quality cannot be the end in itself of production, otherwise a good deed will turn into a deadly disease. The quality of the goods is not able to compensate for the inefficiency of production as a whole.

Improving the quality of the final product always requires the cost of its provision, which becomes a problem for developers of efficient production strategies. The goals of increasing production efficiency and improving the quality of manufactured products were not combined in the concept of the "rejection phase", so it was replaced in the 20s of the last century by the "quality management phase". Its developers attempted to overcome the critical cost of product quality, evident in the "rejection phase". They were unable to resolve the conflict that had arisen. Managed to soften it up. Among the innovators of the reconstruction of the "rejection phase" stood out an employee of the technical control department of the American company "Western Electric" W. Shewhart, who proposed a method for constructing diagrams, better known as "W. Shewhart's chart control".

In the first approximation, the initiative of the American specialist looks quite radical. W. Shewhart abandons the key quality control scheme of F. Taylor, G. Ford. In the center of quality control, instead of the pre-production stage, at which it is necessary to reject low-quality products, the production process itself turns out to be.

The system of W. Shewhart's methods was aimed at improving the technological process, which was intended to help increase the output of finished quality products.

In the concept of V. Shewhart, a dialectical approach to business is initially felt. His predecessors tried to "sort out the production on the shelves" and load the "shelves" in such a way as to get the desired result. As a result, they overloaded one of the flank "shelves" and the entire structure was skewed. The stage of preparation - control became the most costly, while the main stage - the technological one - became dependent on it and was pushed to the periphery of the management process, undeservedly suffered.

W. Shewhart called "things" by their proper names and arranged the stages according to the rank, highlighting the technological one. He risked, simplifying the pre-production stage, reducing the quality of components. In return, he expected to receive a win in the main link of production.

By investing primarily in the improvement of technology, the manufacturer strengthens the production process, making it, in principle, more efficient through organization and technical equipment. As for marriage, it is more expedient to track it precisely when organizing relations in the production itself, relying on scientific developments and the timely introduction of novelties in the technical process, complete with measures to prepare the quality of the readiness of performers.

The main object of quality management in the concept of W. Shewhart is the production process. The output from it is a flow of measurements of the quality parameters of individual products.

V. Shewhart sends Ford's former goal of "getting into admission" to "retirement". G. Ford's idea worked out its work, awakened new thinking. To replace her, V. Shewhart forms a tandem of goals: ensuring the stability of the process and reducing variations in stability. W. Shewhart considered the presence of variations to be a natural formation. He even derived a criterion for the quality of the process - the stability of the process should be considered in a statistical sense. Variations in product parameters are nothing more than the implementation of a stable random process, the distribution function of which remains constant for a certain time.

W. Shewhart believed that variations in the parameters of products are the result of two groups of reasons: special and general. Special ones are rooted in disruption of the production process. They are identified using a control chart and eliminated based on the readings of such a card.

The common causes lie in the depths of the process itself. There are many of them, but individually they are not significant. The danger lies in the sum of the action of such causes. The common causes of variation in product parameters are the concern of managers, often of a high level and qualification. By their investigations and actions, they are able to limit the actions of general causes. At the same time, W. Shewhart made two very valuable conclusions that should guide the production manager, namely:

firstly, the search for the guilty is necessary, however, having found the guilty, we are rarely able to influence the situation. It is necessary to look for the causes of non-compliance and eliminate them, involving all its participants in this process;

secondly, process variations become a source of defects and inconsistencies.

Reducing variations in W. Shewhart's quality management system is a complex goal. Associating the number of variations with the organization of the production process, W. Shewhart clearly realized that in order to reduce variations, a new configuration of relations between people involved in production is necessary. The essence of such a new configuration should be comradely cooperation. By the very peculiarity of production, people are united into teams.

W. Shewhart's system is a serious step forward in comparison with F. Taylor's system. F. Taylor focused on the mechanism of action, and W. Shewhart

- on the mechanism of interaction between people in the whole spectrum of their relations: technical, economic, psychological.

B.S. is absolutely right. Alyoshin and co-authors, arguing: “Such a concept as “tolerances” (one of the most important inventions of F. Taylor) undoubtedly remains in the practice of work. "Tolerances" is the form, the language of quality requirements, the result of quality planning. Something else is changing: the opposition of the tasks of planning, execution, control and corrective actions. Such tasks are performed by teams…” At the same time, we note that the ideas and methods of W. Shewhart continue the desire of F. Taylor to put quality management on a scientific basis, to use scientific methods in the organization of production. But here, too, W. Shewhart is "ahead" of F. Taylor.

Science (and scientific methods) for F. Taylor, G. Ford was reduced to those of her ideas that make it possible to quantitatively measure the mechanical actions of a single performer, find the optimal route of movements and take it under effective control, having previously loaded it with tasks in full. The "classical" (Taylor) theory of quality management was based on centrifugal forces and movements and production: division of labor, specialization of actions, individuality of the performer. This one-sidedness was understood by critics.

W. Shewhart considered a clear simplification of the mechanistic view of the development of production in general and quality management in particular. The process of production not only combines the interactions of centrifugal and centripetal forces - individual and collective actions: it does not allow the reduction of what is happening in it to relations of a mechanical type.

Man participates in production as a subject of actions and relations. Moreover, a person as a subject of labor is a decisive factor of production. The development of production must be based on the development of the subject and the relations of the subject and the relations of the subjects.

Subjective potential in the form of individual knowledge, skills and aspirations is the main reserve of production efficiency, which science helps to activate and organize properly. In this understanding, science includes social and humanitarian components, simplification of the representation and nature of human behavior in an organization.

W. Shewhart understood this, explained it as best he could, and expected to be understandable and in demand by practical management. The new ideas of W. Shewhart did not go unnoticed by business, but, apparently, the inertial forces of the movement of business are so great that ideas begin to act on it only with time and on a total basis.

The short way to profit out of habit was thought to be the simplest. Any complication is associated with additional costs. Will they be justified? In addition, it is much easier to measure the mechanics of an action than the motivation of an activity.

But it is surprising that, after almost half a century, J. March and G. Simon noted: in the United States, there are two widespread views on the position of people in an organization: “considering an employee as an inert tool that fulfills the purpose indicated to him, and something given, and not as a variable in the system. Another authoritative scientist, M. Hare, agrees with them: “There are implied assumptions about a person, on which, it seems to me, the classical theory of organization and management is based: he is lazy, short-sighted, selfish, prone to mistakes, does not know how to judge sensibly, and even can be a little dishonest." M. Hare's text explains that the classical interpretation of management organization is still very popular in practical management.

Three main provisions of the "classical" theory of quality management have not been obsolete so far. They continue to impress, warming the soul of the patrons, caressing their self-consciousness, reinforcing self-confidence in their chosenness. Everything is so well laid out in its place: the worker-executor, in fact, is a “rational animal” with a clearly defined dominant to maximize economic conclusions; "each individual responds to economic incentives as an isolated individual"; "People, like machines, can be treated in a standardized way."

In theory, events unfolded according to a logical scenario. Practice, however, was not so receptive to changes in views, so the effectiveness of the new approach to economic quality management left room for reflection on the complexity of the relationship between theory and practice.

The construction of the economy itself hindered the totality of the introduction of progressive ideas. In order for a person to turn around as a subject of production - to mobilize his abilities of knowledge, it is imperative that the economy turns "face" to a person, acquires a "human face".

In another way, it is impossible to enter the talents of the individual into the interior of production, to make them interested colleagues. Dialectics warns: truth is concrete. The theory is effective in a concrete historical framework. Her life may be long or short, but always finite. The elements of the theory and the experience of its exploitation, expressed in historical lessons, continue to work, being embodied in other, relevant theories and practical actions.

Today's economic component of quality cannot but take into account the acquisitions of W. Shewhart, M. Follet, G. Simon and all those who proved the need to involve the subject's abilities to think and get involved in the struggle for quality. In particular, in our opinion, the power of W. Shewhart's "control charts" remains. They are simple and make it possible to monitor the quality of the process and the activities of the performers. And for performers, they are more

understandable than the far from always understandable displeasure of the manager, so we give their example (Figure 1).

Having developed a model of a sustainable process, W. Shewhart significantly expanded the possibilities of scientific analysis of the quality of production, thanks to which those aspects and stages of production that remained in the shadows in the "classical" concept were revealed. He introduced the concept of "correcting the process according to its measurement data" into the quality of production, which is quite fashionable to consider as a specification in relation to quality management of the concept of "feedback".

In the theory of random processes, a quantitative measure of the dependence of a sequence of random variables is the autocorrelation coefficient, which takes values from 0 to 1. With its values close to 0 for neighboring observations (in practice, <0.2-0.3), the process is considered "white noise" . If the values of the autocorrelation coefficient are close to 1, then various systems of feedback regulation should be used for this process.

It is not difficult to see in Shewhart's concept the desire to theoretically comprehend the specific state of mass production of his time. He tried to look at the conveyor through the eyes of science. And he did a lot. At least, the ideas of W. Shewhart are still viable today, although they have grown old. With a creative approach, they give a good result.

A remarkable contribution to the practice of quality management was the creation of a quality audit service, the function of which differed significantly from the tasks facing the technical control departments of F. Taylor. She was not engaged in sorting, but in checking the performance of the quality assurance system by monitoring small developments from batches of products. Thus, W. Shewhart found a way to reduce the cost of quality, which increased disproportionately when organizing production on the recommendations of F. Taylor. However, W. Shewhart's original thinking and his organizational talent did not resolve the old contradiction between the need to ensure production efficiency and the market's need for a quality product, and the production itself for high-quality raw materials and components. Each production process has a limit to the output of quality products. This limit is not set in the process. It is an attribute of the system practiced at the enterprise, the product of all aggregate activities, features of the organization of labor and production management, including the quality of production. Approaching the limit leads to an increase in the main contradiction.

Quality assurance requires more and more funds, which leads to a decrease in production efficiency.

In the fifties, a new concept of quality management was formed. Her inspiration was E. Deming. The name of the next stage in the development of the philosophical and economic understanding of production quality management emphasizes its essence “the phase of continuous quality improvement”.

The version of production quality assurance proposed by E. Deming turned out to be a long-liver, having existed “in authority” for almost half a century, until the mid-nineties. Such a duration of the practical relevance of E. Deming's concept is explained, as it seems to us, by the fact that it was able to become skillfully "planted" on the basis prepared by W. Shewhart, and is already a software product in form.

E. Deming's management program is built on three axioms focused on industrial practice:

- the first practical axiom states that any activity must be defined as a technological process, from which the conclusion follows about the possibility of its improvement;
- the second practical axiom was formed by E. Deming as follows: production has two forms of state - it is in a stable or unstable state. In both cases, it is not enough to solve particular problems, fundamental changes are needed;
- E. Deming's third practical axiom is as follows: the top management of an enterprise in all cases is obliged to take responsibility for the result.

The practical concreteness of E. Deming's axioms is achieved within the framework of a special management program that summarizes the theoretical and real experience of organizing production quality management. The program is represented by several levels of comprehension and practical implementation of ideas: "Fourteen Points", "Seven Deadly Diseases", "Difficulties and False Starts", "Deming's Chain Reaction", "The Principle of Continuous Improvement (Deming's Cycle)".

Of particular interest to the practice of improving quality management in enterprises are the penultimate and last sections of the program. The "Deming cycle" is, in fact, a scheme proposed by W. Shewhart, which Deming also recognized. "Chain Reaction" is a product of E. Deming's own creativity.

The Deming-Shewhart cycle loops through four stages: observation, development of improvement measures, implementation, and analysis.

The task of the quality manager:

on the first of them - the collection of information and the identification of weak links in production that require restructuring;

at the second stage, the leader develops organizational measures aimed at changing the situation.

Among them is the connection of all performers due to motivation.

The next stage is the implementation and monitoring of the modernization process. The cycle ends with the stage of analyzing the results obtained from the implementation, building up experience to repeat the cycle.

