Уральский федеральный университет
имени первого Президента России Б. Н. Ельцина
Институт социальных и политических наук

ЯЗЫК В СФЕРЕ ПРОФЕССИОНАЛЬНОЙ КОММУНИКАЦИИ

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В настоящем сборнике представлены статьи студентов и аспирантов, посвященные научным проблемам экономики, лингвистики, межкультурной коммуникации, связям с общественностью и развитию современных технологий. Все материалы подготовлены на иностранных языках.

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Профессионально-ориентированное иноязычное общение в формате игры по плану «Научно-практическая конференция»

Действенным способом оптимизации процесса обучения профессионально-ориентированному иностранному языку в неязыковом вузе могут служить системная подготовка и регулярное проведение научно-практических конференций на иностранном языке для студентов и аспирантов. Такие конференции проводятся ежегодно на базе кафедры иностранных языков и перевода Уральского федерального университета им. первого Президента России Б.Н. Ельцина с 1998 года.

Оптимизация процесса обучения достигается благодаря эффективному использованию аудиторного времени на занятиях по иностранному языку, а также возможностей самостоятельной работы студентов в области подготовки к предстоящей конференции (написание профессионально-ориентированной статьи на иностранном языке, подготовка доклада). Главная задача преподавателя заключается в том, чтобы сформировать у обучающихся навыки и умения, обеспечивающие подготовку и участие в научно-практической конференции на иностранном языке.

Можно выделить следующие виды обучения профессионально-ориентированному иноязычному общению:

- квазипрофессиональное/игровое/имитационное общение
- реальное профессионально-ориентированное общение в условиях реального времени проведения конференции.

Рассмотрим отдельно каждый вид профессионально-ориентированного иноязычного общения в формате «Научно-практическая конференция».

Квазипрофессиональное/игровое/имитационное общение происходит на основе интерактивных методов обучения: ролевые, деловые игры, игра по плану, кейсовая методика и др. В данном контексте мы считаем, что наиболее оптимальным методом профессионально-ориентированного обучения является «Игра по плану». Квазипрофессиональное игровое общение связано с обсуждением организационных и содержательных аспектов подготовки и проведения конференции. Главные задачи игры по плану «Научно-практическая конференция» - выбор темы, даты конференции, распределение функций в совместной деятельности, установление очередности докладов, распределение ролей, связанных с конференцией (ведущий, докладчик, содокладчик, оппонент), обсуждение и обмен информацией и т.д.

Рассмотрим интерактивный метод обучения профессионально-ориентированному иноязычному общению с методической точки зрения. *Игра по плану (Planspiel*) является распространенным игровым методом обучения, привлекающим внимание методологов, преподавателей иностранного языка, бизнес-дисциплин.

Как пишет в своих работах немецкий педагог Й. Зоммер, «игра по плану представляет собой имитационную игру для упражнения в коммуникативных способах поведения. Главная ее функция заключается в том, чтобы в наглядной доступной форме представить сложные и абстрактные интерактивные взаимодействия. Требующие решения проблемы решаются кооперативно» [3].

Исходным пунктом игры по плану являются конкретная тема или профессионально-ориентированная ситуация, в процессе обсуждения которых обучающиеся представляют свою точку зрения на различные организационные и содержательные аспекты (в нашем случае – подготовка и проведение конференции). На первый план выдвигаются методические задачи формирования и развития социальных и коммуникативных способностей общения на иностранном языке, а также умений применять приобретенные знания в практических ситуациях.

По Зоммеру, игра по плану проходит несколько фаз:

1. Фаза «разогрева»

Эта фаза означает эмоциональную установку участников игры по плану и должна присутствовать в любой игре, чтобы устранить возможную напряженность в отношениях обучающихся.

2. Фаза инструктажа

На этом этапе участникам объясняют их роли, зачитывается игровая ситуация и устанавливаются правила игры. В этой фазе особенно важно, чтобы на любой вопрос обучающегося был дан компетентный ответ, так как дальнейшее недопонимание в ходе игры уже трудно будет устранить.

3. Информационная фаза

На данном этапе участники игры получают информацию о своих ролях самостоятельно из письменных заданий. Преподаватель – модератор игры - также готов в любое время прийти на помощь.

4. Фаза разработки стратегии

Участники игры совместно в группе разрабатывают свою стратегию игры по плану. Во время этого этапа еще не разрешаются никакие игровые действия.

5. Дискуссионная фаза

Обычно этим этапом заканчивается игра по плану. Все участники собираются на пленум, чтобы обменяться своими аргументами в рамках своих ролей. Преподаватель - модератор игры - начинает дискуссию и руководит ей. По окончании дискуссии происходит принятие решения, где становится очевидным, кто из студентов смог реализовать свои цели в игре, кто – нет. При проведении игры необходимо учитывать, что игра по плану обязательно проходит в несколько этапов, а не содержит только дискуссионную фазу.

6. Фаза обработки результатов

Этот этап игры состоит из нескольких частей. Сначала студенты должны описать свои ощущения и достижения во время игры по плану. Далее преподаватель представляет обратную связь (Feedback) со своей точки зрения [3].

Игра по плану, как и другие интерактивные методы, обеспечивает многофункциональное обучение профессионально-ориентированному иноязычному общению.

Можно выделить следующие позитивные факторы игры по плану:

- развитие творческого мышления;
- улучшение климата в группе;
- формирование и развитие способов социального поведения;
- развитие самостоятельности в обучении профессионально иностранному языку;
- развитие способности к принятию решений;
- умение целенаправленно собирать и оценивать информацию;

- содействие развитию способностей к работе в малых группах;
- развитие толерантности и солидарности и др.

Наряду с названными достоинствами игра по плану имеет также и свои недостатки. Проведение игры по плану требует большой подготовительной работы и, соответственно, высоких личностных, временных и организационных затрат от преподавателя [2] .

Реальное профессионально-ориентированное общение, реализуемое в рамках реальных ситуаций профессиональной деятельности. Мы имеем в виду ситуации общения на реальных международных научно-профессиональных конференциях. Поскольку профессионально-ориентированное иноязычное общение на конференции осуществляется согласно строго определенной процедуре и в соответствии с коммуникативными ролями, главные методические задачи преподавателей заключаются в том, чтобы обеспечить студентов соответствующими речевыми средствами и подготовить их к разыгрыванию различных сценариев коммуникативного поведения в рамках принятых ролей.

При этом к числу методических требований следует отнести обеспечение создания таких продуктов учебной деятельности, как доклады на конференцию, компьютерные презентации, тезисы, Web-сайты, аннотации, программы, информационные письма о конференции.
[1].

Подводя итог изложенному выше, можно сделать вывод, что одной из действенных форм обучения студентов профессионально-ориентированному иноязычному общению является научно-практическая конференция студентов и аспирантов на иностранных языках. Подготовку к данной конференции можно проводить, используя популярный в Европе интерактивный метод под названием «Игра по плану».

Каждый год расширяются тематические рамки конференции, с каждым годом все больше студентов и аспирантов, также из других вузов, участвуют в ней. В последние годы научно-практическая конференция на иностранных языках приобрела статус международной и имеет важное значение не только для студенческой и аспирантской аудитории, но и для преподавателей иностранного языка. Для будущего профессионального и научного роста студентов и аспирантов очень важным является также ежегодная публикация их статей в сборнике материалов конференции.

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I. Актуальные экономические проблемы

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Оценка приоритетности зернового экспорта РФ

В данной статье рассматривается такая экспортная статья России, как экспорт продуктов сельского хозяйства, а конкретно – зерна. В связи с произошедшими экономическими потрясениями и колебаниями мирового нефтяного рынка, по мнению автора, целесообразно рассмотреть эффективность и конъюнктуру рынка зерна как на национальном, так и на мировом уровнях и дать ответ на вопрос: смогла бы Россия стать «сельскохозяйственной державой» и обрести независимость от стран-экспортеров нефти? К тому же, начиная с 2015 года, сбор пшеницы на территории РФ признается рекордным, а объемы поставок российских производителей для мировых потребителей беспрецедентно растет. В настоящем исследовании автором были рассмотрены объемы, условия, а также цены на зерновые продукты, приведены таблицы и представлены соответствующие выводы.

Priority assessment of the grain export of the Russian Federation

It has been thought that resource trading still seems to be the common strategy ensuring existence and development of the national economy of the Russian Federation. At the present time, the main social attention in Russia is being paid to the fuel market condition and it is thought to be entirely valid since the state federal budget considerably consists of oil and gas tax incomes (about 65 per cent). Due to the recently introduced sanctions and the oil price drop, the national economic system has become unstable and excessively dependent on the external factors. For this reason, it seems to be prudent to turn the economic direction into more profitable sectors: weapons, metallurgy or agriculture. It has been said that Russian economy could obtain more benefit from exporting certain agricultural produce than even from the oil export. [6]

For the recent years, the external realization volumes of provision products have grown all over the world and the Russian exporters have been in the lead. The Russian Federation has all the opportunities of becoming the world “Grain Superpower” as far as its farmers’ produce quality is appraised by the multitude of countries. [7] In 2015 about 105 million tons of grain were collected; and in 2016 the harvest was 117 million, which is thought to be an unprecedented record. Thereby, isn’t it advantageous for the Russian government to reorient to agricultural economic disposition? The question requires a fundamental examination.

The exported agricultural goods are:

- Grain (23,4 per cent)
- Barley (4,2 per cent)

- Maize (3,7 per cent)
- Rice (0,7 per cent) [4]

China, Turkey, Egypt and Columbia remain the primary purchasers of the Russian grain and maize. In addition, there are also large ones from the Middle East. Generally, the Russian farm produce is imported into 140 countries all over the world.

It is important to notice that the grain demand in the territory of the Russian Federation is much lower than the harvest volumes. Consequently, the only advantageous way for the producers is to enter the world markets. However, in this way they have to pay more expenses. Thus, the government endeavours to perform comfortable conditions for the farmers to produce and supply their goods by providing them with subsidies and subventions and with a possibility to adopt the special agricultural tax regime, which allows them to pay less tax. For the corporate exporters, there are such methods as export duties cancellation and direct investments. Moreover, all the exporters are exempted from value-added tax (VAT). In return, it delivers internal growth, industrial lands development and strategic partnerships with perspective countries (China).

In order to assist and engage in the agricultural conjuncture in Russia 'United Grain Company' was established in 2009 at the initiative of President Putin. It has swiftly become one the world's largest Russian supplier of grain produce. It is also necessary to add that the private international concern Rusagro is thought to be the largest Russian supplier whose shares are even placed on the London Stock Exchange. While looking at the Rusagro's annual financial report, the author noticed an increase in the concern's revenue from grain and maize by 33 per cent that is thought to be a well-progress item. Unfortunately, it equals only 3.5 million rubles. [3]

Harvesting agricultural crops is realized in nearly every region of the Russian Federation due to the appropriate climate and soil. But the most efficient areas are the Northern Caucasus, the Urals, the Volga region and the Chernozem Region. According to the scientists' weather forecast, in the next 15-20 years the Earth climate must become considerably warmer, thus the conditions and territories for grain production including Russia's ones should improve even more. [8]

Considering the question of agricultural reorientation of the Russian economy, it seems to be crucial to analyze the wheat and maize average costs both at the Russian internal market (Table 1) and the world's market (table 2).

Table 1 – Dynamics of prices for wheat and maize grain in Russia (RUB/ton) [1]

Product	**November 2015**	**May 2016**	**November 2016**
Wheat	10 912	10 649	10 425
Maize grain	8 575	10 725	8 767

Table 2 – World dynamics of prices for wheat and maize grain (USD/ton) [5]

Product	**November 2015**	**May 2016**	**November 2016**
Wheat	552	496	414
Maize grain	383	391	357

The data presented show the reduction of the grain prices in the world and Russian internal markets, and according to the economic forecast, the tendency will remain. This circumstance it is thought to be unfavorable for the national farmers and exporters.

One more essential factor assessing the efficiency of Russian grain export is its quota in the aggregate national export volumes. This is because if the share in a nominal value is too insignificant, then neither perfect conditions nor harvest amounts make any difference. In the author’s opinion, this is the nominal value share that designates the priority of the particular export orientation. Thus, it seems to be expedient to consider Table 3.

Table 3 – The export performance indicators of the Russian Federation in 2014-2015 [2]

Product name	2014 г.		2015 г.		growth rate, per cent		
	million $	*per cent*	million $	*per cent*	value	volumes	price
Total	**497 834**	***100***	**343 427**	***100***	**69,0**	**106,9**	**64,5**
Food products and agricultural raw materials (except textiles)	**18 981**	***3,8***	**16 181**	***4,7***	**85,2**	**94,2**	**90,5**
wheat and rye	5 423	*1,1*	3 949	*1,1*	72,8	95,9	75,9

According to the data in Table 3, the grain export quota amounts only 1.1 per cent of the overall export volumes of Russia and even seems to decrease. Apparently, the dollar exchange rate shift makes the difference. Thus, as it has already been mentioned, neither the unprecedented harvest volumes nor conditions or forecast significantly affect the national agricultural growth. Russia can barely become the agricultural State because the export share of such products equals only 4.7 per cent.

Undoubtedly, the tendency of internal growth and international trading amounts indicators are thought to be very favorable for the farmers and companies to supply products and thus satisfy people's needs, but due to the unpleasant economic changes like dollar exchange rate shift and trade restrictions the common trading indicator concerning agricultural goods remains low.

However, it could be hardly considered as a negative fact. On the one hand, the grain export if being more solid could supplement the state budget insufficiency. But on the other hand, according to the author's opinion, the 21st century requires the development of more unique fields of national economy and the agricultural orientation should be left in the past. To be honest, Russian abilities still cannot afford to develop any unique spheres, but there are such branches like machine-building, manufacture of weapons and metallurgy which the national government should rely on.

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Новый шелковый путь и феномен китайской мечты

В статье рассматривается новый глобальный инфраструктурный проект Правительства Китая, который носит условное название «Новый шелковый путь». Наряду с проектом Нового шелкового пути руководство страны запустило внутрикитайский проект «Китайская мечта», который, в свою очередь основывается на принципе социального единства на пути к общей цели. Феномен китайской мечты широко известен за пределами Китая и также освещен в данной работе.

The New Silk Road and The Chinese Dream phenomenon

President of the People's Republic of China Xi Jinping announced the project of one economic belt in September 2013. The project included the New Silk Road and the Marine Route of the 21st Century. The new project was named as «One Belt One Road» (OBOR). On the whole, the new initiative has involved 60 countries from Central and South-Eastern Asia, Eastern Europe, The Asia-Pacific region, and Russia.

The Annual report of the International Monetary Fund showed that Chinese economy in the past 30 years has taken a leading position in the world in Purchasing Power Parity (PPP) due to the increase of production and trade turnover. The government's goal now is a move to a sustainable economic development that is focused on the consumption of services and goods. For this reason, China concentrates on export in international trade relations, while economic development is achieved by realization of cross-border infrastructure projects. "One belt" project should create conditions for implementation of China's economic development plan.