Perhaps graphically, the Deming-Shewhart cycle best demonstrates the spiral of development, each turn of the spiral is a relatively closed cycle of actions. The next round "relies" on it, continuing the general process. If not for the tradition of naming such discoveries by the names of the authors, then the Deming-Shewhart cycle would be called the “cycle of the spiral” of quality management. The Deming-Shurhat cycle is undeniably relevant even now for improving the organization of production, since it reflects the universal law of building management.

In it, he linked economic and social actions, emphasizing the nature of historical time (Figure 1).

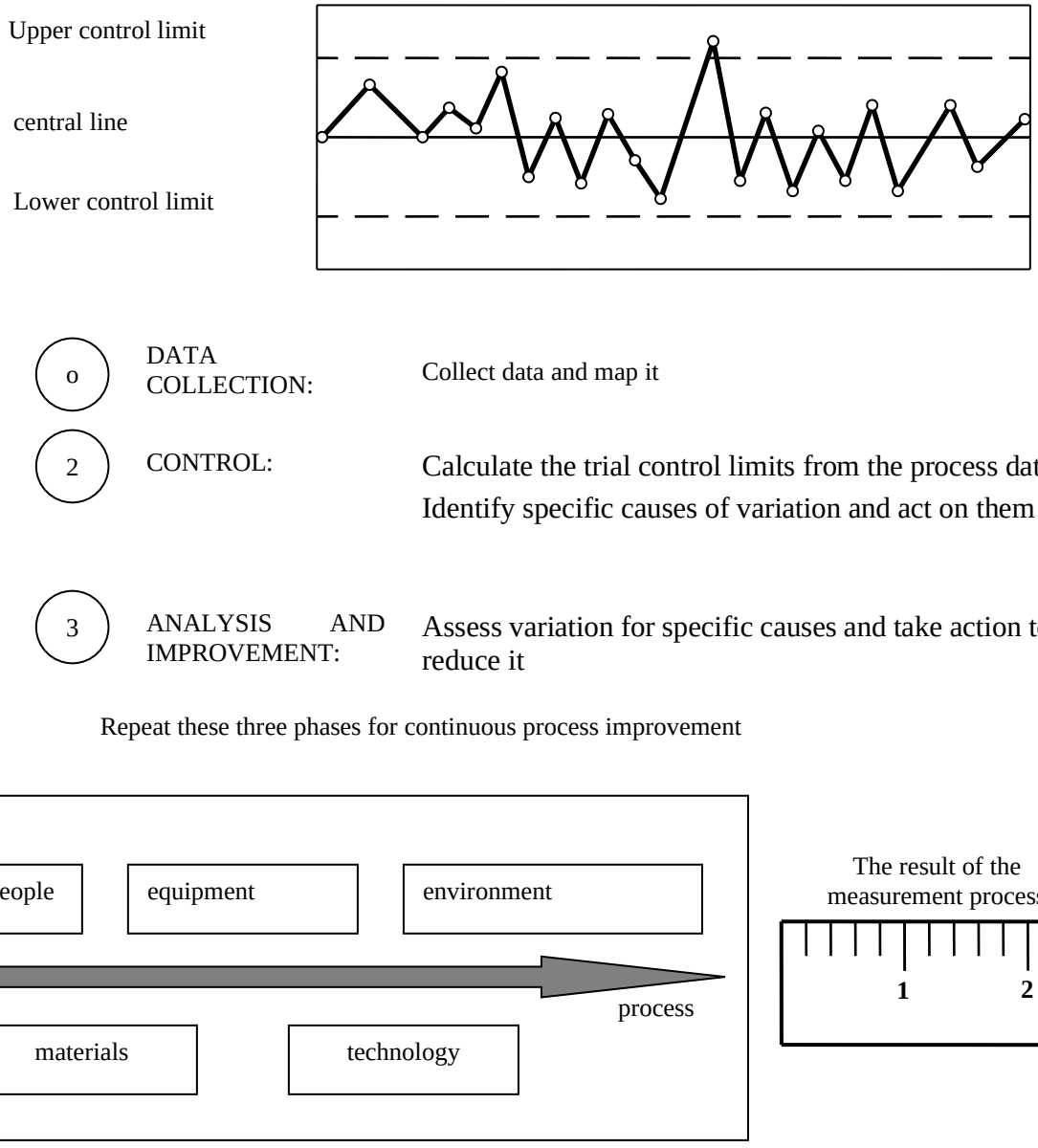

Figure 1. W. Shewhart's control chart

The heyday of E. Deming's creativity is associated with the revival of the Japanese economy. The government and industrialists of the country believed the arguments of E. Deming and he deservedly shared with them the glory of the "Japanese miracle". His contribution is also obvious in the achievement of Japanese specialists in the field of improving the quality of production, which are clearly highlighted in the study by B.S. Alyoshin with co-authors:

1. Long-term, consistent and purposeful solution of quality problems based on everything advanced that accumulates theory and creates practice in this area.

2. Consistent and persistent establishment of a system for studying consumer requests - (prevention of the main "deadly disease of the economy" according to the classification of E. Deming - ed.), Formation of a respectful attitude towards the consumer and his requirements up to the cult of the

consumer - (the consumer is always right - ed.) consumer (at the same time) is understood in a broad sense as the next link in the technological chain.

3. Striving for everyone to participate in the achievement of quality, from senior managers to performers of specific works.

4. Understanding that even a well-functioning system of labor organization without constant checks and improvement loses its effectiveness.

5. Organization of quality assurance work directly by foremen and foremen. Training, including special programs on national television, national conferences for foremen and foremen.

6. Particular attention is paid to the mobilization of the physical and intellectual potential of workers. Quality circles - a group analysis of the state of affairs in a particular area and the development of proposals for improving the quality and increasing the efficiency of processes and production.

7. Widespread development of a permanent system of propaganda of the importance of high quality products to ensure high rates of economic growth.

8. State influence on the cardinal improvement of the quality, primarily of export products, including mandatory state certification. An attempt to sell non-certified products for export is considered as smuggling. State support for exports, assistance in promoting goods to the markets of other countries.

We deliberately did not shorten the fragment describing the Japanese practice of creating a quality management system, because in it, like a mirror, Russian miscalculations are visible, namely Russian ones, since, having declared the Russian Federation the successor to the USSR, Russian politicians and economists close to them in 90 years systematically destroyed the socialist experience in building the quality of production instead of rationally modifying it. Quality in the 1990s was not necessary for anyone who should be responsible for it. The economy was reoriented towards raw materials, the quality of which is either determined by natural origin or "compensated" by realized quality.

Comparison of the economic policy of Japan in the 50s and subsequent years with the economic policy of the Russian Federation in the 90s, announced by the revival of Russia, leads to a sad conclusion: loud statements rarely correspond to deeds. During the period of Yeltsin's democratic reforms, politicians were the least concerned about the interests of the Fatherland, and they did not care about quality at all, squandering previous national acquisitions. However, a political assessment of this stage of our history was given long ago, and we are interested in that part of the theory that directly works for the country's economy. In this context, it is appropriate to “walk through” a number of Japanese achievements, keeping in mind the opportunity to draw practical political and economic lessons from them. There is no doubt about the total conclusion: the efficiency of the economy is determined not by the quality of the goods produced, but by its assortment and quality. The transition of quantity into quality could be expected only by those who have simplified the dialectic to the point of stupidity. In a new quality, it turns not into quantity, but into quality and only into it.

The Japanese teachers were Americans, but the Japanese learned very seriously from the experience - both positive and negative - of the Soviet Union. We still haven't really made up our minds. The whole world perceives our current declarations and certifications with skepticism. Those who do not know how to appreciate and use their own achievements are not able to adequately master other people's.

In Japan, the attitude to quality has become a national idea, and embodied in the form of a "struggle", in which it was prestigious to participate in everything from the janitor to the general director. A system of mutual interests has developed, supported by finances, organizational (career building) and spiritually.

We continue a protracted search for an idea that would unite the nation. The quality is not visible even next to what they offer. It does not appear in the candidates for the national idea. Enthusiasts deal with quality seriously only, wading through the “thickets” of democracy, apathy, and so on.

Our "helmsman" is not up to quality. The "Captains" are still paving the way to the West and investing in a non-native economy. It is a paradox that foreign investments in the Russian economy will soon exceed the contribution of compatriots.

Having lost the prospect of becoming an oligarch and feeling pressure from the fiscal services, oligarch candidates seek their fortune in distant countries. The Japanese concentrated capital in their native country. Patriotism meant more to them than personal gain. This is the reason (not the only one) of the "Japanese miracle".

The allies in 1945 destroyed everything that was on the Japanese islands, except for national self-respect. And it became a launching pad for the revival of the country. We emphasize that the Japanese were actively looking for specific mechanisms for turning quality into the total interest of the nation in the practice of organizing a quality service in the USSR: “cadres decide everything!”, “Quality is the main attention!”, “Everything is at the service of quality!” These are slogans from Soviet history. And behind them stood strict party and state control.

The Japanese submitted to the struggle for quality all national and state (municipal) reserves, forcing even television to work for quality. Essentially, the media were not limited to advertising quality. They organized schools, courses, universities to train the quality of key persons involved: foremen and foremen. National finances were directed to

education and training in quality work and its organization.

What do we have? Quality is at the mercy of everyone who makes a profit on training and education. What they did was squeeze the problem into an advertising product.

We do not have a national quality assurance program. We also do not have a state priority project (along with well-known national projects). It seems that, having officially announced the support of international quality systems, the top political management of the Russian Federation considered its mission accomplished, deciding that the market will regulate the rest.

The ideas of E. Deming were continued in the concept of another American who worked for the "Japanese miracle", Y. Juran. Y. Juran shifted the focus in the development of a quality management system from statistical methods towards the absolute value of the customer, dividing the emerging problems into random and chronic. Randomly (suddenly) emerging quality problems of a one-time (single) origin. They are not inherent in production. Problems should be solved randomly in the working order within the framework of current management. To this end, it is necessary to clearly allocate the responsibility of managers for the adoption of control measures and the timely introduction of corrective measures.

The problem of a chronic order is another matter. They are present in the process and, as it were, “planned” from the very beginning. J. Juran understood chronic problems as the result of assumptions made in the previous phase of the process. Up to a certain point, such tolerances do not significantly affect the quality, then, under the influence of the implementation conditions and their own movement, they become significant and become unacceptable. It was the chronic problems that J. Juran “accused” of stagnation or loss of quality indicators.

The company's management should not be complacent about good performance compared to the previous term. It is necessary to look not backward, but forward, otherwise it is easy to get into a crisis situation. The complacency of management is a "deadly disease" for production.

It is pointless to try to solve chronic problems by orders. We must begin by identifying their main causes, sources. Knowing the causes, Y. Juran, is usually beyond the capabilities of line managers. This requires a collegial form of analysis of what happened - "brainstorming".

The second half of the 20th century was marked by an intensive intrusion into quality management of mathematical methods for studying the process. A new scientific discipline emerged - the theory of managerial decisions, which was the development of operations research. In decision theory, the focus is on decision making. It was interpreted by the process, available for quantitative measurement.

The work was carried out in two directions. Supporters of the first of them tried to find mathematical models suitable for use in real production situations (Fogal, Luce). The developers of the second one turned to statistics, game theory, widely using statistical testing methods (“Monte Carlo method”).

The one-sidedness of both approaches gave rise to the third school, its founders wanted to “tie” mathematical research to the problems of quantifying economic phenomena as much as possible. As a result, the so-called "econometric" approach to the analysis and management of economic processes, first of all, the efficiency and quality of production, appeared. According to the above concept, the economic-mathematical model should have four components:

1. It should include economic phenomena of qualitative content, expressed in certain units of measurement. Such quantities are model parameters;

2. It should include certain quantitative relationships and dependencies between parameters. These can be balance ratios or more complex dependencies that link the results of processes with the causes that cause them;

3. The model should determine the area of permissible changes in the model parameters in time, space and volume - "limitations placed on quantitative dependencies";

4. It should be a system of interrelated parameters, dependencies and restrictions with certain inputs and outputs.

The management of such a system, that is, obtaining certain results at the output, should be carried out by influencing only the input. Without interfering with its internal structure.