Xi Jinping works as a conductor of Chinese political outlook into the outside world and announces great infrastructure projects in key Asian countries. Thus, he emphasizes the importance of participation of every country in the project and the Chinese "Policy of inclusion" ("Great neighborhood policy”) in relation to its partners. For instance, “One Belt One Road” project was introduced in Astana (Kazakhstan) in 2013; “Marine Road of 21st Century” also was announced in 2013, in Jakarta (Indonesia); the memorandum on building high-speed railways between Moscow and Kazan was signed in Moscow (Russia).

On the one hand, OBOR project implies global integration development; on the other hand, it is called for adjustment of China’s backward Western regions and high-developed Eastern regions. Therefore, China’s goods export to European countries, Central and South Asia countries is the key area in the development of trade relations. All these factors will make it possible to create favorable export conditions for finished goods in limited time due to a vast 30-year experience of infrastructure development and the accumulation of foreign currency reserves in foreign funds.

The principle of win-win collaboration works here, when countries-participants will get new high-speed railways, new modern cities, and financial resources, in exchange for the import of Chinese goods on most favored nation treatment.

The world community believes that the “Chinese dream” phenomenon will revive amidst Confucianism as a counterpoint to the “American dream” which was popular in the 20th century. The only difference is that Chinese term means the search for the common welfare and not personal well-being.

Initially, the “Chinese dream” in China was announced by Lee Tszyunzhu, Vice-Rector of the Higher Party School of the CPC Central Committee. Later the Chinese term (Chinese dream) was developed into the concept of National Revival and recovering country’s former glory.

The Chinese dream concept rapidly grew into a powerful ideological instrument in the hands of the Communist Party of China. For instance, a book titled “Chinese dream” by Liu Mingfu, Professor of Beijing University of National Defense was published in 2010. The book presented the concept of a government plan for capacity building in economic and military spheres. The concept was significantly complemented and published in 2014 as a separate chapter in a collection of reports and speeches called “Xi Jinping: The Governance of China”. Xi Jinping's collection is translated into main languages and is compatible with Mao's Red Book in popularity.

According to V.A. Kiktenko, the concept includes the "National Revival" term, an official recovery of traditional Chinese style of thinking, Confucianism renewal, albeit very cautiously. Chinese policymakers employ the concept terminology for both internal and foreign policy propaganda.

The "Chinese dream" accompanies almost every presented infrastructure project. For example, they named the entry into Arctic government as "Arctic dream", the creation of trade route network was known as "Asian dream", and the Marine Silk Road of the XXI century was called "Asia-Pacific dream".

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Экономические системы и экономические проблемы

Существует множество путей, с помощью которых правительство может организовывать свою экономику, и тип выбранной экономической системы важен в формировании окружающей среды.

Экономическая система – это путь, благодаря которому страна может использовать доступные ей ресурсы, чтобы удовлетворить требования жителей страны и повлиять на их уровень жизни. Существуют четыре категории экономических систем: традиционная, командная, рыночная и смешанная. В наше время мы сталкиваемся с такими экономическими проблемами как кризис, безработица, коррупция и другие.

Economic systems and economic problems

People and societies organize economic life to deal with the basic problems through economic systems. There are a number of ways in which a government can organize its economy and the type of system chosen is critical in shaping environment in which businesses operate.

An economic system is the way in which a country uses its available resources (land, workers, natural resources, machinery etc.) to satisfy the demands of its inhabitants for goods and services. The more goods and services that can be produced from these limited resources, the higher the standard of living enjoyed by the country's citizens.

Most economic systems use one or more of three basic methods to make economic decisions: tradition, command and markets. Economic systems are classified into four broad categories, according to how most economic decisions are made. These are traditional, command, market and mixed economies.

Traditional economy. People generally repeat the decisions made at an earlier time or by an earlier generation.

Command economy. They rely almost totally on government to make economic decisions through centralized authorities. The government owns all the major productive resources.

Market economy. Most productive resources are owned by private individuals. Individuals make economic decisions in response to market signals and on the basis of their own preferences.

Mixed economy. The economic system used in most countries lies between the two extremes of command and market economies. Mixed economies answer the basic economic questions partly through the market and partly through the government, with some decisions based on tradition as well.

Economy is a system which tries to balance the available resources of a country, including land, labour, capital and enterprise. Economy of a certain region or country is closely interlinked with such areas as culture, education, technological progress, history, political structure, legal systems, natural resources and ecology. These areas or factors set the conditions for the economy. That is why some cultures create more productive economies and function better than others.

As for Russia, its economy strongly depends on its vast natural resources, such as gas, oil, coal and precious metals. The Russian economy is the 8th largest economy in the world. However, it has experienced great changes lately, as it has been affected by global economic crisis. The inflation rate in Russia is quite high and the prices are growing year by year. Unemployment and poverty still remain one of the serious economic problems. In spite of the decline, Russia has various profitable branches of industry, for example, metallurgical, automobile, chemical, textile, agricultural and others.

People have lived in our planet Earth for centuries and global problems have always existed. In ancient times the biggest global problem was wars. People have been fighting with each other since beginning of the civilization mostly to get new territories and more land. Today, there are more global problems which can be divided into two categories: ecological problems and social, economic and political issues. The first category includes issues relating to ecological destruction, pollution and global warming as the result. The climate is changing and many people agree that climate change is one of the greatest threats facing the planet. Global warming has already killed off some types of animals and plants.

Rising sea levels are threatening whole nations on the islands in the Pacific and Indian Oceans.

The second category of global problems deals with social, economic and political issues. They include global terrorism, poverty, human rights, health issues, racism and many others. We are faced with the problem of global terrorism and more and more countries are suffering from it. It is difficult to catch terrorists and prevent their acts, but most countries decided to fight against terrorism. However, new terrorist attacks have been committed.

Poverty is another global problem. The worst situation is in Africa where people (mostly children) die every day of hunger. The poor also have less access to health, education and other services. Incurable diseases and epidemics are also global challenges for the humanity.

There are many organisations that fight global problems, but this battle has lasted for a long time and it will take much time for the solution of all of them. We live in the 21st century and humanity has made a great progress in technology, so I think that it is strange that we still have global problems, especially the ones that deal with social, economic and political issues. I am sure that they can be solved completely without any conflicts or wars.

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Малый и средний бизнес в России: тенденции, проблемы и перспективы развития

В статье рассмотрены основные проблемы, с которыми приходится сталкиваться малому и среднему бизнесу в России с точки зрения глобальных тенденций, а также непростых экономических условий, сложившихся в нашей стране. Дается представление о мерах государственной поддержки и планах развития данного сегмента бизнеса в будущем. Уделяется внимание роли и значению малого и среднего бизнеса в целом для экономики Российской Федерации.

Small and medium-sized enterprises in Russia: trends, problems and prospects

The current difficult economic situation in Russia has affected all areas of business activity. The Ukrainian crisis, economic sanctions on Russia by the USA and the EU, counter sanctions by Russia, and the falling price of oil since the autumn of 2014 caused increasing uncertainty, decreasing income, and remarkable worsening of business confidence.

However, there is a leading force that is capable of overcoming the economic crisis. This is small and medium-sized enterprises. Small business is of great importance not only to the economy of developed countries, but also for the countries with economies in a formative stage. The activities of this element of the financial system is an important factor allowing to increase production and social infrastructure, to provide the national market with goods and services, to create additional employment.

The relevance of the article is defined by the role of small and medium-sized businesses in the development of the country's economy. Small and medium-sized business (SME) is not only an essential component of the civilized market economy, but also the most flexible, efficient and transparent form of enterprises due to their size model of management.

Definition of SME in the Russian Federation

The federal law №209-FZ "On small and medium business development in the Russian Federation" which defines small, medium-sized and micro enterprises was adopted in 2007. Table 1 summarizes definitions of medium-sized, small and micro enterprises in Russia:

Table 1 – Indicators of SME in Russia, 2016 [1]

Indicator	Enterprises		
	Micro	Small	Medium-sized
Headcount	1-15	16-100	101-250
Turnover, RUB	120 mln	800 mln	2 bln

The role of SME in the economy is significant due to the following factors:

- Economic growth

Small businesses help stimulate economic growth by providing employment opportunities to people who may not be employable by larger corporations. Moreover, their activity is also an addition to the tax base, participation in community activities, sharing community concerns.

- Adaptability to changing climates

The advantages of SMEs are flexibility, high adaptive capacity and the ability to respond quickly to changing economic climates.

- Inventiveness and innovation

This is the area for the innovations that seem to be too risky for large business structures.

- Commercial rivalry

The role of SMEs and their importance in the economy is also recognized as reasonably h criteria of the efforts to support the competitiveness and the development of business.

SMEs' difficulties

The necessity of state support of small businesses is particularly important given the fact that its activity is related to a number of difficulties.

According to a survey conducted by the Association of Regional Russian Banks in 2015 SMEs faced the following challenges:

1. Lack or resources (finance, technology, market assess, market information);

2. High rate of taxation;

3. Increased market competition from multinational enterprises caused by globalization/economic integration;

4. Administrative pressure, corruption;

5. Economic uncertainty, rising costs;

6. The market structure in Russia is highly monopolized and enterprises are extremely large-scale. [3]

Fewer SMEs have less access to credit than larger companies because lending to them is riskier and more expensive than extending credit to larger companies. The problem is connected with the provision of collateral and guarantees, with high interest rates on loans, with duration of registration of the relevant documents.

Preferences and benefits provided to small business in Russia

SMEs have become institutionally positioned in Russia as the basis of its economy. The ministry expects the volume of small and medium-sized enterprises to increase by 150% by 2030 compared to 2014 in real terms. [4]

However, the share of small and medium-sized businesses in Russia's GDP now is extremely small – about 20% (2015), while the figure is 50% in China and more than 60% in the United States (Diagram 1).

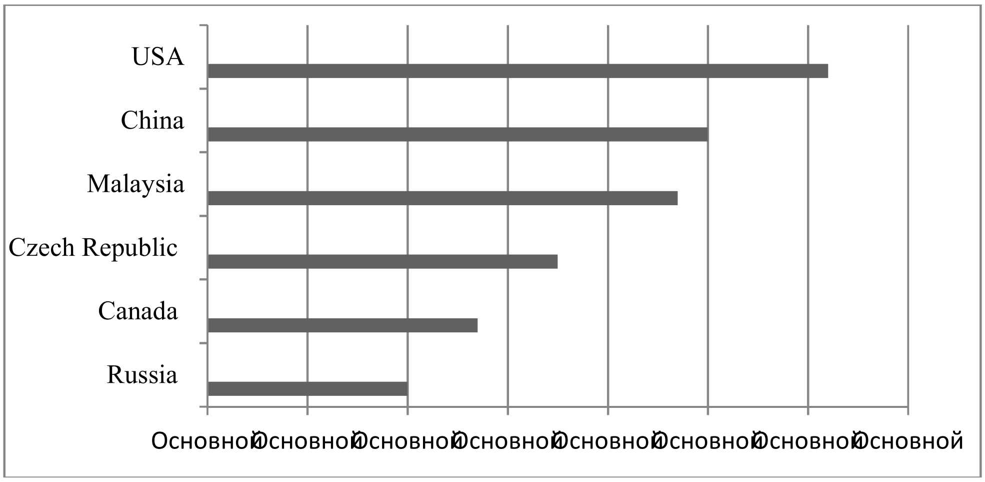

Diagram 1 – SMEs Contribution to GDP, 2015 [2]

One of the most important events of 2015 was the creation of the Federal Corporation for SME support in Russia.

The concept till 2030 includes some blocks of focus areas to develop SMEs in Russia [4]:

1. formation of market niches for business;

2. available financing;

3. technological development;
4. state regulation;
5. predictability of fiscal burden;
6. territorial and personnel development.

In terms of small business support on January 27, 2015 the Government of Russia approved the plan of primary measures for sustainable development of economy and social stability in 2015 (anti-crisis plan).

Particular regions of the Russian Federation will be entitled to establish "tax holidays" in the form of 0 percent tax rate for the entrepreneurs registered first time, which leads to the simplified tax system and the patent system of taxation and operating in the industrial, social and scientific spheres. Under the new legislation, regional and federal authorities are not allowed to conduct regular checks on small companies or individual entrepreneurs from January 1, 2015 to the end of 2018. [3]

As we have seen, small and medium-sized businesses represent the most important segment in developing national economy and overcoming the economic crisis. The activities of this segment of the financial system are an important factor, allowing to increase production and social infrastructure, to create additional employment, to provide the national market with goods and services.

However, SMEs face challenges from the lack of resources, especially financial ones, such as an access to banking loans, high taxes, lack of state support, a burden of regulations, bureaucracy, etc. Thus, one of the main tasks for the Russian Government is the creation of favorable conditions for small and medium-sized business activity. It is planned that the share of SMEs in the Russian Federation's GDP will reach 45% up to 2030.

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II. Лингвистика

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Отражение времени в индивидуальной языковой картине мира

В статье рассмотрены темпоральные номинаторы, встречающие в языковой картине мира отдельной языковой личности. С помощью контент-анализа проанализированы темпоральные маркеры, выраженные существительными, прилагательными и наречиями.

Temporale lexikalische Einheiten im individuellen sprachlichen Weltbild

Schon lange untersuchen verschiedene Wissenschaften das Wesen der Zeit: Philosophie, Linguistik, Psychologie usw. Die Zeit ist eng mit der Realität verbunden und wir brauchen sie zum Verständnis der Welt. Jede Wissenschaft betrachtet diese Kategorie in verschiedener Hinsicht. In der Philosophie gilt die Zeit als Basiskategorie des wissenschaftlichen

Weltbildes. Die Sprachwissenschaft versucht zu erklären, wie sich diese Kategorie in der Sprache widerspiegelt, und Mechanismen festzulegen, durch die der Mensch zeitliche Merkmale interpretiert und verschiedene Tempusbedeutungen unterscheidet.

In diesem Zusammenhang ist es wichtig festzustellen, wie wiederspiegelt sich das Tempus im sprachlichen Weltbild des einzelnen Individuums. Unter dem individuellen sprachlichen Weltbild versteht man das in der Sprache fixierte Schema der Wahrnehmung von der Realität, die für eine konkrete sprachliche Persönlichkeit charakteristisch ist.

Als Untersuchungsmaterial wurde der erste Hauptabschnitt des Buches „Der 2. Weltkrieg“ ausgewählt – die Autobiographie des ehemaligen sowjetischen Kriegsgefangenen und Teilnehmers des 2. Weltkrieges W. Scharf, in dem er seine Teilnahme an den Kampfhandlungen von 1944 beschreibt. Die autobiographische Narration als Vorlage des persönlichen Herkommens vermittelt Gedanken und Gefühle des Autors und eröffnet seine innere Welt.

Im analysierten Text werden temporale lexikalische Einheiten durch verschiedene Wortklassen dargestellt: Substantive, Adverbien und Adjektive, die temporale Bedeutung haben [3]:

1) Nomination der nach der Dauer bestimmten Zeitspannen (Monat, Jahr).
2) Nomination der Zeitspannen vonunbestimmter Dauer (Moment, Augenblick).
3) Nomination der zyklischen Ereignisse des menschlichen Lebens (Mittagsessen, Mittagszeit).
4) Nomination der zyklischen Naturerscheinungen (Tag, Nacht, Sommer, Winter).
5) Nomination von der Linearität der Zeit (folgende, gestern, heute).

Insgesamt wurden 174 lexikalische Einheiten analysiert: Substantive (114 Wortformen), Adjektive (17 Wortformen), Adverbien (43 Wortformen).

Die Einheiten der nach der Dauer bestimmten Zeitspannen werden durch folgende Wortklasse ausgedrückt: Substantive (45), Adjektive (2), Adverbien (4). Die häufigsten Substantive sind Tag (16), Stunde (16), Minute (5). Die Anzahl der Adjektive und Adverbien ist gering: Adjektive (kurz (2)), Adverbien (lange (2), kurzfristig (1), rasch (1)). Der Gebrauch von den Substantiven „Tag“ и „Stunde“ in solcher Menge ist dadurch bedingt, dass der Ablauf der Kriegshandlungen nach Tagen und Minuten geplant wird. Das Substantiv „Minute” wurde am wenigsten festgestellt, weil es in solchen Situationen gebraucht wird, in denen spontane Angriffe von Gegnern oder plötzliche Änderungen in der Umgebung beschrieben werden.

Die Einheiten, die die Zeitspannen von unbestimmter Dauer bezeichnen, werden am wenigsten festgestellt, das beweist niedrige funktionale Bedeutung solcher Spracheinheiten für die betreffende sprachliche Persönlichkeit. Als Beispiel dafür gelten folgende Substantive: Tage (2), Zeit (5), Moment (2), Augenblick (1); Adverbien: irgendwann (1), damals (4), ein Adjektiv: restlich.

Unter den lexikalischen Einheiten, die die Linearität der Zeit bezeichnen, werden am meisten Adjektive (13) und Adverbien (29) getroffen. Die häufigsten Adjektive sind letzte (4), folgend (7), vergangen (1), gegenwärtig (1). Zu den Adverbien gehören folgende: später (7), jetzt (4), dann (3), zuvor (5), bald (1), morgen (2), erst (1), vorher (2), zunächst (4). Die Anzahl der Subjektive ist nicht groß: Ende (1), Einbruch (3), Beginn (1), Anbruch (2). Die Dominanz von Adverbien und Adjektiven ist damit verbunden, dass die chronologische Reihenfolge der Ereignisse und Erscheinungen durch diese Wortklasse ausgedrückt wird. Beim Erzählen existiert ein Punkt, wenn Ereigniszeit und Sprechzeit zusammenfallen, der durch das Adverb „jetzt“ und das Adjektiv „gegenwärtig“ ausgeprägt wird. Die Adverbien „zuvor“, „erst“, „vorher“, „zunächst“ und das Adjektiv „vergangen“ zeigen, dass einige Ereignisse früher als dieser Punkt passiert sind. Hier geht es um die Vorzeitigkeit. Die Adverbien „dann“, „später“ und das Adverb „folgend“ weisen darauf hin, dass andere Ereignisse später abgelaufen sind. Es handelt sich um die Nachzeitigkeit.

Unter temporalen lexikalischen Einheiten, die den zyklischen Charakter der Zeit bezeichnen, unterscheidet man 2 Gruppen: Wörter, die zyklische Naturerscheinungen bezeichnen, und Wörter, die die zyklischen Ereignisse des Lebens von Menschen bezeichnen. Für die Beschreibung der zyklischen Naturerscheinungen werden vorzugsweise Substantive (50) und Adverbien (2) benutzt. Die Substantive werden durch folgende Wörter dargestellt: Abend (11), Morgen (2), Abenddämmerung (4), Morgengrauen (3), Nacht (7), Mitternacht (7), Nachmittag (5), Vormittag (1), Mittagszeit (2), Dunkelheit (7), Spätsommer (1), Dämmerung (1). Der häufige Gebrauch von Substantiven „Abend“, „Nacht“, „Mitternacht“, „Dunkelheit“ ist damit verbunden, dass die Protagonisten des Buches abends und nachts Aufklärungsvorstöße unternommen und haltgemacht haben. Nämlich diese Stunden waren am ruhigsten und in dieser Zeit haben Soldaten ihre Pläne besprochen. Die Wörter, die die zyklischen Ereignisse des Lebens von Menschen bezeichnen, gibt es nicht so viel: zwei Substantive (Mittagsessen, Kompaniefeier), ein Adjektiv (jede) und drei Adverbien: seltsam (1), oft (2).

Laut der Inhaltanalyse wurde es festgestellt, dass lexikalische Einheiten der zyklischen Naturerscheinungen (52 Wortformen) und lexikalische Einheiten der Zeitspannen von bestimmter Dauer (51 Wortformen) im sprachlichen Weltbild von W. Scharfüberwiegen. Dann folgen lexikalische Einheiten, die den linealen Charakter der Zeit bezeichnen (49 Wortformen). Lexikalische Einheiten, die die zyklischen Ereignisse des menschlichen Lebens bezeichnen, werden nicht so viel festgestellt (16 Wortformen).

Temporale Nominationen	Anzahl der Substantive	Anzahl der Adjektive	Anzahl der Adverbien
Nomination der nach der Dauer bestimmten Zeitspannen	45 Bsp.: Tag (16) , Stunde (16), Minute (5)	2 Bsp.: kurz	4 Bsp.: lange (2), kurzfristig (1), rasch (1)
Nomination der Zeitspannen von unbestimmter Dauer	10 Bsp.: Tage (2), Zeit (5), Moment(2), Augenblick (1))	1 Bsp.: restlich	5 Bsp.: irgendwann (1), damals (4)
Nomination der zyklischen Ereignisse des menschlichen Lebens	2 Bsp.: Mittagsessen, Kompaniefeier	-	3 Bsp.: seltsam (1), oft (2)
Nomination der zyklischen Naturerscheinungen	50 Bsp.: Abend (11), Nacht (7), Mitternacht (7), Dunkelheit (7)	1 Bsp.: jede	2
Nomination von der Linearität der Zeit	7 Bsp.: Ende (1), Einbruch (3), Beginn (1), Anbruch (2)	13 Bsp.: letzte (4), folgend (7), vergangen	29 Bsp.: später (7), jetzt (4), dann (3), zuvor (5)
Insgesamt:	114	17	43

Tabelle 1. Anzahl der Substantive, Adjektive und Adverbien nach fünf temporalen Nominationen.

Laut den Ergebnissen kann man folgende Schlussfolgerung ziehen, dass alle Nominationen der temporalen Bedeutung im sprachlichen Weltbild von W. Scharf dargestellt sind. Der Autor der untersuchten Autobiographie ist ein ehemaliger Soldat, deshalb alle beschriebenen Ereignisse in den Kriegszeiten vorlaufen und die Handlungen von allen Protagonisten der Kriegsregime unterdrückt sind. In seinem sprachlichen Weltbild überwiegen lexikalische Einheiten der zyklischen

Naturerscheinungen und lexikalische Merkmale der nach der Dauer bestimmen Zeitspannen, weil die Wörter jene Erscheinungen bezeichnen, nach denen sich ein Soldat in der Zeit auskennen kann (Abend, Nacht, Tag).

Der Gebrauch der lexikalischen Einheiten, die den linealen Charakter der Zeit bezeichnen, weist darauf hin, das ein Narrator/Autor nachfolgerweise über die mit ihm passierten Ereignissen erzählt, damit der Rezipient die Chronologie des Werkes begreifen kann.

Die Anzahl der lexikalischen Merkmale, die die nach der Dauer nicht bestimmten Zeitspannen bezeichnen, ist nicht groß. Diese Kennziffer kann einerseits dadurch erklärt werden, dass beschriebeneKriegsoperationen kurzfristig realisiert werden mussten. Andererseits hat der Krieg als Prozess keine bestimmten Zeitrahmen, folglich sind solche Ereignisse für Soldaten wichtig, die im konkreten Moment vorlaufen.

Die letzte Nomination, die durch lexikalische Einheiten, die die zyklischen Ereignisse des menschlichen Lebens bezeichnen, ist am wenigsten im sprachlichen Weltbild von W. Scharf dargestellt, denn ist das Soldatenleben schwierig und nicht vielfältig ist.

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Настоящая Алиса-сказка, которая становится былью

Данная работа показывает влияние книги «Алиса в стране чудес» на культуру. Книга, которая написана в жанре абсурда, привлекает внимание современной молодежи к современным проблемам, затронутым автором: проблема «маленького человека», дурные привычки, психические заболевания, а также конфликтные отношения между людьми.

The real Alice – the fairytale that comes true

"Only a fool needs to live in order — genius prevails over chaos"
Albert Einstein

The genius borders on insanity. This phrase applies to the author of the book "Alice in Wonderland" Lewis Carroll. He was a true genius on the verge of madness which could show our world in such an unusual role for it. It is very interesting to find out if it is a fiction or just the chaos or absurdity. Let us examine the last two concepts. Chaos is a category of cosmogony, the primordial state of the Universe, the formless totality of matter and space. The destiny of geniuses and pioneers is to rule over chaos, to know something of its constituents and bring them into order. The absurd is a violation of certain logical sequences - arbitrary or involuntary. The absurd can be real with the perspective of an observer, as he sees no other logic elements in what he observes.

On the basis of concepts, it can be argued that L. Carroll was a brilliant man who was able to show his logic in this world, who did not think it was absurd. We need his detailed description to understand his reality better. His real name was Charles Lutwidge Dodgson. He was not only a writer but also a mathematician, philosopher and a photographer. Literature and math are two opposing subjects. They are not compatible. Einstein was also a mathematician and physicist. He was considered a genius, although he ruled only in one area. Carroll was a genius in two spheres.

A genre of fairy tale is popular among children and adults. The Carroll's book is considered to be one of the finest examples of literature in the genre of the absurd as he uses numerous mathematical, linguistic and philosophical jokes and allusions. The course of the narrative and its structure had a strong influence on art especially in the fantasy genre. In our view, this fairytale could not be printed at all as Lewis Carroll came up with it spontaneously, he was not ready to choose the story line and characters. In 1862 it was a boat trip with Alice Liddell. She asked Charles Dodgson to come up with the story for her and her sisters Edith and Laura. Dodgson invented characters and events on the go. The main character is very reminiscent of Alice's appearance and character. Alice Liddell liked this story that she asked the narrator to write it down. He agreed and gave her a manuscript which was called "Alice's adventures underground." Later the author decided to rewrite the book. A new version of the book was given to her on Christmas day in 1863. In 1865 Dodgson published the book "Alice's adventures in Wonderland" under the pseudonym Lewis Carroll.

Let us move from the theory to meaningful facts that show us the reality of the world of L. Carroll. He was born in Cheshire, hence the expression of the Cheshire cat. It is the character that accompanies Alice throughout the tale. It is suggested that it was an allusion to the author who did not desert Alice in tough situations and helped her. During the Carroll's age, there was a saying: "Smiling like a Cheshire cat". The researchers put forward two theories trying to explain the origin of the saying. The first is that in Cheshire an unknown artist painted grinning lions on the doors of taverns. According to the second theory Cheshire cheeses were sometimes made in the form of smiling cats. "This is particularly in the style of Carroll's, for in such case, you can take a fantastic idea that the cat is made of cheese, may eat the rat that ate the cheese!», - says Dr. Phyllis Grinaker.

A Mad Hatter is a hat maker and one of the participants of the Mad Tea party. His name and character presumably originated from the saying "as Mad as a Hatter". This saying was based on the fact that hatters could really go crazy with the fumes of mercury used to process felt. In the meeting with the Alice this character was very arrogant, so she asked him to "not get personal". According to the Cheshire cat, the Hatter is "not insane". However, he has a soul and feelings, he is able to empathize. But like any "little man" who is the Mad Hatter, he cannot bring himself to show his real emotions. In the trial the Hatter was the first witness and he described himself as a "little man". He said that he was feeling like a hat. It raises a cross-cutting theme in the literature. "Little people" are the most vulnerable people. It is scary for them that nobody will see their spiritually rich nature. The Mad Hatter is a little man according to the social terms because he situates in one of the lowest rungs of the hierarchical ladder. His meaning in the world is little or even unnoticeable.

Griffin is a mythical creature with the head and wings of an eagle and body of a lion. The Griffin symbolizes the Christian Church (particularly in the "Divine Comedy" by Dante Alighieri) or the Union of God and man in Christ. In that period England was a very religious country so it is a natural reflection in the literature.

The Mock-Turtle is a turtle with veal's head, tail, big eyes and hooves on its hind legs. The Queen is reported to serve a quasi-turtle soup. This dish is usually prepared with veal which is an imitation of the soup from the green sea turtles. This simulation means that all people and creatures in Cheshire are not present and the real-life is just a simulation. We would like also to mention that in the Duchess's house people could feel the pepper in the air. Gardner suggests that this is either an allusion to the brutal nature of the Duchess or an allusion to the tradition of the lower classes of Victorian England. At that time, it was decided to pepper soup to hide the taste of spoiled meat and vegetables.

If we try to explain more deeply the magic of Wonderland, we would understand that a favorite classic story is not a children's bedtime story but a complex, confusing allegory on politics and drug addiction. Such terms raise many contemporary issues, a puberty, for instance. According to the theory of the critics, it is the most clearly demonstrated story with Alice's body changes. Firstly, she is too big then she becomes tiny. So, she is disproportionate. Psychologically these changes lead to the fact that the girl cannot decide who she is and what she needs. She is in search of her ego. Alice is in conflict with the authorities, in doubts about the legitimacy of the rules, for example, the court. She learns to play in adult games like card games, acquires a sense of justice and for the first time she faces the threat of death. It all lurks the modern young people at the age of 13-14. Puberty begins and it begins the first attempts to become adults. This fact is even supported by obtaining a passport at 14 when the child is firstly faced with politics and power.

The images of the smoking caterpillar and hallucinogenic mushrooms were given to hint us on the nature of the drug problem and bad habits. Nowadays it is "fashionable" to smoke hookah and vape among the youth. These are the modern concepts of the 21st century. In search of the garden Alice meets the Caterpillar. He advises her to bite off a piece of mushroom to be in a good mood and attain her normal growth. Alice follows his advice but various metamorphoses start to occur. She lost her shoulders then her neck was pulled. Obviously, it is the hint on hallucinations after mushrooms or other light drugs. Reading the tale, the youth recognize the current realities or even he or she can recognize someone from their acquaintances or friends. It occurs the dippiest presentation of the story in reality.