The most famous economic models are those of L. Klein and A. Goldberg. V. Leontiev, who received the Nobel Prize for his work, also made his contribution to the mathematical modeling of economic activity.

The effectiveness of economic and mathematical modeling of relatively large-scale economic phenomena is not high. Without denying the importance of such modeling, the prominent economist T. Haavello wrote: “It is quite possible that as more and more advanced methods develop, we will come closer to realizing one unpleasant fact: economic “laws” are difficult to accurately measure, and therefore we live in fact, in a world of large but largely superficial or spurious correlations. You can, of course, refer, as always, to bad statistics. However, I think we can find explanations in something else, namely, in the imperfection of economic theories.

Quality management is somewhat of an exception. In contrast to the low efficiency of using the mathematical apparatus in the study of the economy as a whole or individual industries, the

application of mathematics to quality management turned out to be quite an acceptable action. Both Deming and Juran actively used its capabilities.

An analysis of the economic strategy in the field of quality management shows that the effectiveness of quality management depends on the agreed macro and microeconomic views. Real Japanese experience also teaches this. The solution of the quality problem itself is supposed to be a step-by-step process from identifying problems, through diagnosing their condition and finding solutions to implementing the decisions made, retaining and developing the results achieved.

At the first stage, J. Juran called "a problem in which a solution is programmed", problems are singled out, priorities are identified, a rating order is established; performers and their powers are determined.

At the diagnostic stage, the optimal symptoms of the condition are determined; hypotheses are built, tested; causes are being sought.

The solution search stage involves finding optimal solutions; development of necessary measures; implementation of the adopted decisions.

The final stage consists of checking the effectiveness of the implementation results, comparing the achieved results with the planned ones in the dynamics.

The high efficiency of the concepts of Deming and J. Juran provoked F. Crosby to combine their systems with the experience of quality management accumulated in the United States.

The Zero Defects program by F. Crosby did not become something fundamentally new in the theory of quality management, but it contained interesting ideas. For example, a statement about the prevention of defects; the need to develop a "quality policy", the requirement to connect to the quality of the activities of non-production units.

F. Crosby believed that each process site should have an engineer responsible for quality. His professional duties include presenting a daily list of issues causing major and frequent defects; systematizing them according to their importance for quality; determination of corrective actions; attraction of personnel employed on the site.

The 'continuous quality improvement phase' helped bridge the tension between spending on quality and achieving production efficiency. The consumer began to receive a quality product at an affordable price, the implementation of the idea of a “consumer society” has come closer.

From the manufacturer's point of view, this is an ideal situation. But the assessment of the situation was one-sided, only from the position of the consumer; quality parameters were set not by the one who consumes the goods, for whom the product is made.

Quality was standardized in the manufacturer's norms and, of course, reflected primarily his own interests. The consumer was left with a choice: to purchase a product of a certain quality or refuse.

This again led to the "overheating" of production, to an increase in its cost, as there were frequent miscalculations in determining the needs of consumers. A high-quality (according to the manufacturer's estimate) product, affordable, did not find the necessary demand among consumers.

It was necessary to eliminate the new form of contradictions taking into account the interests of the consumer. The “continuous quality improvement phase” has given way to the “quality planning phase”.

The work of G. Taguchi is considered the beginning of the next phase. It was he who introduced the concept of "loss function" into the theory of quality management and developed a modern methodology for planning industrial experiments. The purpose of G. Taguchi's research was to overcome the contradiction between quality assurance and production efficiency in its existing forms.

The foundation of the concept of quality planning was formed by four new ideas:

1. Conclusion that product defects are mainly due to poor-quality actions at the design stage;
2. Conclusion on the need to focus the main products not on full-scale testing of product models, but on mathematical modeling of both products and the process of their production. Due to what they expected to timely detect and eliminate the reasons for the increase in marriage. It was proposed to take control of the design and technological processes up to the stage of actual production;
3. The idea that the concept of "zero defects" should be replaced by the idea of "satisfied customer";
4. The high quality of the goods should be emphasized by an acceptable price and a constant price reduction, thereby ensuring a stable, market demand for quality goods.

A new turn in the development of quality management, overcame the noted form of fundamental contradiction between quality and production efficiency, but not the contradiction itself. At present, its next "ecological" form is being formed.

Inclusion in the characteristics of the quality of goods of ecological cleanliness requires significant costs.

The peculiarity of the modern stage of quality management is that all known formulas (phases) are practiced at enterprises. B.S. Alyoshin and co-authors, reflecting this unusual way of existence of history and modernity, built the "Tower of Quality". It is of not only theoretical but also practical interest.

In the seventies, A. Feigenbaum summarized the accumulated intellectual and practical experience in developing the problem of economic quality management and laid the foundation for what is known today as TQC-Total Quality Centrol (general quality management).

Essentially, TQC is not a quality management system, but a system of sufficient conditions for a quality process. Development logically led to the development of TQC. All previous steps on the way to quality quality management, despite the progressive movement, were of the same type. They "tied up" the solution of the problem of economic quality management to some fragment (fragments) of the process. Thus, the improvement of quality management "bypassed" the essence of the production process - its unity and the systemic nature of its unity as links and dependencies built in a certain way.

E. Deming, K. Ishikawa, F. Crosby and A. Feiegenbaum came closest to understanding the quality system as a reflection of the production system. The main conditions of TQC can be considered as follows:

1. Ensuring total participation in solving the quality problem of all employees;
2. Awareness of the total responsibility for the quality of all participants in the process, the understanding that not a single specialized unit (QC, OUK, etc.) is able to cope with the task;
3. Correspondence of the quality of activities to all stages of the "life cycle" of the product: from the development of the concept of the product and marketing research to the method of disposal of the product and its packaging. In the context of increasing environmental requirements in a number of countries, for example, Japan, product certification implies the mandatory development of a method for recycling even packaging;
4. The totality of improving the knowledge and skills of performers and managers; the regularity of specially organized forms of advanced training; appropriate cost planning;
5. Achieving a total understanding that the quality of work is achieved not so much by technology and technology, as by focusing on the quality of the motivation of employees, and motivation should not be one-sided, closed only to financial returns. Then it will be stable;
6. The totality of activity structuring, its differentiation into operations, interrelated technological processes, transitions, and each link in the process must be understandable by purpose to all performers. Studies of eliminating the causes of defects have shown that up to 90% of the problems submitted for consideration are solved, while 75% of them are able to be solved by the controllers themselves (direct performers and organizers);
7. Totality in the understanding of the consumer; the consumer is not someone who is outside the production process, the consumer is each next link of the production itself - the “internal consumer”, therefore, an awareness of responsibility to the consumer throughout the entire production cycle is required;
8. Total cultivation of the special status of the consumer and his interest in the quality of the product;
9. Continuous quality engineering;
10. Understanding the importance of defect prevention, its economic advantage over the elimination of defects;
11. Team spirit of all participants in the process; corporate culture;
12. Leading position in the activities that ensure quality, top management, understanding quality as the goal of entrepreneurship.

Quality management in the 21st century is based on the reciprocity of total quality management (TQM) and quality system standards (ISO 8402; ISO 9000; ISO 9001). The main difference between the quality system standards is that in many countries, including Russia, they have acquired state registration and are fixed administratively. Therefore, clarity in the definition and content of the concept of "standard" is important. In the USSR and the Russian Federation, it is customary to assign a “quality mark”, officially indicating that the product meets certain agreed parameters. "Standard" in Russia and most other countries is a set of rigidly fixed, often administrative, characteristics of products, services, activities. Analogues of our "quality marks" are found in European countries, in particular in Sweden (TCO 92; TCO 95; MPR for monitors).

From the point of view of the interests of the consumer, the “standardized” concept of “standard” is not as relevant as for the manufacturer. The latter, taking advantage of the starting advantage, taking into account, first of all, their own interests. Hence the conditionality, the relativity of any standard and the "sign of the standard" as long as the standard does not balance the mutual interests of both parties: the manufacturer of the product and its consumer.

The most common quality system standard ISO 9000 is built on Dei's special organization system. The basis of this idea is the thesis about the documentation of all processes related to production: the purchase of raw materials, components; preparation of production of his organization; delivery of products to the consumer; providing warranty support; scientific and technical equipment of production; personnel management.

As a result, the concept of "quality" acquires new facets, expands; the traditional understanding of quality is being modified. The content of the concept of "quality" is loaded with knowledge corresponding to the changed situation. A classic example of the dialectic of concept development.

The most obvious illustration of what has been said is the rather frequent reports that the reputable firms Ford, Toyota, etc. recall their products due to the discovery of a technical inconsistency in just one node.

It would seem that it would be easier and cheaper to instruct service centers to replace low-quality

components. In fact, firms are doing the right thing, given the competition in the market and the place of their brand in it.

In a complex system, a structural and technological defect of one node inevitably affects the entire system, so it is not easy to replace the node, block. The product as a whole must be thoroughly tested in order for the manufacturer's warranties to work according to the declared standard.

ISO 9000 modifications of ISO 9000-2000 do not guarantee product quality. They are “tuned” to provide such production conditions that allow them to count on the “most likely” quality reserve of productive activity.

Another "weak" side of these systems is that they explain "what should be done", but they practically do not explain "how to do it".

The ideologues of ISO 9000 say: "What should be done?" - the question is "standard" and is subject to standardization. The question is: "How should I do it?" - due to the specific conditions of production in each individual case. Therefore, “how to do” should be decided by manufacturers on the spot.

With the introduction of ISO 9000-2000, the concept of "QS" (quality system) has become obsolete, giving way to the QMS defined by the International Organization for Standardization:

1. Constant monitoring of consumer interests;
2. System leadership of the head, ensuring the unity of goals and activities of the company, as well as a stable internal environment based on cooperation and comprehensive motivation;
3. Maximum involvement of the abilities, knowledge and skills of employees in the production process;
4. Using a process approach in managing activities and resources;
5. The need for a systematic approach to management;
6. Striving for continuous improvement of the company's activities;
7. Making decisions only taking into account a comprehensive analysis of the entire possible amount of "information for thought";
8. Development of mutually beneficial relationships with suppliers.

From now on, international quality standards require that not goods be presented to the “quality mark”, but the method of their production. "Quality" is the compliance of the organization and management of the enterprise with the quality management system (QMS).

The modern history of the economic aspect of quality management reveals a very instructive relationship between specific scientific, special and philosophical approaches to solving socially relevant problems of production activity.

Philosophical doctrines of quality have undoubtedly always had an effect on economic knowledge. K. Marx began with G. Gogol, went through a "course" of economic analysis and founded a historical-materialist view of social development. Then he returned to the analysis of economics and left an impressive mark on social philosophy and economic theory. Something similar can be said about the creative paths of O. Proudhon, J. St. Mill.

History repeats itself on a new turn. Thinking economists move from practice to philosophy in order to use philosophical knowledge and method to develop a deeper understanding of the subject of their own research. All modern concepts of quality management owe philosophy no less than economic theory.

Philosophical analysis of the social process led to the conclusion about the growing role of the "subjective factor" in it. The "human factor" in philosophical humanism has always been presented as the decisive condition of history. Such was the opinion of the leading thinkers of Antiquity, the Renaissance, and the Enlightenment. But the "human factor" and "Subjective factor", contrary to the common practice of their convergence up to identification, are far from being the same thing.

"Human factor" is a concept that characterizes the whole range of human capabilities. The concept of "human factor" expresses the duality of our nature - a combination of biological and social in it; organization and personality; physics, physiology, psychology, intelligence, behavior and activity. As advertising likes to present: "all in one" or "in a package."

"The human factor" is, in fact, the person himself in the context of his ability to realize his own potential. Smart, educated Oblomov, lying on the couch, as well as active Stolz are examples of contrasts along with the title "Human Factor".

In the concept of "human factor" is not an expression of preference for either biological or social. Think it's right. To define a "man in action" - no matter in which one: Oblomov turning over with a newspaper in his hands, or an active enterprising Stolz - a synthetic concept is needed. It was proposed to call an abstract person in a state of abstract activity a “human factor”, thus including an abstract person in an abstract historical process. In theory, the main thing is to find a conceptual equivalent to describe the object of study.