The March hare is a crazy rabbit. Alice meets him at the Mad Tea party. He offers the little girl to drink a glass of wine and always say what you think. It's a hint to a special sort of boys who meet girls in different places. They are like "instigators" who offer to have a drink. The author compares such guys with the rabbit who is cute to look at but is «ready to bite». Besides, there is a reason to use the adjective «March» because in March the first love fever and the awakening after winter appear.

A hint at dissatisfaction with the political system is well visible in the image of Queen of Hearts. In the story, she appears like a cruel antagonist who periodically tries to cut off the head of many other characters regardless of the defendant's guilt. It is a manifestation of the absolute monarchy. She is often in an irritable or furious state. She has a loud shrill voice. It was considered a criticism of Queen Victoria who Dodgson did not like very much. In addition, a chaotic system control and unclear laws also traced the parallels with Britain in the time of Lewis Carroll.

It is obvious that popular books affect the readers but sometimes they can even change an entire era. That is exactly what happened with the book "Alice in the Wonderland" by Lewis Carroll. The iconic tale has regained its popularity in the 21st century. The name Alisa became popular after the publication of this tale. In addition, "Alice in the Wonderland" was included in the list of the twelve "most English" objects and phenomena compiled by the Ministry of culture, sports and media in the United Kingdom. The scientific phenomenon as a disorienting neurological condition is called the Alice in Wonderland syndrome (AIWS). It affects visual perception of the person so that the person perceives visible objects much smaller than they are in reality and cannot determine how far or close they are located. The composition of the psychedelic group of the 60's Jefferson Airplane is called "White Rabbit". There was also a "mark" impregnated with LSD with the image of Alice. Both phenomena are probably related to the known property of LSD temporarily cause AIWS or manifested under its action the paradoxical logic similar to the logic of the characters in the book. The book received recognition because of F. J. Harvey Darton. He was a leading authority in the sphere of English children's books. He called this work innovative. It "revolutionized" English children's literature. Throughout the twentieth century "Alice in the Wonderland" has become the subject of various philosophical, psychoanalytic and satirical variations.

In conclusion, we would like to show that the book «Alice in the Wonderland" is a cult in its nature. It is the dialogue of the reader. The fairy tale’s characters raise childish problems. It is youth dialogue with youth. People are used to older people teaching them and explaining their vision of the world, for instance, our parents. Teenagers and young people do not want to listen to them believing that their parents do not understand youth problems. Carroll's tale is built on the communication with the same "teenagers" as characters of the book and readers. Our characters are teens according to their inner world and lifestyle. They try to share their experiences of life just because of friendship between them. Moreover, a teenager will probably listen to the teenager due to the fact that they are in the same age group and feel more credibility to each other than to their parents. But behind the mask of a "teenager" lies not a real teenager but Carroll with his own knowledge and life experience. It would be unfair not to mention the fact that he was an excellent teacher. He taught at Oxford University for many years and we think he might have to write and defend a lot of articles on this topic. In the tale, the law of contradiction is look at your friend and do not do the same. This tale raises a question of the expansion of consciousness through a variety of stimulants but Alice’s consciousness is undermined by what is happening and she sees a way out. The expansion of consciousness made for understanding the reality in which she is located. In this concept we can see a mad world, the world of adults. Undoubtedly, it raises the question of madness of the adult world. The second question is devoted to the problem of child’s clear perception. We can observe how difficult it is for children to live in the adult world.

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Стилевые и жанровые особенности текстов рекламных листовок на русском и английском языках

В статье рассмотрены стилевые и жанровые особенности текста рекламных листовок. Автор определил структуру рекламного текста листовок, выделив облигаторные и вариативные элементы. Выявил жанрообразующие и языковые средства, характерные для текста листовок на русском и английском языках.

Stylistic and genre features of Russian and English flyers

In today's market place, no commercial entity can successfully conduct business without advertising in one form or another. It is necessary both to spread the information about the product or service quickly and effectively in order to reach the maximum number of potential customers, and stimulate them to buy the product or service. Flyer is able to solve this problem, as it can influence the target audience quite successfully within a short space of time.

A famous public figure, an authority in the field of marketing and advertising E. V. Romat defines «flyer» as «one-way or two-way image (text), placed on a sheet of relatively small size» [2: 254].

Advertising is of great interest to linguists because its effectiveness is largely determined by the quality of the advertising text. However, the problem of advertising language is, as yet, an unexplored area. Some linguistic means used in advertising, which can contribute towards achieving its goals, have not been investigated properly so far.

It is said that basis of the advertising text should contain reliable information about the object of advertising, something about its unique features in contrast to similar products and some information about consumer's benefits. On the one hand, an advertising text possesses such features as logic, clarity, intelligibility, on the other hand, it is based on argumentation, imagery and subjectivity, that express the author's attitude to the advertised product, as the ultimate goal of the advertising text is to influence consumer's mind in order to persuade him/her to buy the product.

The language plays a major role in the efficiency of the advertising text. Among the linguistics means of advertising text in general and flyers in particular special attention is given to lexical means.

A clear syntax structure in the advertisement of a flyer is of great value, as it allows a customer to absorb information quickly. Expressive syntax plays an important role because it can both help to structure the advertising text clearly and to enhance the presentation of the product advertised, that has a positive effect on a customer's perception. Stylistic (rhetorical) figures are usually referred to an expressive syntax [3].

Predominance of one type of sentences over another refers to the special features of syntax of advertising texts. For example, 90% of all advertising texts use affirmative sentences, rather than negative. This can be explained by the fact that one of the main functions of an advertisement is claim. However, negative sentences are also used to create expressiveness against a background of frequently used affirmative sentences.

Interrogative and imperative sentences are also used in advertising texts along with affirmative sentences. Indeed, interrogative sentences are used to: improve the original text; creating illocutionary effect. Usage of incentive offers in advertising texts often leads to wariness and mistrust, because the human mind instinctively resists any orders and impulses.

Figure of speech is a form of expression (as simile or metaphor) used to convey meaning or heighten effect often by comparing or identifying one thing with another that has a meaning or connotation familiar to the reader or listener [4].

J. S. Bernadskaya in her book «The text in advertising» makes the case that dynamic and expressive syntax is very important [1]. In the process of the analysis we found out that flyers contain the following syntax: parceling, antithesis, gradation, epiphora, parallelism, ellipsis, aposiopesis. Let us consider some of them in more detail.

Parceling is an intentional splitting of sentences into smaller parts separated by full stops [5]. A flyer for a window shop "Atrium": «*Будь в курсе! Узнай лучшее спецпредложение! Первым!*»; «*Snap! Crackle! Pop!*» (rice krispies advertisement).

In print advertising copywriters often use parceling in order to facilitate the perception of the advertising text and make it attractive to the reader.

Antithesis is a rhetorical term for the juxtaposition of contrasting ideas in balanced phrases or clauses [5]. «*В холод – тепло, в жару – прохладу принесет кондиционер фирмы Samsung*» (Samsung); «*Get more car for less money*» (KIA motors). The text of advertising becomes more extraordinary through such figure of speech**.** Antithesis achieves the aphoristic expression of thought. It creates a contrast, stresses the point, draws attention to the most important things, and promotes brevity and expressiveness of the sentence.

Gradation is a stylistic device; a series of similar word or expressions that gradually emphasize and increase or, on the contrary, decrease the sense or emotional significance [5]. «*У стиральной машины есть одно качество, выгодно отличающее ее от других. Когда она работает, ее не замечаешь. Она практически бесшумная. Рядом с ней сможет спать даже кошка*» (Indesit washing machine). By applying the gradation in advertising, a bunch of verbs or adjectives are commonly used.

Ellipsis is such a syntactic structure in which there is no subject, or predicate, or both [5]. Experience shows that verb is often missed. «*Предъявителю флаера – новогодняя скидка*» (fitness center); «*Volvo for life*» (VOLVO dealership). Elliptical structures may also reveal such speakers' emotions as excitement, impatience, delight, etc. As a stylistic device, ellipsis is an effective means of protagonists' portrayal.

Aposiopesis appears when the speaker is unwilling to proceed and breaks off his narration abruptly [5]. «Никогда еще область косметической продукции не была такой богатой, насыщенной, стимулирующей, как сегодня… Получайте удовольствие…» (Faberlic company); «There we are… Wherever you go…» (FNB Bank). Aposiopesis not only attracts the reader's attention, but also makes "read between the lines" and figure out the idea.

There is another device used in advertising texts – words and phrases that trigger a certain reaction. For example, English advertising texts include such words and phrases as «*new, free, present, declare, mystery, secret, magic, economy, guarantee, more, cheap, better, the best, super, now, the first, revolution, unreal*» and so on. And Russian advertising texts often contain the following words and phrases: «*бесплатный*, *выгодный*, *дешевле*, *экономичный*, *самый лучший*, *отличный,* подарок, *беспроцентный*, *низкие* цены, *эффективный*, *надежно*» and so on.

The main lexical tool of flyer is highly informative lexis. For example, it is represented by proper nouns (NIVEA, Lenin street) and numeral adjectives (20% of, 11th Street Atrium, hot pizza by 10 $, dec. 22. 2016, work schedule and telephone number).

In order to achieve the main pragmatic goal – to induce the recipient to buy the product – various language means are used: lexical, syntax, grammar, graphic, phonetic. Language means also include alliteration (the most common phonetic means in advertising), onomatopoeia, estimated vocabulary, words that have a bright positive or negative connotation; neologisms, rhyme, rhythm, repetitive syntax, the widespread use of different tropes: metaphor, metonymy, synecdoche, litotes, hyperbole, and others.

Flyer has a limited amount of information. That is why the content of the main text is limited to a few blocks: a catchy title (a slogan or a company name), an image, a logo, an address and contact information, an echo-phrase (tag-line), duration of the action, a list of services with prices or a more detailed product description, a map, etc. However, not all blocks can be included in a flyer. They vary depending on the subject of thought. For example, obligatory elements of flyers include a company name, a logo, an image, a list of available goods and services, contact telephones and an address.

There are also variative elements – a slogan, a description of additional services or range of products, some information about the possibility of receiving a gift (a bonus), prices, a website, a map and a schedule.

The comparison of English and Russian advertising texts of flyers reveals the predominance of the same composition type: «opening sentence + information block + slogan + reference data» and some similarity of the expressive means in advertising texts in both languages.

Flyer is a tool of manipulating consumer's mind. It may accomplish the attractive, suggestive, image and information functions. Flyer reflects an impulse of a customer to buy the product and promise to provide benefits. These functions of flyers are defined by the choice of the advertising text composition and various language means mentioned above.

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Аргументативные стратегии в дискурсе программы южнокорейской политической партии Сэнури

В статье приводятся результаты исследования и описания типов аргументативных стратегий в дискурсе программы южнокорейской политической партии Сэнури в терминах прагмадиалектической теории аргументации.

Argumentative strategies in the discourse of the program of South Korean political party Saenuri

The argumentation is a form of human activity in which a human being fulfils oneself as a linguistic personality, with his/her knowledge and views, system of values and common sense, communication skills and logical culture, epistemic and emotional states, social dimensions of argumentative situation interacting as a system. Thus, natural language (not logical) argumentation can be studied only in unity with the nonverbal context, social factors and the changing behavior models of communication participants taken into account.

Argumentation is understood as verbal social and reasonable activities aimed at the persuasion of the rational judge in the (un)acceptability of the expressed opinions through the assumption of certain combinations of propositions (arguments) intended for a proof (refutation) of the expressed opinion (Eemeren, van, Grootendorst 1984) under the pragma-dialectical theory of argumentation. Argumentative discourse is a linguistic space of social interaction, including the language system (the code, the participants of the discourse, and subject of the dispute). Such conceptualization of the discourse space is proposed by M. A. K. Halliday and consists of allocation of its field, participants and modus.

The subjects of this research are the features of argumentative discourse of the program of the South Korean political party Saenuri. The main research method is a pragma-dialectical reconstruction of the discourse – structuring and explication of the argumentative nature of discourse (van Eemeren 1992). This approach is based on the concept of the speech act and aimed at a comprehensive description of the elements of macro-speech illocutionary act complex of argumentation in terms of the pragma-dialectical ideal model of argumentation. We will limit ourselves to listing of the main conclusions of the analysis without providing examples because of the limitations.

The studied discourse refers to institutional genre of the program of a political party, having all the essential genre characteristics. During the research of language material, we identified argumentative strategies understood as complex entities, including many structural elements of two classes: context independent and context dependent.

Context independent strategies are implemented in the form of implicit presentation of point of view - it is formulated in general, abstract form. The strategy of repetition, semantic duplication is also actively used – the more often certain key provisions of the argumentation of the protagonist will be heard, the more convincing they will seem for the antagonist. It is also necessary to mention that estimative vocabulary and generalization of view point and arguments are effective tools of influence.

Context dependent strategies are manifested in the form of estrangement/rapprochement - polarization of the concepts of "own people" - "aliens". "Own people" are described by lexemes constituting a semantic field "we", "our", what is typical for the oriental linguistic culture. Three possible schemes of argument – the causative, symptomatic and comparative are used in the analyzed discourse.

It should be noted that the proposed procedure of analysis is the result of interpretation of discourse with respect to the context of situation, linguistic context and background knowledge of the interpreter. In this regard, the proposed interpretation of the discourse is not absolute.

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Стереотипы представителей русской культуры о Франции и их влияние на процесс межкультурной коммуникации

Данная статья представляет собой анализ сформировавшихся стереотипных представлений представителей русской культуры о Франции и французах, проводимый на основе опроса студентов 1-4 курсов Уральского Федерального Университета.

Les stéréotypes des représentants de la culture russe sur la France et leur influence sur le procès de la communication interculturelle

L'introduction

Chaque personne dans le monde contemporain est en contact avec d'autres cultures d'une façon ou d'une autre. Quand nous voyageons, quand nous regardons des films, nous communiquons sur Internet, nous apprenons quelque chose. Cependant, les faits qui existent en réalité sont souvent en contradiction avec ce que nous pensons. La raison est les stéréotypes, plus précisement, les stéréotypes ethniques. Les stéréotypes ethniques sont une forme des stéréotypes sociaux, qui décrivent les membres des groupes ethniques. Le moins les gens connaissent la culture, le plus de stéréotypes ils ont dans leurs têtes.

L'actualité de ce sujet est expliquée par le fait que les stéréotypes ethniques ont été formés dans l'esprit des peuples depuis des siècles, et ils définissent la perception d'une culture par l'autre. Cependant, malheureusement, ces stéréotypes sont souvent des informations incorrectes et font ainsi une image négative de la culture, ce qui cause des malentendus et empêche le développement de la communication interculturelle.

Ainsi, nous avons décidé de faire une petite analyse, ayant interrogé les étudiants de l'âge de 19-23 ans, qui font leurs études en 2, 3 ou 4 année à l'Université Fédérale de l'Oural, et qui n’étudient pas la langue française, et d’apprendre, quels stéréotypes ils ont concernant la France.

L’étude

La première question, que nous avons posé aux étudiants était «Appelez 5 mots que tu associes à la France»?

Ensuite nous avons demandé aux personnes interrogées de dire quelle association évoque le mot « le français » L’analyse a révélé que près de la plupart des personnes interrogées associe le mot « le français » au mot « la langue » (47 %) et « le baiser » (30 %).

La conclusion : les groupes de mots donnés ne portent pas aucune opinion clichée car par sa nature ils sont souvent utilisés dans la langue russe, c'est pourquoi ils sont les premiers à évoquer.

Nous avons posé la même question mais le mot français à été remplacé par le mot française, et ayant analysé les réponses, nous avons révélé que la plus répandue par le nom, qui s'associe à l'adjectif français est la cuisine 23 % et la brioche 13 %. Malgré le fait que le rapport donné en pourcentage n’est pas grand, dans la plupart des réponses on observait la tendance de parler de l'art culinaire : la cuisine, la brioche, la nourriture, au total 42 % sur 100.

La question suivante est: ‘Quelles sont les attractions / lieux / noms géographiques qui ont été associés à la France?’

Nous avons reçu 83 reponses, dont 27 présentaient opinions differentes.

La Tour Eifel est la réponse la plus populaire. Cela peut être expliqué par le fait que ce monument est un symbole non seulement de Paris mais de toute la France. La deuxième réponse la plus fréquente est le Louvre avec 14%, la capitale de France elle-même – Paris avec 10%. Après Notre Dame de Paris, la Provance et les Alpes avec 6%. L’Arc de Triomphe est évoqué par 5%, les Champs Elysees - 4%, Nice et la Corse - 2%. Toutes les autres reponses ont été reçues seulement une fois.

Après l’analyse des résponses reçues, on peut constater que, malgré le fait qu'il était possible de nommer des villes et des lieux géographiques, les gens ont préféré nommer des sites touristiques. C’est pourquoi nous pouvons dire que les personnes interrogées savent seulement les points clés (ключевые моменты) de France, qui sont connues, et ne savent pas la géoraphie de France. Pourtant les conaissances des sites touristiques sont vastes parce que toutes les personnes interrogées ont énuméré 3 lieux au minimum.

Deux questions suivantes concernaient la perception des Français par les Russes. La première question était “Complète la phrase "les Français sont les plus...". Dans cette question nous nous attendions à recevoir la réponse, sur la notion clé qui caractérise les Français dans l’esprit des Russes.

Dans ce cas, il convient de noter un avantage significatif en faveur des caractéristiques positives (28 positifs -2 négatifs).

Aussi, on peut diviser les réponses données en celles qui caractérisent les aspects extérieurs et intérieurs. Selon l'enquête, les personnes interrogées étaient portées à la description des qualités intérieures morales des Français. Dans ce cas la réponse Romantique est donnée par 4 personnes (on peut inclure aussi « plein d'amour »), et un pourcentage assez important de réponses qui caractérisent leur apparence de manière positive: mode, esthétique, beau, élégant, raffiné, galant.

Cela dit que la première association du peuple russe pour décrire les Français est l'aspect romantique et agréable. On peut expliquer cela par le fait que le pays lui-même dans la culture russe est perçu comme le pays de l'amour et les maisons de haute couture . Puisque dans les média la France est mentionnée souvent dans le contexte de la Semaine de la Mode, les marques populaires et les designers. Grâce au cinématographe du 20e siècle, il y avait une opinion sur le style exclusif et l'élégance des Français, et particulièrement les Françaises. Et le stéréotype sur le romantisme des Français s'est formé grâce à l'image créée dans les films et les livres consacrés à la France.

La question suivante à laquelle nous nous attendions à recevoir la représentation complète des Russes sur les Français.

Indique les traits du caractère (jusqu'à 5), qui, à ton avis, sont inhérents aux Français ?

Nous avons divisé les réponses reçues en 2 catégories positives et négatives :

Dans ce cas nous pouvons observer la situation pareille à la question précédente. Les caractéristiques positives surpassent considérablement les négatives (38-17). La caractéristique la plus populaire s'est trouvée positive – le romantisme (7), la deuxième est l’émotivité (3), et la troisième place était divisée par quelques qualités : bonne (2), modeste (2), sociable (2), intransigeant (2), tendre (2).

En prenant en considération tout le spectre des caractéristiques positives, on peut faire la conclusion que les Français dans la perception des Russes sont pleins d'amour, en exprimant ouvertement les sentiments et les émotions du peuple.

En parlant des qualités négatives, il est à noter que tels traits que l'émotivité et l'ouverture peuvent être considérés par la personne russe dans le sens négatif (l'expression, l'excentricité, l'emportement).

La question suivante était associative, et concernait la gastronomie : Quelle association est évoquée par le groupe de mots "la cuisine française" ?

Des réponses étant en tête, il est évident qu'en Russie les Français trouvent comme les gourmands, les amateurs de la cuisine exquise. En Russie, il y a une opinion que les Français sont des grands gourmands, les juges des mets délicats, tels que les pattes de grenouilles, les escargots, les huîtres. Mais le stéréotype sur le fait que les Français mangent constamment ces plats est tout à fait erroné. Ce sont seulement des mets délicats, parce qui ils aiment parfois se gâter. Ces friandises sont considérées recherchées pour les Français et on les prépare seulement pour les fêtes, le plus souvent, à Noël.

L'opinion populaire au sujet qu'ils mangent constamment les croissants peut être justifiée. Le café et les croissants sont le petit déjeuner typique français.

En conséquence, on peut faire la conclusion que les représentations des Russes sur la gastronomie de la France est très superficiel, mais dans quelque mesure elles sont sincères. Puisque les mets délicats français sont très spécifiques et extraordinaires en Russie, ils restent dans la mémoire.

La conclusion

Historiquement il s'est trouvé que pendant presque deux siècles la France était plus proche avec la Russie, que d'autres Etats européens, et de plus, dans un certain sens, elle était une écluse de la culture européenne pour la Russie prérévolutionnaire.

Il semble que de ces temps passés restait à la mémoire génétique de notre peuple, qui et perçoit aujourd'hui la France comme une certaine puissance spéciale de l'Europe, et Paris — comme la capitale universelle de la mode et la beauté. La France à la représentation des Russes s'associe en général à l'art, à l'esthétique, au raffinement. Et dans ces représentations, à notre avis, la base spirituelle de stéréotype national est clairement visible: le sentiment de la beauté et l'aspiration à l'harmonie et la perfection, l'intellectualisme absolu et l'amour de l'art dans toutes ses manifestations.

Nous ferons les bilans. La vraie étude est la réflexion objective de la compréhension des Russes (à l'âge de 19-23 ans) de la culture française et du caractère national français. À la considération des résultats acquis, on révélait le rôle principal des médias sur la compréhension et la formation de l'image culturelle de la France. L'image historique formée grâce à la littérature et au cinématographe exerce aussi une grande influence sur la représentation des personnes interrogées. On ne peut pas nier aujourd'hui le rôle important de l'Internet, qui représente l'espace illimité d'information, les données qui ne sont pas toujours authentiques. En raison de cela, il existe le problème de la perception erroné par les personnes interrogées et l'information déjà fixée incite seulement vers la fixation des clichés incorrectes.

En conséquence, il y a une nécessité de l'augmentation de la compétence interculturelle des Russes, par voie de l'élaboration des sources authentiques d'instruction de l'information et les cours de la communication interculturelle, qui sont accessibles pour le moment seulement pour étudiants des spécialités linguistiques. Tout cela amènera à la formation de l'image authentique culturelle de la France dans l'esprit des Russes.

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Рекламные слоганы как переводческая проблема

Статья посвящена исследованию одной из основных проблем перевода рекламных текстов, которая заключается в содержательном соотношении текста оригинала и текста перевода. В статье рассмотрены стратегии перевода английских и немецких рекламных слоганов, проведен сравнительный анализ слоганов на двух языках.

Advertising slogans as a problem of translation

This article studies the problems and features of the translation of English and German advertising slogans using different strategies for translation. The author analyses the translation process and examines the differences between English and German advertising slogans. The basic rules for a translator to follow are considered. The study is conducted in lingvo-culturological aspect.

Advertising is all-pervasive in our society, much more than it used to be. It is a powerful force that could shape the attitudes, opinions and behavior of people. As it had been observed before, people always have this love-hate relationship with advertising; its presence is a defining feature of modern culture. Present-day advertising uses a variety of media, including television, print, the Internet; it appeals to all senses and is packed with word play, cultural references, allusions, music, striking visual images and celebrities.

The overwhelming ubiquity and the volume of linguistic and visual data it contains make advertising an area of study which has already resulted in a great number of research projects and articles. A phenomenon that is linked with advertising is globalization. It describes the way humans relate to each other, an increased connectedness of all people from different parts of the world. The result of it is a cultural exchange that generates trade. This phenomenon influences the way advertising is created and transmitted to its target audience.

Due to globalization, an advertisement may require translation, but to do this entails a lot of work. Translation consists of studying the vocabulary, grammatical structure, communication situation, and cultural context of the source language text, analyzing it in order to determine its meaning and then reconstructing the same meaning using the vocabulary and grammatical structure which are appropriate in the receptor language and its cultural context [1].

Despite its importance in devising an international advertising campaign, very little attention is paid to translation in advertising literature; there seem to be few guidelines for translators of advertising. This, perhaps, indicates the industry's failure to appreciate the difficulties of translating advertising material effectively.

When translation is mentioned, it tends to be in general terms; take the following example from Arens and Bovee [2], who offered four basic rules for translators to follow:

1) The translator must be an effective copywriter. It is not enough to merely rewrite the aids in a foreign language.

2) The translator must understand the product, its features, and its market.

3) Translators should translate into their native language and live in the country where the advert is to appear.

4) The original text of advertisement should be easy to translate (text should not be ambiguous or contain idiomatic expressions).

Although there is justification for these rules, they are aimed at translation commissioners and not translation professionals, and, it seems, they are not always all adhered to. It is surely in part this lack of guidance for translators that has encouraged translation scholars to carry out descriptive work into the translation of advertising material, culminating in their own lists of recommendations for the translation of adverts, or their own strategies.

Pseudo-universal strategies are those which claim to be universal, but have been devised after the analysis of only one language pair. Both de Pedro and Smith and Klein-Braley offer their own strategies for translation; Dc Pedro's are based on research into English-Spanish television advertising, whereas Smith and Klein-Braley focus on English-German printed adverts.

De Pedro Ricoy [4] summarizes the strategies open for translators in the following way:

	The words can be:	
a.	Literally translated	Literal translation is one in which «the literal meaning of the words is taken as if from the dictionary (that is, out of context), but TL grammar is respected» (Hervey and Higgins 1992:20).
b.	Idiomatically translated	Translated in such a way that the contents of the text are preserved, but its form is configured by the usual devices and patterns of the TL.
c.	Freely translated	A free translation occurs «where there is only a global correspondence between the textual units of the TL and those of the TT (Hervey and Higgins 1992:20).
	The images can:	
a.	Stay the same	
b.	Vary in each case, but conform to the ones in the proto-advert.	i.e. the advert as it was the first conceived. For instance, different actors and actresses may appear, who, nevertheless, act and gesture similarly in every version of the commercial.
c.	Change altogether	

Translators can choose one strategy for the image and another for the words, although, as de Pedro notes, some combinations are unlikely to occur (for example literally translated words and completely changed images). Smith and Klein-Braley [5] use their research to create a framework comprising five broad strategies of translation strategy which they believe could be applied to languages and media.

«Don't change advertisement: retain both graphics and text»	This strategy is employed when the brand name is so strong that the product needs little verbal support. This strategy is used for perfume, alcohol and cigarette advertisement and the target market is primarily that of businessmen and young people.
«Export advertisements: play on positive stereotypes of the originating culture, retaining logo, slogan etc. in the original. If necessary, have additional copy in target language».	In the adverts the cultural origins of the product are seen as an asset and are stressed in the advert. An additional appeal is also addressed to the target market in the target language.
«Straight translation»	Smith and Klein-Braley argue that this is an obvious strategy for international advertisers, but in reality is used infrequently, as it forestalls adjustment to the cultural demands of the target market and leads to translation errors that can attract ridicule.

«Adaptation: keep visuals, change text slightly or significantly»	This strategy makes adjustments to the advert so that it is in accordance with the needs, expectations, cultural norms and the frames of reference of the target culture. According to the advertising writers Belch and Belch this strategy is predominantly used by international advertisers and as Smith and Klein-Braley point out is the most interesting to examine in the context of translator training.
«Revision: keep visuals, write new text»	The authors note this is a difficult strategy, in that advertising campaigns are designed with a specific communication theory in mind and that the message cannot be substantially different from the original. But they concede that it is easier to build on an existing concept than to start an advertising campaign from scratch. Products can have different values in different societies: the authors quote de Mooij (1994: 218), who notes that French women drink mineral water to stay slim, whereas German women drink it because it is healthy; Smith and Klein-Braley add that for British women it is the matter of following fashion. With these differences in mind it may be necessary to stress different aspects of a product linguistically in an advert, whereas the visual elements can remain unchanged.

The consequences of wrong translations can be catastrophic and mistakes made in the performance of this activity can be obviously irreparable. Just think of what could happen in cases of serious inadequacy in such areas like science, technology, medicine or legal matters. There are thousands of examples, but I find the following anecdotes worth mentioning here:

The Vodafone slogan «Make the Most of now» has weird associations with fruit juice («der Most») for many Germans. "Welcome to the Beck's Experience" did not work so well because many thought the last word meant «experiment».

Examples include retailer CIA which replaced "Fashion for living" with "Preise Gut, Alles Gut" (The Price is right, Everything is right) and McDonalds, whose advertising campaign morphed from " Every time a good time" into "Ich liebe ES" (I'm lovin It).

A case of a global company creating its own German-language slogan is Ford's "Die tun was" and virtually untranslatable with such conciseness and impact.

An instance of a slogan faithfully and skillfully translated from the original is the UPS line "Gesagt. Getan." (In English "Consider it done"). It is not always possible to transpose a slogan from one language into another simply by a literal translation of each of the words. Take the magazine STERN. In German "Der STERN bewegt." A literal translation is "STERN magazine moves." However, this fails to convey the connotations of the German, that the magazine "doesn't leave its readers unmoved," "gets things moving." Words with the same denotation obviously have dissimilar connotations in different languages.