The object of research in our case is social progress. The task is to understand the factors that set history in motion and give progress to the movement of history.

The logic of reasoning is not complicated. The history of mankind is either an objectification outside of human substance (an objective idea, the World mind, the World Will, God, etc.), or a product of the activity of the people themselves: their mind, feelings, will and practical activity.

The problem can be simplified, because in both cases human activity is envisaged, with the only difference that in the first case, history is made by him according to a program developed outside of human life, and in the second, a person paves the historical path, guided by his own ideas and motives. In history, whatever one may say, one cannot move away from human participation. History is "attached" to man just as he is "attached" to history.

It is then that it becomes relevant to “disassemble” the “human factor” into its component parts, to divide what exists in the person himself exclusively in unity. Divide conditionally, depending on the contribution to the historical progress of the two "halves" of man: biological and social.

The concept of "subjective factor" appears. And its components are the “individual” form of the subjective factor, and the “collective form of the subjective factor”. Politicians who emphasize the historical nature of human activity note the collective essence of this activity. With regard to production and production quality, the “subjective factor” is concretized to the level of “performer”, “manager” and “team”.

To those who object to us, considering that we have narrowed the understanding of a person in the structure of the economic form of his activity to the size of a “subjective factor”, ignoring his biological status, which is also represented in production and affects its quality, we will answer: no, but modern production, then there is science-intensive, high-tech production, based on the power of knowledge, not muscle; on responsibility and organization, depends precisely on the “subjective factor” of a person.

The logic of the development of the process of economic quality management convincingly indicates that total quality management, to which everything went, is possible with the total mobilization of the subjective forces of a person: knowledge, beliefs, desires, will of interests, upbringing, education, concentrated in the professional form of culture.

The classics of the economic theory of quality management from Taylor to Crosby and Freigenbaum were seriously concerned with the mobilization of the motivation of the participants in production, correctly believing that it was the lifeblood of quality work. But they were realists, and realistic experience told them: do not absolutize the moral factor, no matter how significant it may be. Quality is created by free will, but controlled administratively and legally. The legal aspect of achieving TQC objectives is very significant and requires constant attention.

Is it possible to imagine a situation where quality will be achieved only through the self-organization of the manufacturer, thanks to the team spirit, social dedication of each and every one individually, and a high level of professional qualification? The answer is up to the reader, but the hint suggests itself: it is possible.

What happens? Is legal regulation an optional, superfluous matter? No. Trial fantasy does not take into account the purpose of production, which, by the way, is very well spelled out in TQC.

The purpose of production is not the quality of the goods (this is a crafty goal, self-deception). The goal of production is not the quality of production (this is also craftiness). The goal of production is customer satisfaction with the quality!

Production, even in a subsistence economy, in which the producer and consumer are one and the same person, does not exist by itself and for itself. As for the commodity form of production, the consumer is the main figure in it.

Therefore, the understanding of quality is not in the competence of the manufacturer alone. It is formed in the mutual interest of the manufacturer and consumer in the properties of the product (and its price) intended for sale.

The producer in relations with the consumer has one small advantage. Using it is not easy, but the chance is quite real. A manufacturer of technically complex products that require knowledge and skills in operation can try to shape the consumer's taste for it through educational and promotional activities. The mechanism, of course, is expensive, but it is unlikely to win fierce competition in the market in another way.

The interests of the producer and the consumer do not always coincide, not immediately and not for a long time, because these are the interests of the subjects of production, separated by the barricade of the market. The market is a ring for them. The manufacturer is interested in profit. The consumer is in saving finances. One seeks to fill the cash register, the other does not empty the wallet. At the same time, both look at quality as a reward for winning a battle. Legal regulation helps to give the duel a civilized character. Avoid cheating.

The state cannot be aloof from the events taking place in the market, because the economy gives rise to politics; the movement of the market causes the movement of large social groups. And if today the class struggle has lost its relevance, then tomorrow the place of the proletariat and peasants will be occupied by dissatisfied - some with quality, some with price - consumers, the number of which will be no less, and the desire to win is even steeper.

The fate of each individual citizen cannot be dealt with by the state, and it is hardly advisable, but the fate of social groups should be in the zone of special attention of any state and always, if, of course, the state itself does not want to be in the zone of special attention of that main part of society, which in calm times is called the electorate, and in not calm times - the people.

Quality is a policy, firstly, and only, secondly, it is a product of the intricacies of relations in the market. Supporters of absolute market liberalization

are "scientists" provocateurs of tension in public relations and "subversers" of national security.

All modern social experience confirms that participation in quality management is a function of the state and even interstate cooperation. An example is the Bologna Agreement. It was prepared by a social movement, but, in order to give it real power as a controller of the quality of education, legitimized by the collective political will. The attention of the state should be focused on:

- intensification of the process of import substitution by improving the quality of domestic products;
- building up the production potential of enterprises, creating advanced technologies and new types of high-quality products in order to expand the share of Russian products in the domestic and foreign markets as the domestic market develops and integrates into the world economy.

Updating the legal resources of the state throughout the vertical of political power in the field of quality management will undoubtedly contribute to the achievement of the following most important results:

- ensuring a quality standard of living of the population, without which it is definitely impossible to get out of the demographic collage. In order to be among the leaders of a non-absolute indication - a reserve fund, a loan paid off ahead of time, a partial write-off even to those who are not able to pay it in the foreseeable future - it is necessary to improve the quality of products and services in the social sphere;
- strengthening security, territorial integrity, preventing military aggression;
- strengthening the position in Russia in international relations, greater accommodating in economic partnership;
- creating the image of Russia as a truly great, and not just a huge country;
- development of environmentally sound policies and economic practices.

Integrating the analysis of the real consequences of the intensification of the behavior of the state in the quality market, we note the most important thing. This is the only effective way to ensure national security, that is, what is in the ranking of the tasks of the state above everything else, since the achievement of everything else is possible only under conditions of national sovereignty.

A systematic approach to solving the problem of quality in the USSR began to take shape in the 1950s. The Saratov system of defect-free manufacturing of products, the NORM, KANARSPI, KS UKP systems were quite successful experience in the socialist embodiment of the need to control production quality.

In the mid-1960s, the Lvov initiative became widespread in the domestic industry, and was recognized as a "system of defect-free labor" - SBT.

The highest achievement of the "struggle for quality", apparently, was the creation on the basis of a combination of a serious experiment (VNIIS) and a comprehensive generalization of practical work to improve the quality of work at the leading Lviv enterprises of the Integrated Product Quality Management System (CS CPC).

This system turned out to be the first where the enterprise standards became the organizational and technical basis for product quality management. Unfortunately, the effectiveness of the application of best practices was not high. By the beginning of the 90s, only 10% of civilian technical products corresponded to the best foreign analogues.

The state has large and different levels of opportunities to influence the quality of production and product quality. The legal mechanism, which is in the hands of the state, can affect both directly the improvement of the quality of the production process, and indirectly.

With the help of tax policy, it is possible to stimulate high-quality production and block low-quality production. By protecting the consumer from a low-quality product, the state actively prevents unscrupulous manufacturers from entering the market.

The basis of the legal provision of the quality of production in our state is the constitution of the Russian Federation. The Constitution of 1993 was developed at the height of the redistribution of property, and therefore its creators did everything to ensure that the provisions (articles) of the supreme Law were extremely abstract, declarative. But in its abstract format, the Constitution of the Russian Federation did not ignore the right of Russian citizens to quality goods. The relevant articles have been formulated to match the time of her birth, however, in this form, some certainty is present.

Article 41 of the Constitution of the Russian Federation states: "Everyone has the right to health care." Of course, it would be better to add - "and a healthy lifestyle." And even better: “the right to health care and a healthy lifestyle of Russian citizens is guaranteed by the state.” However, in this scenario, the "legitimate" interests of the future oligarchs would suffer, so we settled on what we have.

This article does not seem to have a direct relationship to legal quality management. There is an indirect, mediated protection of the right of the country's population to health.

Goods for direct and long-term consumption must have the necessary level of quality so as not to be harmful to health. Otherwise, there are serious legal and financial sanctions against the manufacturer and the seller.

In order to ensure the protection of the right to health protection, all possible tolerances (MPC), sanitary and hygienic requirements, State standards for products, services, industry standards in the company with which there were also their own

"standards" of enterprises (TU) were developed. Management structures were created, or modernized inherited from the socialist time.

On the basis of the rights of citizens to quality goods proclaimed by the Constitution, a modern structure of quality management has been built.

The state does not interfere in the technology of production quality management. Its activities are aimed at controlling the method of production in order to exclude the possibility of harm to the health of citizens (and non-citizens) and harm to the natural environment of human life, as well as to prevent the appearance of dangerous low-quality goods on the market, deceiving consumers and legal regulation of relations between the seller (manufacturer) and the buyer in those situations that require such a measure.

The market is intended for ecological activities within the framework of normalized relations. Prices, priorities, demand, supply, advertising - all these are market mechanisms as long as they remain within the limits of economic relations moral to the same markets.

Pay special attention to the intangible, outwardly unperceivable aspects of the organizational environment. Deeply ingrained assumptions and value orientations in people may require long and difficult changes in the system and structure of management. Culture is the path that helps to understand the organizational "Through the Looking Glass".

Be skeptical of proposals calling for rapid transplantation or crop transformation.

Try to understand the importance of important organizational symbols (company name, logo, slogans).

Listen to the stories told in the enterprise team, analyze who their heroes are and what these stories reflect in the culture of the organization.

Introduce organizational rites periodically to transmit basic ideals and enhance culture.

Practice abstract ideals directly and directly in your daily activities. The manager is required to understand what ideals he must adhere to and

what actions should be taken to convey these ideals down the levels of the enterprise.

Organizational culture is a set of the most important assumptions, values and symbols shared by the members of the enterprise team. There are different levels of organizational culture: superficial, subsurface, deep.

Depending on the predominance of elements of one level or another, subjective and objective culture is distinguished in the enterprise team. The first is the basis for the formation of a managerial culture or leadership style.

Organizational culture is not a monolith, but consists of the dominant culture, group subcultures, and countercultures that reinforce or weaken the culture of the organization as a whole. The strength of culture depends on the extent and sharing of its main attributes by the members of the enterprise team, as well as on the clarity of its priorities.

The development of organizational culture involves its formation, maintenance and change. The formation of culture takes place in the conditions of solving two important problems by the enterprise: external - adaptation and internal - integration. The formation of culture in the team of the enterprise is influenced by the culture of the society / people within which the enterprise operates.

Organizational culture is supported by what attention is paid to, how the activities of members of the enterprise team are evaluated and controlled, ways of responding to critical situations - role modeling and staff training, motivation criteria, as well as criteria in personnel work. Compliance with rituals, rituals and traditions also contributes to the maintenance of organizational culture.

Changing organizational culture is, to a certain extent, the opposite action in relation to its maintenance. Changes in behavior can lead to changes in the culture of the enterprise team, and vice versa. Three combinations of changes in behavior and culture in the enterprise team are possible:

1) culture change without behavior change;
2) changing behavior without changing culture;
3) change in behavior and culture.

The study of the influence of culture on organizational performance is associated with the choice of approach and variables.

Success in business implies a high degree of strategy compatibilityand culture in the enterprise team. The following situations may arise: a culture is ignored that strongly impedes the effective implementation of the chosen strategy; the management system adjusts to the existing culture in the enterprise team; an attempt is made to change the culture in accordance with the chosen strategy; the strategy adjusts to the existing culture.

Conclusion

Quality represents a system essential for the productproperties -it is commonplace and well-known, which is actively used, replacing properties, or their consistency in a quality product. Essential properties are those that are not just inherent in the product, they determine its functionality. Such properties, as a rule, are revealed in the process of "work" of the product for its intended purpose, they are hidden from the unprofessional view of the consumer. In its “pure” form, the market is an intermediary and should not be interested in the quality of products. The task of the market in the theory of the organization of commodity production is the organization of exchange between the producer and the consumer. The development of the market stimulates the increase in production in the interests of the consumer within the infrastructural status of the market.