A leading German household appliance manufacturer used the slogan "Designed for your family" for its international advertising. A literal translation of the German used in Germany "Wir gehören zur Familie" states "A member/part of the family" or simply "We're family." Here is perhaps an instance where a more literal transposition might have more impact.

A slogan that purports to sound very professionally yet grammatically seems to be skating on thin ice is "The people who make systems on silicon work for you." A case of a neat juxtaposition is "Come in and find out" as featured by Douglas, a leading perfume store chain in Germany whilst "Science + soul" sloganed by the chemical company Henkel seems coldly calculating. "Science4life" used by another organization in Germany has more warmth. "The future. Together. Now." from an insurance company seems more at home in a pop context. "The bright side of Freizeit" is a neat example combining and rhyming words in both languages.

To summarize, German advertisers would do better using slogans in their own language at least when addressing Germans in Germany. Obviously if a product is destined for an international audience English is preferable as the slogan language ("Don't imitate, innovate", Hugo Boss fragrances).

The argument that English is better suited for slogan writing only applies if the slogan is well written and many are not. [6]

Even if they were, they might not always be readily appreciable by non-native speakers. The argument that English is the language of today's German youth is only of relevance for products that are solely intended for that segment of the population.

Finally, there's the German slogan used by German company Audi in advertisements appearing in England - "Vorsprung durch Technik", which for non-German speakers will sound more mysteriously meaningful than the mundane "ahead through engineering." [7]

The overriding function of any advertisement is to persuade, and to accomplish this goal advertisers must be aware of those devices that have a persuasive impact on potential customers and use them accordingly. Different target markets will respond to different marketing techniques, as will different cultures when manufacturers take their products overseas. Translation theorists suggest that the translation of advertising texts should result in an advert which can function as an original in the target culture. Contemporary studies of the translation of advertising texts have responded to this understanding by advocating translation strategies that focus on the target culture and the role of both linguistic and visual messages.

As for translators, they must undergo permanent training. The awareness of the fact that incorrect comprehension of a text considerably decreases the quality of the translation will prevent mistakes and wrong translations.

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Плюсы изучения иностранных языков

В статье представлены основные открытия в нейролингвистике, связанные с изучением иностранных языков, и рассматриваются особенности развития головного мозга при изучении иностранных языков.

Vorteile der Fremdsprachen

Ist es Ihnen bekannt, warum Menschen, die eine Fremdsprache lernen, ein starkes Gedächtnis haben und sich besser konzentrieren können? Die Antwort ist einfach: wenn man eine Fremdsprache erlernt, beginnt das Gehirn zu wachsen, genauer gesagt, seine einzelnen Bereiche - der Hippocampus und einige Bereiche der Großhirnrinde beginnen zu wachsen. Die Gehirn-Studienergebnisse von professionellen Übersetzern zeigten, dass graue Substanz bei denen Menschen wächst, die während mindestens drei Monate an der Sprache in größerer Tiefe gearbeitet haben. Es ist bemerkenswert, dass je fleißiger sich ein Forschungsteilnehmer einsetzte, desto markanter war die Vergrößerung des Volumens der grauen Substanz.

Die Menschen machen sich im Allgemeinen selten Gedanken über ihre Fähigkeiten. Wir bemerken oft nicht, was uns von der Natur gegeben ist, und schätzen das nicht. Einige solcher wichtigsten Möglichkeiten sind die Fähigkeit zu denken, die Fähigkeit zu sprechen und die Fähigkeit zu verstehen. Höchstwahrscheinlich gehen nicht die meisten Menschen auf die Frage ein, wie es dem Gehirn gelingt, eine so gewaltige Aufgabe zu bewältigen, und warum es einigen Menschen nicht möglich ist, mit diesen lebenswichtigen Funktionen operieren zu können. Die Wissenschaftler interessieren sich seit langem dafür, welche Beziehung es zwischen dem Spracherwerb und der Entwicklung des Gehirns gibt, was mit der Sprache und der Fähigkeit zur Kommunikation nach verschiedenen

Hirnverletzungen geschieht, wie sich die kommunikative Fähigkeit und die Fähigkeit eine Sprache zu verwenden während der Evolution entwickelten, und wie Kinder die Sprache und die Rede zu verwenden lernen? Auf diese und andere wichtigen Fragen gibt uns die Antworten solche Wissenschaft wie die Neurolinguistik.

Um besser zu verstehen, was Neurolinguistik bedeutet, ist es notwendig, jeden seiner Teile zu definieren. Einerseits, steht die Neurologie als eine biomedizinische Wissenschaft, die die Struktur und Funktionen des Nervensystems in normalen und pathologischen Zuständen untersucht; andererseits steht die Linguistik als die Wissenschaft der Sprache.

Gemeinsam haben sie eine neue Wissenschaft gebildet: Neurolinguistik ist eine Disziplin, die an der Schnittstelle der Neurowissenschaft und Linguistik entstanden ist und die das Sprachsystem in Abhängigkeit von Gehirn-Substraten des Sprachverhaltens untersucht. Als besonderes Fachgebiet ist Neurolinguistik in den 50-60er des 20.Jahrhunderts gebildet. Vor der Entstehung dieser Wissenschaft hat man aber während mehr als hundert Jahre Informationen über Sprachstörungen bei lokalen Läsionen des Gehirns – Aphasien untersucht und gesammelt.

Eine der Richtungen dieser Wissenschaft ist heute die Forschung der Menschen mit verschiedenen Erkrankungen des Gehirns, die die Sprachfunktion beeinflussen. Die Wissenschaftler untersuchen, wie Sprachstörungen, die sich äußerlich manifestieren (man stellt das mit Sprachprüfungen fest), mit spezifischen Verletzungen innerhalb des Gehirns verbunden sind. Die Verletzungen können durch einen Schlaganfall oder Traumen verursacht werden. Für diese Fälle werden in Laborräumen spezielle Tests entwickelt.

Wie die EEG-Studien zeigen, geschieht die Kompensation von Autismus zugunsten von einer erhöhten Aktivität der Gehirnstrukturen, die mit der Sprache und der willkürlichen Kontrolle über das Verhalten verbunden sind. Autistische Leute sind in der Lage Sprachstrategien der Kontrolle über das Verhalten dann zu verwenden, wenn gesunde Menschen nichtsprachliche Funktionen verwenden, was zu einer teilweisen Kompensation der Krankheit führt.

Laut der Forschungen, die Aktivierung des Gehirns widerspiegeln, kann man feststellen, wohin die spachliche Funktion „gegangen“ ist und auf Grund der Ergebnisse der Sprachprüfungen zu verstehen, wie gut es neu organisiert ist.

Darüber hinaus werden Studien auf dem Gebiet der Sprachlateralisation im Gehirn durchgeführt. Die Lateralisation von Gehirnfunktionen (aus dem Lateinischen ist lateralis - seitlich, an der Seite liegend) ist die Bindung von psychischen Funktionen im Prozess des Wachstums des Körpers mit der linken oder rechten Hemisphäre des Gehirns.

Es ist herausgestellt, dass der Mensch zwei wichtige Bereiche des Gehirns hat, die für die Sprachfunktion verantwortlich sind. Der eine liegt im Stirnlappen und zieht das berühmte Broca-Areal heran - es aktiviert sich bei der Erzeugung der Sprache. Und der andere befindet sich in dem hinteren Teil des Schläfenlappens und ist verantwortlich für die Verarbeitung des empfangenen Signals, das heißt für das Sprachverständnis. Die Rechtshänder haben die Zentren, die für die Sprache verantwortlich sind, in der Regel in der linken Hemisphäre, während die Linkshänder - so hat man das vermutet – sollen die in der rechten Hemisphäre haben. Auf der Grundlage der Studie stellte man jedoch fest, dass dieses Verhältnis nicht stimmt. Die Zentren können in beiden Hemisphären liegen unabhängig davon, mit welcher Hand die Person schreibt.

Zum Beispiel Patienten mit Asperger-Syndrom (mild Autismus) haben genetisch bestimmte Störungen in Höhe von Thalamus, Mandel und Hippocampus, und nicht genug entwickelte Beziehungen zwischen diesen Strukturen und der Großhirnrinde. Solche Verletzungen führen zu Dysfunktionen, die mit der sozialen Kommunikation verbundenen sind. Die Kinder mit Asperger-Syndrom sind nicht in der Lage, die emotionale Stimmung der Gesprächspartner wahrzunehmen und ihre eigenen Emotionen den anderen zu zeigen. Jedoch mit Hilfe der psychologischen Unterstützung und manchmal ungezwungen, kann dieses Syndrom signifikant in ihren Verhaltensmanifestationen geschwächt werden.

Einer der interessantesten Bereiche der Neurolinguistik ist auch die Forschung der Sprache bei Personen mit verschiedener muttersprachlicher Kompetenz. Es gibt Arbeiten, die zeigen, dass sich die Funktionen des menschlichen Gehirns mit Hilfe der Besonderheiten der Sprache bereichern. Zum Beispiel bei Trägern der Gebärdensprache ist räumliches Denken besser entwickelt. Gehörlose Menschen sprechen mit Gesten und Körpersprache, für sie ist der Raum der Gebärdensprache ein mentaler Raum, in dem sie tätig sind.

Auf solche Weise zeigt uns die Neurolinguistik die Vielfältigkeit solcher schwierigen Prozesses wie die Meisterung der Sprache. Sie beweist auch, dass die Leute, die einige Fremdsprachen können, mehr Vorteile haben im Vergleich zu denen, die nur die Muttersprache sprechen.

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Зоонимы и способы их перевода

Учение о зоонимах имеет давнюю традицию. В связи с разветвленностью семантической структуры, высоким фразообразовательным потенциалом и усложненностью ассоциативных признаков, лексико-семантические группы зоонимов представляет особый интерес для исследования в русле лингвосоциокультурологии. Так как зоонимы представляют собой явление, распространившееся во всех языках мира, вопрос их перевода был и остается открытым и активно обсуждаемым. Это обуславливает актуальность данной статьи.

Zoonyme und ihre Übersetzungsverfahren

Zur Zeit betrachten die Sprachwissenschaftler die sprachlichen Erscheinungen immer öfter vom Gesichtspunkt der Kulturforschung aus. Solches Herangehen lässt zu, verschiedene Aspekte der Lexik im Zusammenhang mit jenen zusätzlichen Bedeutungen und Assoziationen zu untersuchen, die sie in der jeweiligen nationalen Kultur erwerben.

Zum Objekt der Forschung von Sprachwissenschaftlern wurden auch die Zoonyme: obwohl diese Kategorie der Lexik oft als Material für verschiedene wissenschaftliche und methodische Arbeiten diente, wurde der linguolandeskundliche Aspekt dieser lexikalischen Gruppe trotzdem nur wenig betrachtet.

Die Zoonyme sind in allen Sprachen der Welt anwesend und gehören zur ältesten und aktiv gebrauchten Lexik. Im Vergleich zu anderen Objekten der Umwelt sind die Tiere den Menschen nach den Formen der Existenz und der Körperlichkeit am nächsten. Unter Lebewesen verfügen nur die Tiere über eigene Gewohnheiten, Besonderheiten des Verhaltens, jedes Tier hat sein besonderes Gemüt.

Das Fremdwörterbuch von L.P. Kryssin versteht unter dem Zoonym den eigenen Namen (Spitznamen) des Tieres als Objekt der sprachwissenschaftlichen Forschung [4].

Die breite Nutzung der Zoonyme für die Bezeichnung anderer Erscheinungen ist laut S.G. Watlezow damit verbunden, dass der Prozess der Benennung der Objekte der Wirklichkeit mit Hilfe von Zoonymen beim Empfänger das aktive emotionale Mitfühlen hervorruft. Dadurch werden die übertragenden Informationen vom Zuhörer langfrisitg behalten [3].

Mit den eigenen Namen (den Spitznamen) der Tiere beschäftigt sich die Wissenschaft, die Zoonomastik heißt.

Die Zoonomastik ist eines der jüngsten Gebiete der Onomastik.

Die Forscher bemerken, dass Zoonyme verschiedene Funktionen in der Sprache haben können. Sie können einen Menschen von verschiedenen Seiten charakterisieren:

1. Seitens des Aussehens:

Zum Beispiel: die Gänsehaut, der Mäuseschwanz, die Wespentaille, der Affe.

2. Seitens geistiger Fähigkeiten:

Als Beispiel solcher Zoonyme in der russischen Sprache kann man die Aussage "die Hühnergehirne" anführen. Außerdem können solche Zoonyme wie "der Hammel" und "der Esel" zur Charakteristik der intellektuellen Fähigkeiten des Menschen auch dienen.

3. Sie können die Taten, das Auftreten, die Charakterzüge nennen:

Tier, Hund, Schwein, Vieh, Elster, Fuchs, Hahn.

4. Sie können die vorhandene oder fehlende Habilität bezeichnen:

Elefant, Bär, Kuh, Affe [7].

Heute bildet die Gegenüberstellung von bildlichen Zoonymen aus der russischen, deutschen und englischen Sprache die Grundlage des linguokulturologisches Aspektes im Rahmen der umfassenden Motivforschung der Tiernamen in der russischen Sprache.

In der englischen, deutschen und russischen Kultur haben die Zoonyme verschiedene kulturelle Konnotationen, die mit der Geschichte, den Bräuchen, dem Alltagsleben, der Landeskunde, der geographischen Lage und der sprachlichen Kultur eng verbunden sind. Es ist das sogenannte "Highlight" jeder Sprache.

Die Bedeutung der Zoonyme, die man in der russischen Rede benutzt, ist oft auf die allegorische Bezeichnung des Menschen, meistens auf die metaphorischen Elemente der Bildhaftigkeit orientiert. Viele Zoonyme sind ein Beispiel der Volkskunst und der Traditionen, einige sind von den Schriftstellern erfunden und dann in den breiten Sprachgebrauch eingegangen. Andere sind aus den westeuropäischen Sprachen entlehnt [2].

Die Zoonyme im Englischen, wie auch in anderen indoeuropäischen Sprachen, beziehen sich auf die Substantive, die die Kategorie des Geschlechtes haben. Das grammatische Geschlecht des Wortes verbindet man gewöhnlich mit dem Geschlecht des damit bezeichneten Wesens.

In der altenglischen Sprache zeigte sich das grammatische Geschlecht der Substantive morphologisch und diente zur syntaktischen Verbindung der Wörter durch ihre Genuskongruenz. Schon gegen Ende der mittelenglischen Periode (Mitte des 11. bis Ende des 15. Jh.) waren die morphologischen Merkmale des grammatischen Geschlechtes hauptsächlich verloren [1].

Die Zoonyme im Deutschen beziehen sich auf die Substantive, die die Kategorie des Geschlechtes haben. Das grammatische Geschlecht des Wortes ist auch mit dem Geschlecht des damit bezeichneten Wesens gewöhnlich verbunden. Viele charakteristische Merkmale im Englischen sind auch für Zoonyme im Deutschen charakteristisch.

Man kann der Meinung von N.D. Petrowa zustimmen, die auf die Symbolik der Zoonyme im Deutschen aufmerksam machte und behauptete, dass diese über Elemente der Symbolisierung verfügen bzw. für sie die Systemabstrahierung der Bedeutung aus einer lexikalisch-phraseologischen Reihe charakteristisch ist. So bezieht sich zum Beispiel das symbolische Sem "die Härte, die Brutalität, die Raublust" auf das Zoosem "der Wolf" [5].

Allerdings entstehen beim Übersetzen oft Probleme wie Un- oder Missverstehen bzw. ungenaue Auffassung der Texte mit Eigennamen, denn die Eigennamen enthalten ihrerseits auch lexikalische Einheiten [6].

Für die Übersetzung von Eigennamen und für die Lösung solcher Probleme gibt es einige Übersetzungsverfahren.

1. Die Transliteration ist die buchstabengetreue Umsetzung eines nicht in lateinischen Buchstaben geschriebenen Wortes in lateinische Schrift [11].

2. Unter der phonetischen Umschriftung (Transkription) versteht man die lautgetreue Übertragung eines Eigennamens aus einer Ausgangsschrift in eine Zielschrift nach den phonetischen Merkmalen und den Schriftzeichen der Zielschrift [12].

3. Die Lehnübersetzung versteht sich als Glied für Glied wiedergegebene Übersetzung eines Wortes aus einer anderen Sprache.

4. Die annähernde Übersetzung wie Erklärung oder Beschreibung.

5.Die kontextbedingte Übersetzung.

Als Beispiel haben wir den dystopischen Roman von George Orwell "Farm der Tiere" betrachtet. Der Vergleich der Übersetzungen der Zoonyme aus der Ausgangssprache (der englischen Sprache) in die deutsche und russische Sprache ermöglicht es, die Besonderheiten des Gebrauches der Zoonyme in einer Sprache und deren Übertragung in andere Sprachen zu untersuchen.

Russisch	Englisch (Ausgangssprache)	Deutsch

Старик Главарь	Old Major	Old Major
Ромашка	Bluebell	Glockenblume
Роза	Jessie	Jessie
Кусай	Pincher	Zwickzwack
Боец	Boxer	Boxer
Кашка	Clover	Kleeblatt
Мона	Muriel	Muriel
Вениамин	Benjamin	Benjamin
Моисей	Moses	Moses
Молли	Mollie	Mollie
Обвал	Snowball	Schneeball
Наполеон	Napoleon	Napoleon
Стукач	Squealer	Schwatzwutz

Tabelle 1. Zoonyme im Werk "Farm der Tiere" von George Orwell in verschiedenen Sprachen

Die vorliegende Tabelle zeigt einige Besonderheiten:

1. Hauptsächlich werden solche Übersetzungsformen wie Transliteration (englisch-deutsch), kontextbedingte Übersetzung (englisch-russisch) und Lehnübersetzung (englisch-russisch) angewendet;

2. In einigen Fällen unterscheidet sich die Übersetzung stark vom Original;

3. Die Zoonyme, die gleichzeitig auch Namen für Menschen sind, werden beim Übersetzen nicht umgeformt.

Zum Schluss kann man also sagen, dass das Thema der Übersetzung von Zoonymen nach wie vor aktuell bleibt und wird von den Sprachwissenschaftlern aktiv untersucht. Da sie viele Funktionen erfüllen, ist die richtige Übertragung der Zoonyme eine der Hauptkomponenten der richtigen Übersetzung.

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Глаголы состояния в длительной форме: ошибка или норма

При обучении английскому языку глаголы принято делить на глаголы действия и глаголы состояния. При этом утверждение, что употреблять последние в длительной форме нельзя, ставится за строгое правило. Однако обратившись к речи носителей языка, можно заметить обратную тенденцию: глагол, статичный по своей природе, может ставиться в длительную форму, обретая новые оттенки значений и смыслов.

Stative verbs in Continuous: wrong or correct

Verbs in English can be classified into two categories: dynamic (also called “action verbs”) and stative. Dynamic verbs usually describe actions (*dance, eat, say, fall, etc*.); stative verbs refer rather to a state or condition. Stative verbs are often connected with thinking and opinions (*agree, believe, doubt, guess, know, imagine, mean, recognise, remember, think*); other stative verbs are connected with feelings and emotions (*dislike, hate, like, love, prefer, want, wish*); senses (*see, hear, taste, smell, feel*) and possession (*have, own, belong, possess*).

The difference between stative and dynamic verbs is important to know for English learners since it is strictly said that statives cannot be used in continuous form, even while describing temporary situations. That is why they are sometimes so-called “non-continuous verbs”. For most cases it is true, though some exceptions must be noted.

1. Taking an active meaning. Some verbs can be both stative and active, depending on their meaning. When a verb describes an action rather that a state, it is actually not a stative anymore. Compare:

- The flower *smells* nice (= it has its own smell; stative);
- I *was smelling* the flower (= I was actually doing this; active).

Usage of verbs *to be* and *to have* is also worth noticing. To be, usually stative, can also take an active meaning and then it means “acting” or “behaving”. For example:

- She *is* a quiet person (= usual feature of a person);
- You *are being* too quiet today. What's wrong? (= temporary, uncommon behaviour of the person).

To have, as soon as it is a part of an idiom, takes an active meaning as well: “*I’m having lunch*, so I’ll call you later.”

This is due to polysemy of English words and thus the context must be analysed to see the difference.

2. Still stative, but can take both forms with no difference in meaning. Verbs *to hurt, to feel, to ache, to itch (bodily sensations), to look* are included here.

- My knee *hurts*. = My knee *is hurting*.
- I *feel* great. = I *am feeling* great.

So, it is up to a person to decide, as there is always a choice between the forms without any noticeable change of meaning. Though both are correct, using of unnecessary forms is usually avoided when not needed; speech always tends to simplify.

3. Emphasising. This case is the most interesting and is going to be described in more detail. Some stative verbs actually can be used in continuous if we want to somehow emphasise its meaning, express the strongest emotion and bright feelings, indicate that it lasts for a limited time, or a tendency.

Here the famous slogan “*I'm loving it!*” applies. The idea of the expression is to show a higher degree of a feeling. “I love it” would sound less evocative and emphatic. The McDonald's slogan is n not the only instance where the expression has been used. Earlier the Scorpions put out a song called “Still Loving You”, which contains the lyric “I’m loving you.”

Undoubtedly, song lyrics and advertisements are not examples of good grammar, but even Sir Arthur Conan Doyle uses the phrase in one of his pieces of art: ‘Ay, that’s remarkable,’ said the inspector thoughtfully. ‘Talk away, Mr. Holmes. I*’m just loving* it. It’s fine!’ Study the following Russian translation (by A. Moskvin): “Продолжайте, пожалуйста, мистер Холмс. *Меня это чрезвычайно заинтересовало*. Любопытнейшая история!” So, putting a verb in Continuous gives the statement more emotional strength and it must be taken into account while translating. If it is ignored during translation, some pieces of meaning will definitely be lost.

Another function is to emphasise duration, which highlights that a situation is temporary or for a period of time around the present. Compare:

- Children *love* having Jane here (= she stays quite often);
- Children *are loving* having Jane here (= she is with us at the moment).

Sometimes it may be both meanings, combined: "We need more people to be parents for those children who *are needing* a protective family atmosphere." It is implied here that parents for those children are extremely important, here and now. Another example: "*Was I hearing* correctly? Did Kyle, who reads at a fifth-grade level, experience literary insight? How could this happen?" Through this construction a reader can feel disbelief and astonishment of the speaker.

Even unexpected words may be encountered in continuous such as verbs of possession: "In terms of the politics of America, as a result of this disastrous Citizens United States Supreme Court decision, clearly, the billionaires, Koch brothers and others, *are owning* the political process."

If there is a tendency or evolving change, it can also be shown by means of continuous form: "Which is a good summary for the re-emergence of corsetry, at a time when the term 'Feminist' is experiencing a media revival and when the first female president *is seeming* a distinct possibility." The situation is changing, and a change is nothing more or less than an action.

With some verbs of mental state (such as *think, regret, find, understand, realise*) we can use continuous to emphasise that we started to think about something recently or we are not sure about something: "*I'm regretting* my decision to give her the job" (= doubting whether it was the right decision). When meaning "think carefully about", the verb consider is used only in continuous: "She *is considering* quitting the job".

So, this use is quite informal and considered incorrect by many teachers of English. However, the thing is that language is constantly changing and so does people's view on stative verbs. The modern tendency is to find continuous use of statives acceptable as well, especially in speech of the young, though it is still recommended to avoid it in formal language and accurate grammar. A translator should not ignore such usage whenever they encounter it since there is always some additional meaning hidden.

Through the proper use of continuous form more expressiveness can be achieved, whether to use it or not is up to the speaker.

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Лингвистические особенности немецкоязычного рекламного дискурса

В данной статье представлены особенности рекламного дискурса и рассмотрены способы усиления экспрессивности, выразительности конкретного рекламного текста на примере нескольких рекламных слоганов.

Die linguistischen Besonderheiten des deutschsprachigen Werbediskurses

In der gegenwärtigen Linguistik ist der Terminus „Diskurs“ zum Begriff „Text“ sinnverwandt, es ist jedoch wichtig, diese Begriffe zu differenzieren. Der Diskurs ist «der kognitive Prozess, der mit dem Bewusstsein des Sprechverhaltens verbunden ist», während der Text − «das Endergebnis des Diskurses, sein Teil und das Produkt» ist [1, S. 196].

Wir werden in unserem Artikel an der folgenden Definition festhalten: der Diskurs ist eine komplizierte kommunikative Erscheinung, die nicht nur aus dem Text, sondern auch aus den extralinguistischen Faktoren besteht, die für das Verständnis des Textes notwendig sind. Der Diskurs ist immer Text, aber nicht jeder Text ist Diskurs: der Text wie das sprachliche Material repräsentiert nicht immer die zusammenhängende Rede [2].

Der Werbediskurs ist eine besondere Art des Diskurses, deren Ziel ist, zur Handlung anzuregen. Die Besonderheit der gegebenen Art des Diskurses besteht darin, dass sich die Menschen zu den Kommunikationen mittels der zwingenden Konstruktionen ganz vorsichtig verhalten. Obwohl die Werbung ein imperativer Diskurs ist, vermeidet sie den direkten Ausdruck der Veranlassung. Die Werbung wird nicht aufmerksam und analysierend gelesen und im einheitlichen informativen Strom in der Regel ohne deutliche Anlage auf die Wahrnehmung wahrgenommen. So verfügt der Empfänger über die ausreichende Zahl der Zeit nicht, um die Vor - und Nachteile des Objektes zu betrachten.

Der Werbediskurs ist «ein pragmatischer Diskurs» auf Grund dessen die bestimmten kommunikativen Strategien aktualisiert werden.

Die Pragmatik stellt das breite Gebiet der Linguistik dar. Die Hauptidee der Pragmatik besteht darin, dass die Sprache nur im breiten Kontext seiner Nutzung, d.h. dadurch, wie sie funktioniert verstanden und erklärt sein kann. Der Begriff der Funktionalität ist grundlegend im pragmatischen Ansatz an die Sprache wie in ausländischer, als auch in einheimischer Linguistik.

Laut G. Ostin kann der Ausspruch für die Verwirklichung dieser oder jener Einwirkung auf den Zuhörer vorbestimmt sein, d.h. einen perlokutiven Effekt haben. Die Reihe der Fragen, die die Pragmatik untersucht, ist auch für die Werbetätigkeit, insbesondere die Einwirkung des Ausspruchs auf den Empfänger aktuell. Jeder Werbetext ist auf einen bestimmten perlokutiven Effekt berechnet. Die pragmatische Ausrichtung eines beliebigen Werbetextes besteht in der Notwendigkeit, den Empfänger zu den Antworthandlungen anzuregen. Die Effektivität der Kommunikation mittels der Werbung besteht gerade darin, inwiefern diese Einwirkung gelang.

Unter der Sprecheinwirkung wird die Regelung der Tätigkeit eines Menschen von anderem Menschen mit Hilfe der Rede verstanden.

Man unterscheidet folgende Mittel der Sprecheinwirkung: Kompositionsmittel, linguistische oder sprachliche, extralinguistische, psychologische und logische Mittel. In unserem Artikel werden wir nur die sprachlichen Mittel der Einwirkung betrachten, unter denen: phonematische – die Alliteration und Assonanz, die Lautnachahmung, die Symploke; lexikalische – der Pfad, des Wortes mit der expressiven und Bewertungskonnotation, die rhetorischen Figuren; syntaktische – der Parallelismus, die Wiederholung, die Ellipse, die Parzellierung, die Anapher, die Epipher u.a.

Weiter folgen die von uns gefundenen Beispiele des Einwirkungsmittelgebrauchs in deutscher Werbung.

1. Die Werbung von Konditorsahne, der Werbetext: «Schneller steif, länger steif. Hansano Konditor – Sahne. Am besten machen Sie es wie der Konditor. In der praktischen Karton-Flasche: wiederverschließbar, transportstabil, unzerbrechlich». die Epipher – Schneller steif, länger steif; die Alliteration und Assonanz – Hansano Konditor – Sahne; die Vergleichung– wie der Konditor.

2. Die Urlaubswerbung, der Werbetext: «Genießen Sie sich. In der Niedersachsen. Reiseland für ihre schönsten Seiten. Wir können mehr als Wellness: Verwöhnen Sie sich. Kräftigen Sie sich. Erholen Sie sich.» Anglizismus – Wellnes; Imperativ und Wiederholung – Genießen Sie sich, Kräftigen Sie sich, Erholen Sie sich.

3. Die Werbung von Audi quattro, der Werbetext: « Schnee. Frost. Eis. Alle Bedingungen sind perfekte Bedingungen. Der Audi QS mit wegweisedder quattro Technologie für mehr Präzision und Dynamik. Willkommen in der Welt von quattro.» Wiederholung – Alle Bedingungen sind perfekte Bedingungen, die Parzellierung – Schnee. Frost. Eis, die rhetorische Frage – Na und?

4. Die Werbung von Mercedes-Benz, der Werbetext: « Der Allrad gegen den Alltag.» die Ellipse – Der Allrad gegen den Alltag. Zur Zeit verwenden die Schöpfer der Werbung bei der Zusammenstellung der Texte immer öfter die syntaktischen Mittel der Ausdruckskraft (die Anapher, die

Epipher, die Antithese, das Asyndeton, die Gradation, die Inversion, die Ellipse, die rhetorischen Fragen). Von uns waren die am häufigsten angewendeten Fälle aus den analysierten Werbungen gewählt.