The monopolization of production led to the accumulation of financial capital, the automation of the latter, and the control of the market. As a result, the market has turned from an intermediary into a key subject, trying to replace the indicator function - to show the demand for goods - with the role of the organizer of economic activity as a whole, which distorts the economic system.

The economy of commodity production was created by the production of a product and the need for a mass product. The system-forming factor here is the production of goods as a product necessary for consumption by others, that is, the process of alienation of consumption. With natural production, the quality of the product was hardly an actual problem. Quality "dissolved" in the conservatism of technology and technology, traditional assortment. The question of quality was raised by the consumer when he got the opportunity to compare at the fair. The market, which grew out of fair gatherings, gradually enriched the representative status with the advertising business, taking control of the relationship between the producer and the consumer. Management levers - financial policy, directions - the main ones - two: the impact on quantity and quality.

The quality of the product has become relevant in commodity production. It became clear that in the understanding of quality there are sensual and rational thinking (the latter in the form of calculation). The subjective factor is objectified and fetishized. The market is not capable of influencing the objective properties of a product directly (using its own mechanisms), but it can very well influence the objectivization of subjective ideas. Thus, the manipulation of quality was first included in the functions of the market, then became an element of economic policy.

A sound and healthy economic policy is called upon to work on improving quality in two interrelated directions: technical and technological, completed by a rigid legal block of support, and socio-cultural - to provide comprehensive support for the formation of conditions for the subjective perception of quality, to block the negative effect of advertising influence, which has long and thoroughly become an attribute of market speculation on the importance of quality for the buyer. The presence of choice and solvent opportunities do not serve as a basis for the indisputability of a quality acquisition.

In the existing market, price and quality are divorced even at auctions, famous for the thoroughness of the organizational culture. The buyer is turned into an expert and this grimace of the market is not so bad as illogical. The market forces the consumer to develop as a person. From a layman with a wallet, in order not to turn out to be suckers, we unwittingly try to learn more about the subject of interest, we improve our “purchasing qualifications”. The term is not new, it is used by journalists, but for them it is a passing, verbal number, and for us it is no longer a new combination of common words, but the most important concept, without which the modern theory of quality does not have a systemic, holistic form.

"Purchasing qualification" includes, along with certain knowledge that helps to determine the location of the store, the price range for the goods, requires basic information about the manufacturer, quality features of the product, the manufacturer's market reputation, company traditions, scale of activity. Today, in the consumer market, the naive buyer runs the risk, beyond any reasonable measure, of being the victim not only of deceit, but also of his own carelessness, and therefore without any right to compensation.

The buyer in Russia is formally protected. In real lifeone has to be guided by the famous rule “saving the drowning (“buying”) is the work of the drowning themselves, read “buying”.

Raising the "purchasing qualifications", if there is a desire, is a mutually beneficial matter for the state, activating the cultural national heritage and the patriotic mood of the mass consumer. Although there is another way, tested under Mao in China - "the worse, the better."

Imported consumer goods - not Chinese - in the 1980s-90s. was with usHurrah! The assortment, packaging, external features of the product were impressive. And what is the result? After 10 years, the manufacturer returns Soviet brands, naturally in the absence of effective control, not of Soviet quality.

We know how to make high-quality products and are quite able to regain "our" market. The question is not even the price, the problem is the loss of control over the consumer (and not only consumer, judging by failures in rocketry, aircraft operation, etc.) market. They explain to us: we need economic measures. True, however, it is a half-truth. If you need them, then take them. The government should have power that is not nominal. It's time to understand that economics has always been politics, economics has always been political economy.

Many violations of economic relations necessarily lead to the intervention of law enforcement agencies designed to protect the affected entity within the framework of the current legislation.

Any act of "purchase and sale" is a by-law and the legislator or the performer must be included in the process. Otherwise, the rights of the owner will suffer and the violator of market relations under jurisdiction will not be punished.

The situation with legal support of quality management is complex. The market divided the producer and the consumer, squeezing an intermediary (and more than one) between them. In this connection, it is necessary to differentiate the concepts: “production quality”; "the quality of the

goods produced"; and "the quality of the product purchased" by the consumer.

An intermediary - a "speculator" - is quite capable of violating the technical conditions when delivering goods to the place of sale, in storing goods, and preparing them for sale. As a result, the quality parameters of the product will change. In the legal protection of the consumer, all possible situations and measures of responsibility of the seller are prescribed.

Consumer protection legislation has been around for a long time in European countries and North America and has been polished for centuries. In its current state, it is quite effective, which forces violators to reckon with it in order to avoid serious financial sanctions of death-like anti-advertising.

The Russian experience of legal regulation of relations in this area is much poorer, moreover, it was formed in the specific conditions of the socialist market.

The Law of the Russian Federation "On the Protection of Consumer Rights" was adopted in 1992 and was repeatedly edited (01/09/96; 12/17/99; 12/30/01) in order to make it more adequate to the developing economic situation.

The subject whose interests are protected by this law is a consumer who has purchased a product, more precisely, a product that does not meet the entire set of consumer and technical characteristics. And the object of legal relations is the quality of the goods.

Thus, the Law has a double effect: it protects the buyer from low-quality products and protects the market from low-quality goods. The manufacturer (and intermediary) received a legal signal about the need to present quality products to the market.

In the peripheral zone of interest of legislators was the activation of a number of federal bodies: on standardization, metrology and certification, sanitary and epidemiological surveillance, environmental protection and natural resources.

The categorical apparatus of the Law on the Protection of Consumer Rights was made up of the concepts: “consumer”, “manufacturer”, “seller”, “standard”, “lack of goods”, “significant lack of goods”, “safety of goods”. As you can see, there is no mention of “quality” in the categorical apparatus of the law, despite the fact that it protects the consumer from low-quality goods, and doubles trying to protect the market from marriage and counterfeit products.

The developers of the ideology of the Law acted logically. They divided the content of the concept of "quality of goods" into components: "manufacturer of goods", "performer", "seller", "standard", "consumer", building a system out of them, the forming factor of which they made "standard".

The relationship between the consumer and the producer is regulated in the Law with the help of the concept of "standard", which is subject to change in a certain system of units.

"Standards" are understood to exist at two levels: universal, controlled by the state, and sectoral, private, set independently by manufacturers, and having passed the necessary certification procedures.

According to the logic of building subordination relationships, the requirements of a higher level of organization are guidelines for the rest of the "pyramid". In the case of a contradiction, the advantage belongs to who (or what) is higher, i.e. more important.

It was superfluous to introduce the concept of “quality (of goods)” into the conceptual apparatus of the Law. It has been successfully replaced by the more verifiable concept of "standard". At the same time, reminding all market participants from the manufacturer and contractor to the consumer who is the boss in the house.

From a philosophical and economic point of view, the main drawback of the law is the locality of the destination. The state is still under the hypnosis of the effectiveness of the economic liberalism of the American model, super-delicately in expressing its economic interests, forgetting that these interests are not the interests of the government, but the people of Russia. The state, especially the executive power as the top manager, should realize the interests of the people, instead of being afraid of being misunderstood by foreign partners. Foreign partners, when necessary, tighten the screws tightly.

The state should introduce an economic policy regarding quality on a larger scale, then its effect will be more significant and the private judicial practice that has considered private claims against the seller regarding low-quality goods will sharply decrease. A private lawsuit for a manufacturer of low-quality products and a wholesaler who fills it in the market is still early that a mosquito squeak.

It is necessary to protect the market from low-quality goods, as G. Ford, Sr., did in his time, when he entrusted the “phase from rejection” to special production, removing quality control from the main production process. As a result, low-quality components stopped coming to the assembly line. The state does not need to strive to be a subject of the market, it needs to be above the market, stimulating manufacturers of quality goods, and not allowing low-quality goods to enter the market. In the first case, economic incentives are required, in the second, administrative and criminal sanctions.

Now the state is facing the problems of quality management, as if, half-turned, modestly distancing itself. It is necessary to turn to face him and take up the quality, “rolling up your sleeves”. Only then will the time come when ministers will not be able by their power to postpone the deadlines for the implementation of the president's instructions for years, but also bear stricter personal responsibility.

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Issue Article

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A NEW PARADIGM OF TRANSFORMING THE ORGANIZATION MANAGEMENT AS A SOCIO-ECONOMIC SYSTEM IN THE CONTEXT OF THE SOCIETY INFORMATIZATION

Abstract: *Modern socio-economic reforms, society informatization have significantly changed the status of the organization and its management. The dynamic external environment, market, information and communication trends require from the organization management fundamentally new approaches to interaction with authorities, partners, personnel and consumers. In the realities of aggravated market competition, increased demands and requirements for the service a number of new tasks for the organization management including the need to improve the service quality and production efficiency, strengthen the competitive position, maintain and expand the clients' base is determined. It has been established that traditional methods of achieving competitive advantages need to be supplemented with socially oriented tools such as a model of corporate social responsibility (CSR) and customers' relationship management system. This gives rise to a scientific task of developing theoretical and methodological foundations for a new paradigm of transforming organization management from the standpoint of the socio-economic system. The organizational and methodological approaches to identifying problem areas in the organization management structure are described and mechanisms of implementing CSR and customers' relationship management system are suggested in the paper. The directions of transformation of the organization management as a socio-economic system on the basis of comprehensive and synergetic approaches are proposed and systematized according to the criteria.*

Key words: *preference, demand, quality control, quality assessment, set of properties, product, product, object, satisfaction of requirements, market, competitiveness, priority, defects, their classification.*

Language: *English*

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Introduction

UDC 335.17:547.63

Achieving the successful functioning of the enterprise in short and long terms is ensured by the appropriate organization management, which is flexible and adaptable to the micro and macro environment. The purpose of the study is to develop a paradigm for transformation of the organization management as a socio-economic system in the context of the society informatization.

This goal required a consistent solution of the main tasks:

- to clarify the concept of organization management as a socio-economic system;
- to prove the feasibility of a comprehensive approach to the study of the organization management

system and the need to improve it, ensuring effective and efficient management of economic entities;

- to develop a mechanism for the transformation of the organization management, adequate to endogenous and exogenous trends and factors, ensuring the strengthening of competitive positions and the achievement of strategic goals in the conditions of informatization of the society.

The main part

The content analysis of a number of research papers allowed developing a new paradigm for transformation of the organization management in the modern dynamic conditions of the external environment against the background of intensification and globalization.

We consider it is appropriate to interpret the organization management as a socio-economic system, which, in the context of the informatization of society, represents a complex set of actions for processing information and implementing means, combined to achieve the management goals, including strategic, taking into account the determinants of the internal and external environment of the economic entity.

The scientific approach to the development of transformation directions of the organization management involves the formation of a methodology for identifying reserves (opportunities to improve the management system efficiency). In this regard, the following methodological approaches to identifying problem areas in the organization management system are proposed within the framework of our study, on the basis of an integrated approach (Figure 1).

Consider it appropriate to use the following organizational and methodological approaches to develop recommendations for improving the organization management:

1) to assess the management system according to the functional model of management assessment, which allows to diagnose the type of management system, to identify the level of maturity of the organization management, to assess the perception adequacy of management decisions;

2) to analyze the elements of the organization management, identifying problem (crisis) areas;

3) to evaluate the effectiveness of the organizational structure;

4) to assess management potential.

It is necessary to carry out socio-psychological diagnostics of management potential and make a profile of administrative and managerial personnel based on an assessment of the following characteristics: management style; organizational skills; intellectual abilities; assertiveness; sociability; creativity; self-esteem and level of aspirations; the level of subjective control; personality orientation vectors. A comprehensive assessment of the components of management potential will help make a profile of management personnel from the standpoint of managerial abilities and skills.

To implement the transformation principles of the organization management, an appropriate mechanism is necessary which is based on synergetic and systematic approaches, in our opinion, it is a set of interrelated and interacting methods, management functions with implementing analytical and assessment tools, including strategic management and control elements, as well as components ensuring its functioning (implementation) This mechanism includes the following structural components (Figure 2).

The implementation of CSR on the basis of a comprehensive and synergetic approaches will include the following stages: developing the project for realization CSR, making a responsibility matrix, differentiating and determining of the target installation for responsibility realization, the scope of using CSR tools, monitoring for their implementation, developing measure of responsibility, organizing of responsibility formalization, control and assessment of CSR realization in dynamics, realization of corrective measures.

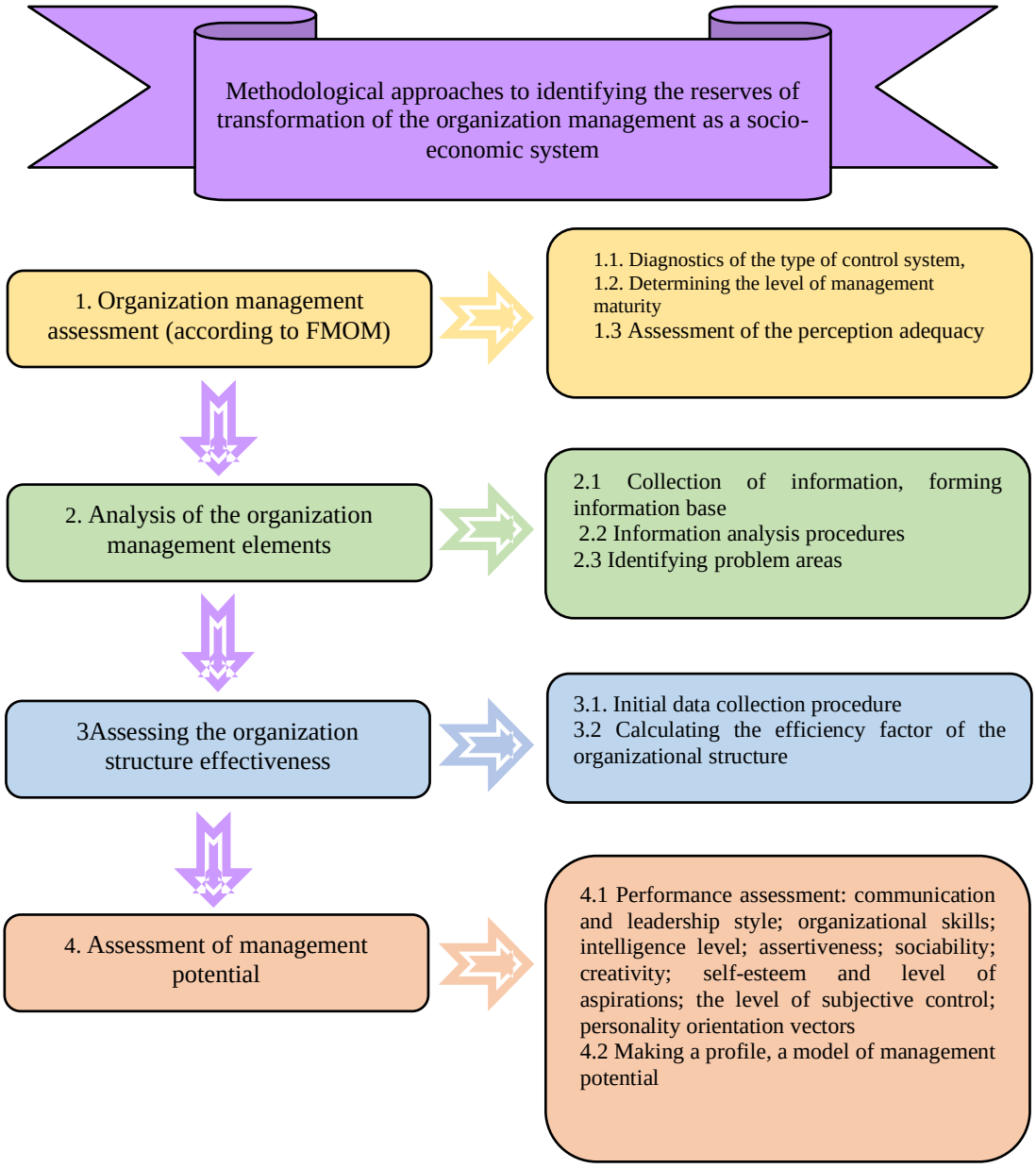

Fig. 1. Organizational and methodological approaches to identifying reserves (problem areas) in the organization management system

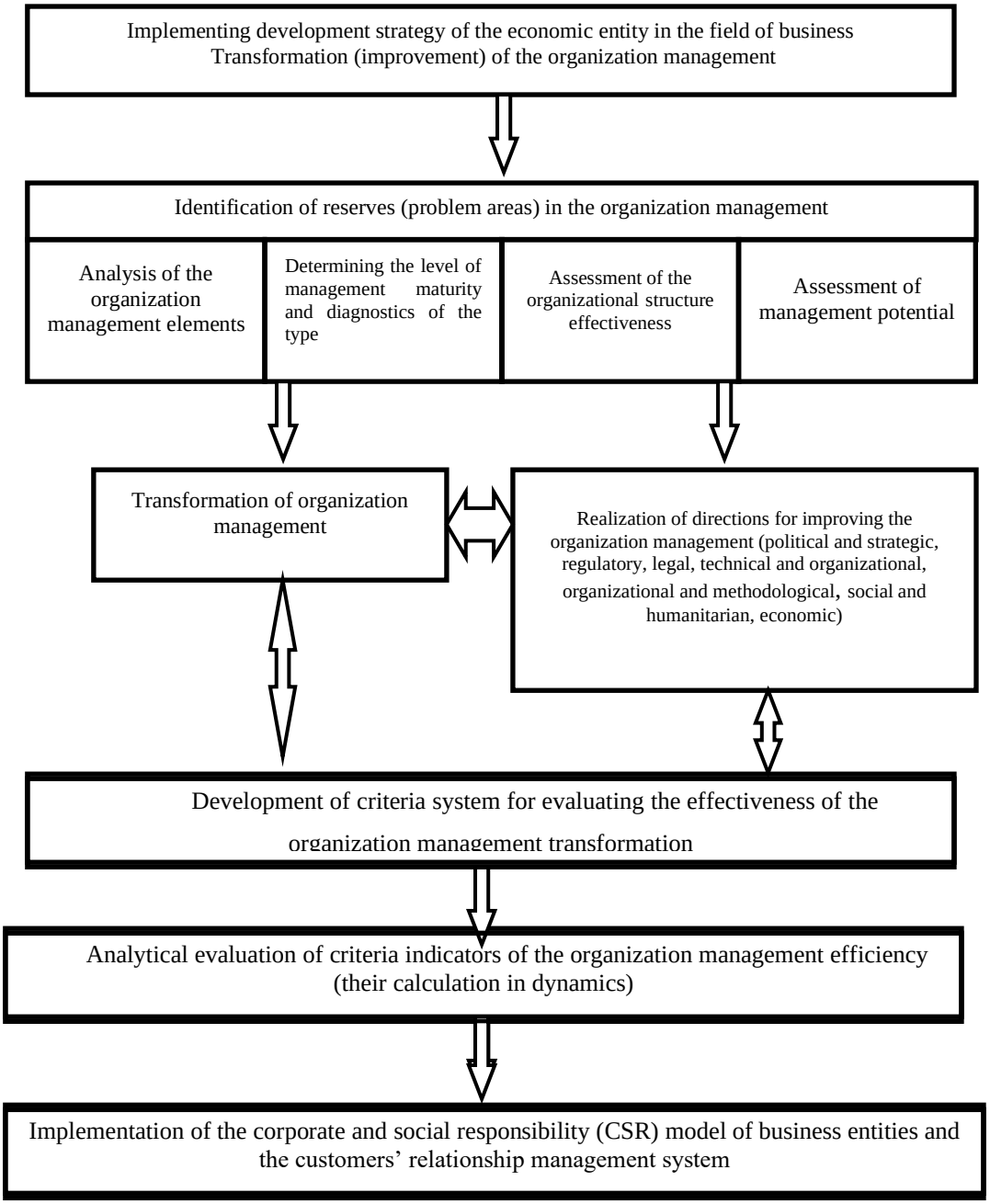

Fig. 2. The mechanism of transformation (improvement) of the organization management

The mechanism of implementing the customers' (guests') relationship management system in the hospitality industry is shown in Figure 3. From the standpoint of the synergetic paradigm, the proposed mechanism, based on the functioning of which we highlight the opening of reserves based on a comprehensive diagnosis of the enterprise state, including the field of relationships with customers of a business entity, adopting customers' relationship strategy at all levels of the organization; restructuring and optimization of the enterprise; changes of business processes and corporate culture, which is proposed to be formed on the basis of a systematic approach with subsystems.

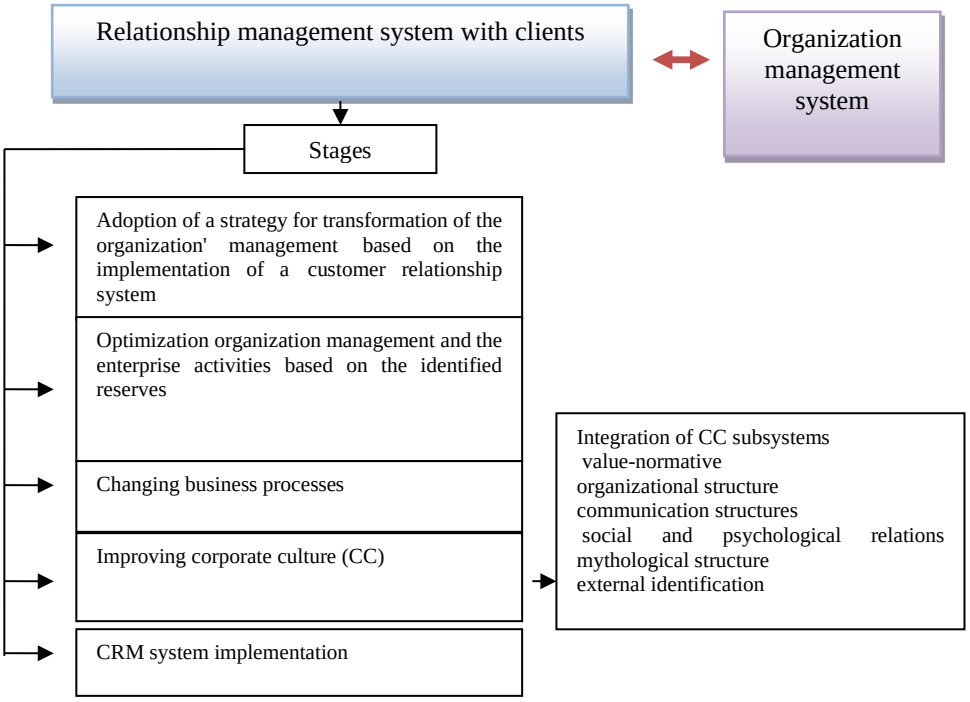

Fig. 3. Mechanism of implementing the customers' relationship management system

It was revealed that in order to successfully manage the processes occurring at the enterprise, it is necessary to possess certain analytical and management skills that allow to competently and correctly assess positive and negative trends, effectively control and coordinate the strategic development of the enterprise combining it with improving the management system, turning it into the determinant of increasing the enterprise competitiveness.

Consider this mechanism as a continuously functioning process of solving problems and tasks of the organization management as a socio-economic system, dictating the continuity of the gradual transition of the latter to a higher quality state with its transformation depending on the trends of a dynamic micro- and macro environment, prompting the implementation of the system goals.

The study made it possible to develop a paradigm for the transformation of the organization management in the context of socio-economic modernization, in particular:

– to formulate organizational and methodological approaches to identifying reserves (problem areas) in the management system, including four main stages;

– to propose a scientific and practical approach for improving the management system based on the formation and functioning of a mechanism that determines the order of actions of the top management of organizations and the introduction of political and strategic, regulatory, legal, organizational and methodological, technical and organizational, social and humanitarian, financial - economic areas aimed at improving management efficiency, taking into account the specifics of customer-oriented business in modern conditions of a dynamic external environment and society informatization;

– to develop a mechanism for the model implementation of corporate and social responsibility and the system of customers' relationship management in the management of the organization.

The implementation of scientific and practical proposals for the formation and implementation of the mechanism for improving the enterprise management system will increase the efficiency of management and financial and economic activities in general; quality and competitiveness of hotel services and accommodation facilities; the level of development of the labor potential of personnel.

Conclusion

Consider in detail the promising directions of transformation of the organization management, which is appropriate to be divided according to the following criteria: political and strategic, regulatory and legal, organizational and methodological, technical and organizational, social and humanitarian, financial and economic. The best option for client-oriented business enterprises will be the use of recommended directions, taking into account the stage of the organization life cycle, the level of management maturity, the specifics and trends of the industry development, the state of the external environment, and trends of the society informatization.

1. Political and strategic includes: the formation of a strategy for the development of the organization as a system; developing the organization philosophy and policy; popularization of activities in the industry, the branches within which the organization operates (increasing its attractiveness, creating conditions for career growth and informing about these prospects, cooperation with specialized educational institutions, forming practice bases and providing students with places for practice, developing technologies in the field of " internal PR "); implementation of an "open door" policy (staff are given the opportunity at designated hours to contact the management to solve problems)

2. Regulatory: provision of services in accordance with legislation, regulations.

Organizational and methodological: - assessment of the organization's management (according to FMOM - a functional model of management assessment);

- development of a decision-making system, regulations, principles and management procedures, taking into account customer requests, business development strategies, the formation of competitive advantages;

- socio-psychological diagnostics of the managerial potential of the organization's managers; conducting a sociological survey (questioning and testing) of personnel in order to identify reserves and problem areas in the management system and at the enterprise as a whole;

- development and application of visual aids on the specifics of business management and functioning, high-quality services, conflict resolution; application of methods of professional training of personnel;

- development and implementation of the corporate code, ethic code;

- crowd sourcing.

4. Technical and organizational: optimization of the organizational structure of management, the formation of the organization information system with effective communication links in the organization; creation of an information base at the endogenous and exogenous levels; using a leadership style adequate to the conjuncture and internal environment of the organization;

- provision of labor resources with appropriate general cultural and professional competencies by means of using effective ways and methods of search, selection, recruitment, adaptation of personnel and the organization of teamwork;

- development of a system of continuous improvement of personnel activities with training, retraining, development of initiative, creativity;

- timely and rational improvement of the material and technical base (technical quality) in the organization;

- introduction of modern technologies, in particular CRM for business, taking into account industry affiliation

- placement on the site of relevant and interesting information for actual and potential customers, using effective ways of presenting it

5. Social and humanitarian: creating a favorable psychological microclimate; formation and development of corporate spirit, organizational culture; strengthening labor discipline; improvement of the personnel motivation mechanism, taking into account their potential and the individual characteristics of the employee's personality in order to develop personal interest in the most harmonious and productive interaction with the clients; customer orientation, full concentration on their requests and needs; improving the social quality of services

6. Financial and economic: formation of responsibility centers based on organizational units; development and implementation of a remuneration system based on the results of personnel (according to foreign experience); benchmarking (studying the successful experience of leading hotel companies and introducing positive elements into the activities of their organization); ensuring financing of activities within the framework of implementation of programs improving the activities and implementation of the organization development strategy; management of assortment and quality of services.

The proposed paradigm of transformation of the organization management, based on the implementation of the CSR model and the client's relationship system, along with the practical application of a set of the above-described areas (from political and strategic to financial and economic) to each business entity, will contribute to the improvement of the management system, ensuring effective attraction, consolidation and effective use of the diverse enterprise resources, with an adequate focus on the dynamic conditions of the external environment, taking into account the trends of digitalization of society, modernization socio-economic processes, demands and preferences of consumers, relying on the principles of corporate social responsibility and modern determinants of society informatization.

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Issue Article

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SOCIAL DANGER OF ILLEGAL DRUG TRAFFIC (BY THE MATERIALS OF THE KYRGYZ REPUBLIC)

***Abstract**: In this article, the author investigated the problems of the social danger of illicit drug trafficking in the Kyrgyz Republic. The author explores the reasons for committing acts in the field of illicit drug trafficking.*
***Key words**: narcotic drugs, social danger, illegal circulation, consumption, distribution.*
***Language**: Russian*
***Citation**: Botobaev, A. A. (2022). Social danger of illegal drug traffic (by the materials of the Kyrgyz Republic). ISJ Theoretical & Applied Science, 12 (116),* 84-87.
***Soi**: http://s-o-i.org/1.1/TAS-12-116-13 **Doi**: https://dx.doi.org/10.15863/TAS.2022.12.116.13
***Scopus ASCC**: 3308.*

СОЦИАЛЬНАЯ ОПАСНОСТЬ НЕЗАКОННОГО ОБОРОТА НАРКОТИЧЕСКИХ СРЕДСТВ (ПО МАТЕРИАЛАМ КЫРГЫЗСКОЙ РЕСПУБЛИКИ)

***Аннотация**: В данной статье автором исследованы проблемы социальной опасности незаконного оборота наркотических средств в Кыргызской Республике. Автор исследует причины совершения деяний в сфере незаконного оборота наркотических средств.*
***Ключевые слова**: наркотические средства, социальная опасность, незаконный оборот, потребление, распространение.*

Введение

Обязательным признаком любого преступления является его социальная опасность. Социальная опасность любого совершенного преступления заключается в причинении вреда человеку, обществу и государству в целом. Так, преступления в сфере незаконного оборота наркотических средств не исключение.

В настоящее время социальная опасность преступного оборота наркотических средств состоит не только в его распространенности, но и в многочисленных отрицательных последствиях, которые проявляются в правовом, социальном и медицинском аспектах.

Постоянные политические изменения в государстве, которые отрицательно влияют на развитие экономики, приводят уровень жизни населения к определенным трудностям. А также учитывая рост безработицы населения, большой поток внутренних и внешних мигрантов, потерю определенной частью общества нравственных устоев происходит увеличение количества совершенных незаконных деяний.

Преступления, связанные с незаконным оборотом наркотических средств характеризуются ухищрением преступной среды, усвоением новых методов и способов ее совершения, с использованием различных современных технологий. Одним из таковых является приобретение различных наркотических средств или психотропных веществ через интернет сеть. Самыми распространенными запрашиваемыми наркотическими или психотропными средствами через интернет сеть являются кокаин, героин, МДМА, мефедрон, кристаллы, разного рода соли и др.

Кроме интернет сети, также наркоторговцы распространяют наркотические и психотропные вещества через рекламу в баннерах, раздаточные листовки или флаеры. В сфере незаконного оборота наркотических средств используется такое высказывание как «спрос порождает

предложение», это означает следующее, чем больше людей вовлекаются в потребление наркотиков, тем больше выгоды получают продавцы наркотиками.

Основная цель наркодельцов состоит в расширении торговли наркотиками и в увеличении объемов прибыли. Чтобы бороться с преступным оборотом наркотических средств, политика государства, в частности усилия правоохранительных органов, направлены на борьбу со сбытчиками наркотиков. Такая стратегия государства в борьбе с данным недугом, конечно правильна, но при всем этом имеет свои большие недостатки. Одним из таких недостатков является ослабление контроля в сфере незаконного оборота наркотических средств без цели сбыта. Такое упущение привело к высокому уровню роста незаконного потребления наркотических средств. Для того чтобы бороться с незаконным оборотом наркотических средств, необходимо вести все усилия как со сбытчиками, так и с потребителями. Ведь если не будет спроса на наркотики, то соответственно не будет и предложения.

Повышенная социальная опасность незаконного оборота наркотических средств состоит в том, что не редко лица, зависимые от наркотиков, в целях удовлетворения своих потребностей совершают корыстные и корыстно-насильственные преступления. Так, в основном такой категорией лиц, совершаются грабежи, кражи, хищения наркотических средств из аптек, медицинских учреждений или складов. А также не редки случаи совершения особо опасных деяний как разбой, убийство, изнасилование, нанесение тяжких телесных повреждений [1, с. 8].

Кроме этого, преступные действия совершаются и в отношении самих потребителей наркотических средств. Будучи в состоянии наркотического опьянения они обладают повышенной виктимностью. Так, достаточно часто становятся жертвами насильственного воздействия либо мошенничества.

По официальным статистическим данным Министерства внутренних дел Кыргызской Республики отмечается общий рост совершенных преступлений. Так, в 2021 году зарегистрировано 66247 преступлений, в 2020 году было зарегистрировано 52434 преступлений. Исходя из этого можно отметить, что общее количество совершенных деяний в 2021 году больше предыдущего года на 26% [2, эл. ресурс].

При этом, из них в сфере незаконного оборота наркотических средств было зарегистрировано 1206 деяний, в 2020 году 1110. В 2021 году на 96 преступлений больше. Однако, при рассмотрении статистических данных необходимо учитывать то, что преступления в сфере незаконного оборота наркотических средств обладают высокой степенью латентности [3, эл. ресурс].

Наибольшее количество деяний в сфере незаконного оборота наркотиков совершаются с целью сбыта на их долю приходится 57% и около 40% деяний совершаются без цели сбыта.

За 2021 год правоохранительными органами Кыргызской Республики было изъято 3600000 килограммов наркотических и психотропных средств различного вида, из них:

- опия – 20 кг. 36 гр.;
- героина – 6 кг. 131 гр.;
- гашиша – 217 кг. 135 гр.;
- марихуаны – 290 кг. 556 гр.;
- растений каннабиса – 326 кг. 982 гр.;
- прекурсоров – 2 т. 496 кг. 460 гр.;
- психотропных веществ – 11 кг. 55гр.;
- фармпрепаратов – 21 гр.;
- опийного мака – 21 гр.;
- и др. – 236 кг. 506 гр. [4, эл. ресурс].

Если разделить по территориальности, то наиболее большое количество незаконного оборота наркотических средств было выявлено в городе Бишкек (24%), Чуйской области (22 %), Джалалабадской области (16%), Ошской области (15 %) [5, с. 27].

Как показывают проведенные исследования, лицами, совершившими те или иные нелегальные деяния с наркотическими средствами являются лица мужского пола в возрасте от 22 до 50, что составляет 65 %, лица женского пола в возрасте от 25 до 42, что составляет 19 %, а также не редко вовлекаются несовершеннолетние в возрасте до 18 лет, что составляет 10% [6, ч. 128].

Больше половины вышеуказанных лиц являются безработными. Причиной совершения незаконных действий с наркотическими средствами является получение прибыли либо же приобретение для личного потребления.

Потребление наркотиков в некоторой степени стало частью культуры современных людей, в большей степени это касается молодежи. Под влиянием наркотических средств происходит изменение духовных и нравственных ценностей молодежи. В настоящее время подрастающее поколение без всякого осуждения относятся к лицам, потребляющим наркотики. Наркотические средства и различные растения (травки) содержащие наркотические вещества широко распространены в часто посещаемых молодыми людьми общественных местах, а это ночные заведения, интернет клубы, места, где устраиваются уличные танцы и т.п. Потребляя наркотики, многие современные люди стараются ощутить удовольствие (кайф), тем самым позабыв на некоторое время реальные жизненные проблемы [7, с. 160].

По официальным данным Министерства здравоохранения Кыргызской Республики в нынешнее время на учете в наркологических учреждениях насчитывается более 8 500 человек, на 100 тысяч населения приходится 128 лиц [8, эл.ресурс].

61 % наркопотребителей применяют наркотики группы опиатов (преимущественно героин), остальная часть зависимы от средств группы каннабиса. Наибольшее количество лиц, употребляющих различные наркотические или психотропные средства наблюдаются в городах Бишкек и Ош [9, эл.ресурс].

Большинство наркозависимых лиц употребляют различные наркотические средства инъекционным путем, которое в последствии приводит к заражению таких опасных инфекций как гепатит и ВИЧ/СПИД.

По данным, предоставленным Республиканским центром «СПИД», несмотря на предпринимаемые меры по противодействию эпидемии, число новых случаев ВИЧ-инфекции неуклонно растет, если в 2005 году в стране было зарегистрировано 106 случаев ВИЧ-инфицированных, то в 2021 году выявлено 805. При этом, всего по стране ВИЧ-инфицированных 10535 человек, из них 63% лица мужского пола, 36 % лица женского пола [10, эл.ресурс]. Из общего числа ВИЧ-инфицированных умерших 2431 человек.

Исходя из вышеприведенных анализов можно отметить, что незаконное потребление наркотиков представляет серьезную угрозу для нации. Злоупотребление наркотиками постепенно уничтожает генофонд Кыргызстана.

Такая негативная динамика связана с недостатками организации как противодействия преступному обороту наркотиков, так и лечения, профилактики лиц, зависимых от наркотических средств. Для решения данных проблем требуются новые подходы.

Таким образом, совершение преступлений, в сфере незаконного оборота наркотических средств причиняют вред не только здоровью населения, но и оказывают негативное воздействие на экономическую и социальную сферу, которые являются основными составляющими общества. Во-первых, это касается создания специальных служб по противодействию незаконному обороту наркотических средств. Для подготовки сотрудников данных служб, их обеспечения и содержания, государство тратит не малые финансовые средства.

Во-вторых, лицам, зависимым от наркотических средств создаются лечебные учреждения, которые надо оснащать дорогостоящими препаратами. Все эти материальные расходы несут люди, вынося ухудшение качества своего бытия.

В-третьих, данные преступления деформируют социально-психологический климат общества. Это определяется тем, что основная масса потребителей наркотических средств являются трудоспособные лица. Молодые люди, будучи зависимы от наркотиков, теряют заинтересованность в получении образования и это подтверждается тем, что большинство из них имеют только среднее образование. Кроме этого, у данной категории лиц, пропадает заинтересованность к работе, так как их неудовлетворенное физическое состояние, постоянное чувство голода к наркотикам, затем уже наступающая ломка выводит их из нормального человеческого функционирования. А также, лица, зависимые от наркотических средств создают для своих близких проблемы материального плана, потому что на приобретение наркотиков требуются достаточно большие денежные средства. Для решения финансовой проблемы они начинают растрачивать как свое имущество, так и имущество родных. Ведь лица, больные наркоманией утрачивают такие моральные ценности, как совесть, ответственность, порядочность, честность. В конечном итоге это все приводит к ссоре и разладу семьи, впоследствии чего не редко совершаются преступления на бытовой почве.

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Issue Article

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RETROSPECTIVE ANALYSIS OF THE CRIMINAL LEGISLATION OF THE KYRGYZ REPUBLIC IN THE FIELD OF ILLEGAL DRUG TRAFFICKIN

Abstract: *In the article, the author examines the historical analysis of the development of the criminal legislation of the Kyrgyz Republic in the field of drug trafficking in the Soviet and post-Soviet periods.*
Key words: *criminal law, Kyrgyz Republic, narcotic drugs, criminal liability, illegal circulation.*
Language: *Russian*
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РЕТРОСПЕКТИВНЫЙ АНАЛИЗ УГОЛОВНОГО ЗАКОНОДАТЕЛЬСТВА КЫРГЫЗСКОЙ РЕСПУБЛИКИ В СФЕРЕ НЕЗАКОННОГО ОБОРОТА НАРКОТИЧЕСКИХСРЕДСТВ

Аннотация: *В статье автор рассматривает исторический анализ развития уголовного законодательства Кыргызской Республики в сфере незаконного оборота наркотических средств в советском и постсоветском периодах.*
Ключевые слова: *уголовное законодательство, Кыргызская Республика, наркотические средства, уголовная ответственность, незаконный оборот.*

Введение

В различных периодах времени многие ученые рассматривали преступление против нелегального оборота наркотиков. Особое внимание в исследовании незаконного наркооборота уделяется из-за его негативных последствий, которые всегда были очень важными.

Как показывает история, первые упоминания о наркотиках появились еще в дописьменном периоде. Многие растения неизвестного происхождения на тот момент, содержали наркотические средства, при их употреблении происходили изменения в психике и в сознании людей. В древности наркотики употребляли в медицинских целях в качестве болеутоляющих средств. Но были частыми и случаи их употребления в увеселяющих и традиционных целях. В целях установления определенных ограничений на их употребление, еще со времен отсутствия определенных нормативных правовых предписаний предусматривались те или иные наказания.

На пути формирования уголовной ответственности за нелегальное производство наркотических веществ основным пунктом стало принятие уголовного закона Советского Союза. Впрочем, уголовный кодекс РСФСР 1922 года не включал отдельной нормы, которая регулировала бы запрещенный оборот наркотиков. Была рассмотрена норма 139 УК, предусматривающая ответственность за сбыт, скупку продуктов, изделий, материалов в отношении которых имелись те или иные ограничения. А по норме 215 УК к ответственности привлекались за изготовление сильнодействующих или ядовитых средств [1, с. 40]. В целях дальнейшего совершенствования законодательства было принято решение об установлении ответственности за организацию притонов, где

употреблялись запрещенные вещества [2, с. 194]. Данные нормы являлись единственными рычагами запрещения незаконного оборота различных одурманивающих средств.

Позже в декрете ВЦИК и СНК СССР от 22 декабря 1924 года предусматривалась статья 140, в первой части данной нормы законодатель установил ответственность за хранение, сбыт, изготовление опия, эфира, кокаина, морфия без надлежащего разрешения. Тем самым законодатель определяет конкретные перечни наркотических средств, которые имели широкое распространение.

Часть вторая статьи 140 запрещала сбыт наркотиков, организацию притонов, употребление морфия, кокаина, опия и других средств.

Наказание по первой части статьи 140 заключалась в виде лишения свободы до 3х лет (с конфискацией имущества или без таковой) [3, с. 267].

Наказание по второй части заключалась также в виде лишения свободы на срок не менее 3х лет с обязательной конфискацией имущества, при этом лицо должно было нести наказание в строгой изоляции.

После принятия столь жестких норм, правительством было принято создать специальную комиссию по борьбе с распространением запрещенных веществ.

Кроме этого, советом народных комиссаров был принят декрет о регулировании торговли наркотиками, которое имело запретительный характер в отношении героина, опия, морфия и кокаина.

В соответствии с вышеуказанным декретом внесли изменения в статью 136, которая стала запрещать посев и выращивание мака в больших количествах, были установлены нормы.

Далее в УК СССР 1926 г. в главе «преступления против управления» была введена статья 104 из 2 частей, а в свою пользу эта норма устанавливает ответственность за преступление, связанное с наркотиками [4, с. 422].

В первой части была предусмотрена ответственность за хранение, производство, сбыт и хранение опия, эфира, морфина, кокса и т.д. ядовитых веществ без специальных разрешений. Наказание предусмотрено двумя видами, принудительными работами или лишением свободы на срок до 1 года.

Во второй части предусмотрена ответственность за организации притонов для производства, сбыта, употребления указанных в первом пункте наркотиков. По второй части наказание было предусмотрено лишением свободы до 3х лет с обязательным конфискирующим имуществом и изоляцией.

Определение законодателем данной нормы в главу, где рассматривались деяния против порядка управления, означало то, что в то время главенствующие роли отводили преступлениям против порядка управления государством. При этом недостатком такого определения считалось то, что здоровью населения отводилось второстепенное место.

В последующие годы уголовно-правовая борьба была направлена на борьбу с незаконным посевом или выращиванием культур, содержащих наркотические средства.

Следующим этапом борьбы с наркотизмом было принятие рядом союзных республик собственных Уголовных кодексов с сохранением, правда, в ведении Союза ССР установления основ уголовного законодательства.

В уголовном законодательстве Киргизской ССР от 29 декабря 1960 года нормы, связанные с наркотиками, располагались в десятой главе под названием «Преступления против общественной безопасности и общественного порядка». В данном уголовном законодательстве ответственность предусматривалась за широкий круг действий связанный с наркотиками. Законодатель уже подробно разделяет преступления в сфере нелегального оборота наркотиков на совершение их с целью сбыта и без таковой [5, с. 105].

Так, норма 235 предусматривает ответственность за сбыт, хранение, перевозку, изготовление средств содержащих наркотики. Норма 235/2 устанавливает ответственность за нелегальное хранение либо приобретение в малых размерах, при этом, в этой же норме предусматривается ответственность за потребление без разрешения врача.

Кроме этого, уголовное законодательство Киргизской ССР включает нормы за хищение наркотиков, за содержание притонов для потребления наркотиков, за посев и выращивание конопли и опийного мака, за склонение к потреблению наркотиков и др. (ст.ст.235-237/1) [6, эл. ресурс].

В целях дальнейшей борьбы с нелегальным распространением наркотиков, Кыргызская Республика принимает одним из первых национальный закон «Об охране здоровья народа в Кыргызской Республике» от 2 июля 1992 г. № 943-XII [7, эл. ресурс].. Данный закон определяет охрану здоровье населения первостепенной задачей государства. При проведении государственной политики в сфере легального и нелегального борота наркотиков государством создается комиссия при Правительстве КР по контролю наркотиков. Главенствующей задачей данного органа явилось координация ведомств и министерств по масштабной борьбе с наркотрафиком.

Далее, главной особенностью постсоветского периода в КР являлось разработка и принятие

нового Уголовного кодекса. УК КР принятый в 1997 году содержал 8 статей предусматривающих ответственность за те или иные действия с наркотическими средствами, психотропными веществами или прокурорами (ст.ст.246-253), которые расположились в главе 25 под названием «Преступления против здоровья населения и общественной нравственности» [8, эл. ресурс].

Не смотря на столь широкий круг рассмотренных норм, связанных с наркотиками, были несовершенства в уголовном законодательстве. Так, не были точно уточнены перечни контролируемых наркотических средств, а также их размеры. Уголовная политика была направлена на привлечение к уголовной ответственности лиц, потребляющих наркотические средства. Позже с увеличением преступлений совершаемых организованными группами, уголовная политика была сосредоточена на распространителей.

Для совершенствования нормативной базы профилактики незаконного оборота наркотиков в Кыргызской Республике был принят главный закон от 22.05.98 №66 «О наркотических средствах, психотропных веществах и их прекурсорах» [9, эл. ресурс].. Данный закон вместе с уголовным законодательством стали одним из важнейших нормативных актов, создающих первоначальное юридическое поле для противодействия незаконному обороту наркотиков.

А также в соответствии с международными обязательствами регулирует общественное отношение в сфере наркопотребления, устанавливает ответственность за его незаконный оборот и злоупотребление, определяет организационные основания деятельности по законному обороту наркотиков, психотропных веществ и особенности деятельности по их незаконному обороту.

Далее, новые изменения вошли в уголовный кодекс Кыргызской Республики от 2 февраля 2017 года № 19, который включил отдельную главу 38 «Преступления в сфере оборота наркотических средств, психотропных веществ, их аналогов и прекурсоров», содержащих нормы за незаконные изготовления наркотиков, психотропных веществ и их аналогов для сбыта; - незаконные изготовления наркотиков, психотропных веществ и их аналогов без цели сбыта; - хищение или вымогательство наркотических средств и психотропных веществ; - склонение к употреблению наркотиков; - посев и производство растений с наркотическими средствами; - организация или содержание притонов для употребления наркотиков [10, эл. ресурс].

Выделение законодателем деяний в отдельную главу под названием «Преступления в сфере оборота наркотических средств, психотропных веществ, их аналогов и прекурсоров» явилось верным решением. Поскольку, в ранее принятых уголовных кодексах составы преступлений в сфере наркотиков рассматривались с иными деяниями, которые своим объектом имели общественные отношения в сфере общественного порядка, безопасности либо здоровья населения, что следовательно являлось неверным. Совершая те или иные действия с наркотическими средствами, лицо в первую очередь нарушает законный порядок оборота запрещенных средств.

Таким образом, подводя итог краткому рассмотрению ретроспективного анализа уголовного законодательства Кыргызской Республики в сфере незаконного оборота наркотических средств можно отметить, что за рассмотренные периоды становления уголовного законодательства происходит закрепление и расширение норм, определяется объект деяния, детализация объективной стороны деяний, а также отграничение незаконных действий совершаемых с наркотическими средствами с целью и без цели сбыта.

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