Das Problem der Sprecheinwirkung ist ein Objekt der aktiven wissenschaftlichen Forschungen wie bei uns im Land, als auch im Ausland. Nach der Analyse der Beispiele von deutscher Werbung sind wir zum Schluss gekommen, dass jeder Werbetext bestimmte Besonderheiten hat. Die Hauptfunktion aller Mittel der Einwirkung besteht in der Verstärkung der Expressivität, der Ausdruckskraft von einem konkreten Werbetext zwecks der Heranziehung der Aufmerksamkeit.

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Особенности перевода рекламного текста

Данная статья посвящена рассмотрению особого вида текста – рекламного; описываются функции, особенности, структура рекламного текста. В статье также представлены разные точки зрения на функционально-стилевой статус рекламного текста.

Peculiarities of translating advertisement texts

Nowadays advertisement has become an essential part of modern society. It is everywhere: in mass media, on the public transport, on TV, or on the Internet. Advertisement has penetrated into all parts of our life. It has become a subject of different scientific studies: marketing, psychology, sociology, journalism and linguistics - it appears as a multi-faceted phenomenon.

Advertising texts have their peculiar linguistic characteristics. First of all, they vary according to a communicative aim. According to E. A. Bazhenova, advertising texts fulfill several communicative functions:

– Appealing and emotional (a text is a pragmatic concerned message to a receiver);
– Representative (introducing information);
– Impacting (a text is a persuasion that information is true, or that it is necessary to act in some way).

The question concerning a functional style of the advertising text is still controversial. In D. Rosental and N. Kohtev’s opinion, this text belongs to the publicist (newspaper) style. Other specialists consider it to be a combination of different styles, genres, types of speech: spoken and written language, dialogue and monologue, colloquial, scientific, official functional styles and others. Another opinion (shared by E. C. Kara-Mursa and I. A. Sternin) argues that the advertising text differs from publicist style in theme and function. The subject of publicist style is a socially important event while advertising focuses on goods or services. The main function of the advertising text is to render an impact on a potential consumer. This allows considering the advertising text as a separate functional style of speech [3]. But it is worth noting that despite its peculiarities the advertising text is close to publicist style. Similarity of the basic functions (informing, assessment, impact and persuasion), the aim (impulse of mass consumer for a certain act) and the social meaning (especially in the economic field) proves this opinion.

As for peculiar characteristics of the advertising text, one should mention its expressive character. It can be achieved by obeying the certain stylistic principles: dialogic and personal. The dialogic principle of the statement provides for a contact of producer with consumer. It is achieved by using interrogative sentences. The personal principle is connected with the presence of a copywriter's informal dialogue with the consumer, the usage of colloquial expressions. Typical devices of this principle are usage of personal pronouns, allusions etc. [1].

Another important characteristic of the advertisement text is modality. It consists of the main content and the individual assessment of given information. As the pragmatic aim of a copywriter is to induce the consumer for purchase – and the stylistic devices contribute to provoking a certain attitude to the product. The next one is completeness that means an opportunity of reply to the text. As most texts belong to standard texts their characteristic feature is coherence. An even more important characteristic of the advertisement text is its orientation towards a recipient. A recipient can be a person or a company [2].

Due to extralinguistic factors the advertising text is characterized by compression and compactness. It includes verbal and non-verbal parts. The last one consists of visual graphic (print, color, pictures, composition), kinetic (gestures, pose, mimicry) and auditory (intonation, rhythm and other means of prosody) elements. All of them determine the structure of the advertising text.

Comparing the style of the advertising text with other texts it is easy to notice that it violates logical and grammatical connections between words in a sentence. Different sentences in one advertising text can be printed differently, with different size of letters (or on the contrary the same size of all letters) [1].

The basis of a semantic structure is an idea determining the image of an advertised product and also the literary form of a text. Advertising ideas are so various but it is always a creative discovery which is valued for its novelty and originality. An advertising slogan is aimed at conveying the overall idea of the text. It is compressed, clear and easy. Besides, an important role in the semantic structure is played by argumentation which facilitates to convince a consumer to buy an advertised product or service [1].

Thus, copywriters want to make their advertisement effective and address it to a certain category of recipients. The main idea of the message should be clear, interesting and attractive. The whole text is aimed at producing a bright impression and motivating consumers to purchase the advertised goods or services – and eventually it is the overall aim of advertisement.

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Студенческий журнал для изучения английского языка

Статья представляет журнал для изучения английского языка, отвечающий индивидуальным предпочтениям студентов, что способствует не только повышению языкового уровня, но и расширению знаний в интересующих их областях. Каждая статья журнала адресована конкретному человеку и содержит упражнения на расширение лексического и грамматического репертуара студента.

English learning magazine for students

The article introduces a students’ English learning magazine created in response to the insufficient access of students with different levels of English to the content of their interest.

According to academic research, the universal method of improving foreign language skills for everyone in all contexts does not exist; and no teaching method is inherently superior to the others [1]. Language learners are different and what works well for one person may be inappropriate for someone else.

There are several helpful common ways to learn a foreign language or improve one’s language skills, such as attending conventional classes, reading books in the original, watching films, and communicating with native speakers.

Nevertheless, many students claim that none of the methods listed above suffice to meet their requirements. Moreover, the 21st century calls for quick and simultaneous data processing. This means that it would be more suitable for learners of a foreign language to combine language learning with finding out something new in the areas they are really interested in.

One of the possible solutions to the problem could be tailored magazines in English, whose aim is to give their readers access to personalized content accompanied with grammar and vocabulary exercises. Being dedicated to learning English and self-development, I found creating this type of magazine absorbing and inspiring.

First of all, a survey among 53 learners of English was conducted. First, the respondents, my groupmates and other first-year students, were asked to take the Cambridge Placement Test [2] to quickly and accurately assess their language ability in English. The test provides each test taker with their Common European Framework of Reference (CEFR) level that is then used to make the magazine articles correspond to the students' level of English. Then the respondents filled in a questionnaire containing a set of topics in different areas (for instance, travelling, cooking, self-development, programming and etc.).

Based on the selected topics and the customer's level of English I created the first issue of *The Fresh English Magazine* with the required articles.

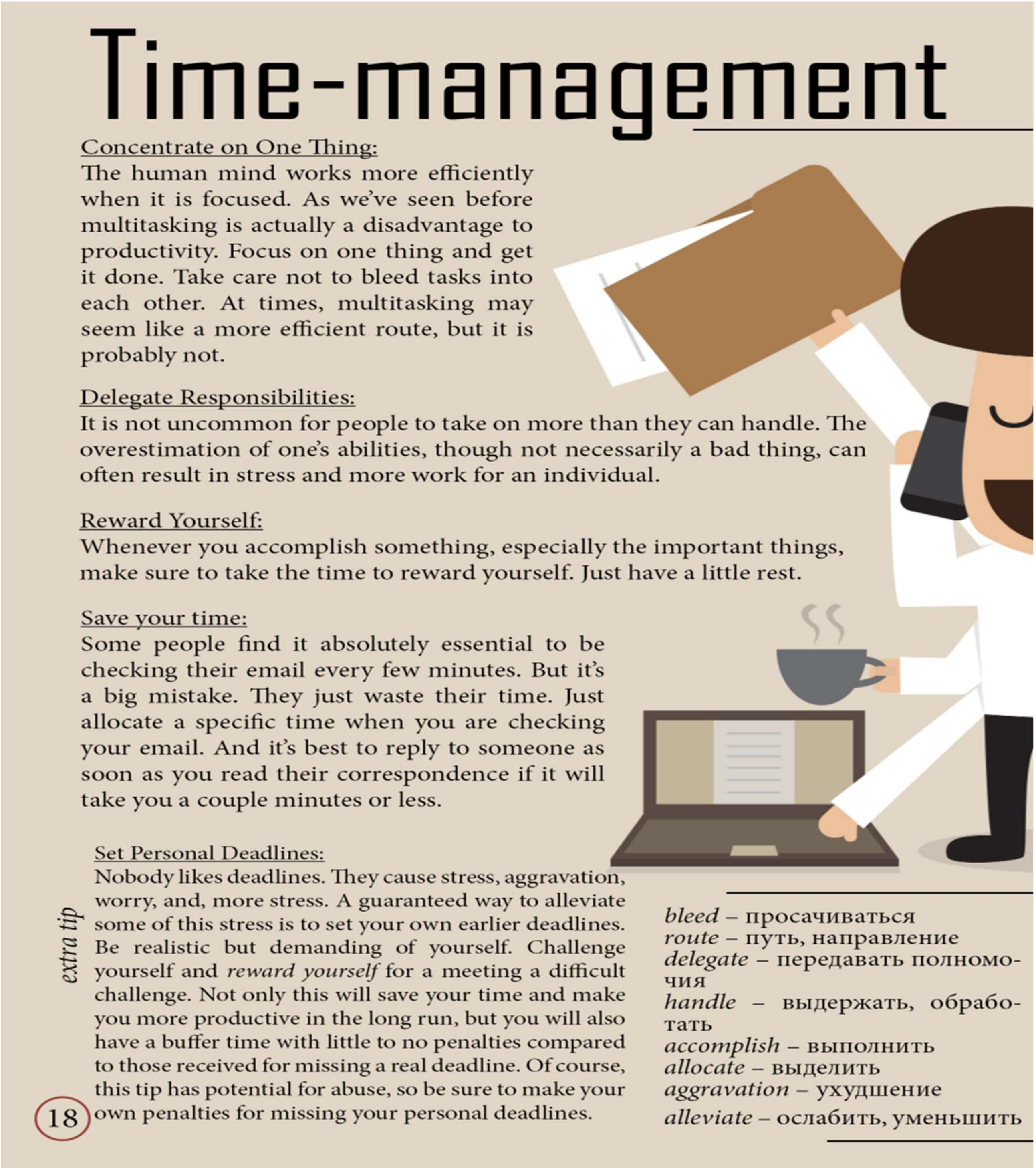
The following is a short description of each issue. The magazine consists of seven articles designed with a particular person in mind and an additional article from the editor. Every article is provided with a Grammar or Vocabulary Reference section where the necessary clarifications for the corresponding level are given.

All articles can be divided into two big groups which develop a particular language skill. "Reading" sections aim at providing the readers with new vocabulary, sentence structures and essential grammar. Pictures 1-2 show an example of the article for a B2 reader. "Speaking" sections consist of several dialogues on a variety of topics with a list of necessary expressions, phrasal verbs and idioms.

The editor's rubric may contain a crossword, a practice test, an article on a pressing issue, a popular song lyrics, a visual dictionary entry, and etc. In addition, there is a list of web-pages used and other helpful sources. Also, readers are able to monitor their progress using charts and diagrams given at the end of the magazine.

It is always important for learners to take advantage and benefit from studying; they must have a clear motive for learning the language which will help them to stay motivated and give them a clear purpose. It should be emphasized that reading this magazine helps people to have such a benefit in the form of the articles of their interest.

In conclusion, the individual magazine proved to be an additional tool to improve the level of language skills and learn new information. The first experience of its design was successful and showed the relevance and usefulness of the idea. In addition, some helpful feedback was received on how to improve it.



Time-management

Concentrate on One Thing:
The human mind works more efficiently when it is focused. As we've seen before multitasking is actually a disadvantage to productivity. Focus on one thing and get it done. Take care not to bleed tasks into each other. At times, multitasking may seem like a more efficient route, but it is probably not.

Delegate Responsibilities:
It is not uncommon for people to take on more than they can handle. The overestimation of one's abilities, though not necessarily a bad thing, can often result in stress and more work for an individual.

Reward Yourself:
Whenever you accomplish something, especially the important things, make sure to take the time to reward yourself. Just have a little rest.

Save your time:
Some people find it absolutely essential to be checking their email every few minutes. But it's a big mistake. They just waste their time. Just allocate a specific time when you are checking your email. And it's best to reply to someone as soon as you read their correspondence if it will take you a couple minutes or less.

extra tip

Set Personal Deadlines:
Nobody likes deadlines. They cause stress, aggravation, worry, and, more stress. A guaranteed way to alleviate some of this stress is to set your own earlier deadlines. Be realistic but demanding of yourself. Challenge yourself and *reward yourself* for a meeting a difficult challenge. Not only this will save your time and make you more productive in the long run, but you will also have a buffer time with little to no penalties compared to those received for missing a real deadline. Of course, this tip has potential for abuse, so be sure to make your own penalties for missing your personal deadlines.

bleed – просачиваться
route – путь, направление
delegate – передавать полномочия
handle – выдержать, обработать
accomplish – выполнить
allocate – выделить
aggravation – ухудшение
alleviate – ослабить, уменьшить

18

Pic. 1

How to do everything in time?

Make Lists:
Write as much down as you can. If you don't carry a planner or notebook already, start. Know what you intend to accomplish before starting each day and write these tasks down.

Prioritization is the key:
Think about what your goals are for that day or the next. Which goals are most important? Order and prioritize your tasks in a meaningful way. How you prioritize depends on how you work, who you work for, or who pays you. Whatever method you use to manage and prioritize your tasks, it should be flexible enough to allow you to choose an alternate task.

Avoid Procrastination & eating up time things:
When trying to be more productive and trying to save time, procrastination should be avoided like nothing else. It is the ultimate productivity-killer. In general, find the things that eat up your time that are less important than the changes you want to make. That's almost everything except the things you need to live — work and eating and stuff like that. Cut back on them where you can.

Efficiency:
Know the time when you work best. Do whatever you can to finish your current task by the end of regular work hours instead of working into the night. Some people like spending more time exercising and working in the morning before anyone woke up because the world is quiet and at peace and without interruptions.

challenge - бросать вызов; проблема
buffer time – резервный запас времени
abuse – злоупотребление
intend to – намереваться
meaningful – значимый
ultimate – окончательный
eat up – съедать, поглощать
interruptions - прерывания

vocabulary

19

Pic. 2

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Средства речевого воздействия в рекламных слоганах

В статье рассматриваются основные средства речевого воздействия в рекламных слоганах, даются определения данным понятиям, приводятся различные примеры.

Means of Linguistic Manipulation in Advertising Slogans

Advertising as a separate sphere of activity has established in our lives long ago. It permeated into all branches of human life. Every day we come across advertising at every turn. The objects of advertising are clothing, electronics, medical supplies, and other goods, ideas, and a variety of services. Advertising plays an important part in the economic development, is highly responsive to the needs and the mood of society, contributing to the development of the sales market, and, therefore, the need for advertising is growing.

The term "advertising" comes from the Latin word *advertere* (meaning "to direct one's attention to; give heed") [9]. As defined by the American Marketing Association, advertising is "...any form of non-personal presentation and promotion of ideas, goods or services paid by the precise customer" and is used to attract the attention of potential consumers to the object being advertised, using the most effective techniques and methods, with the account of the specific situation" [4].

Advertising by speaking urges a consumer to make a particular action.

Linguistic manipulation is the impact on the person with the help of speech and accompanying non-verbal means, aiming at achieving the goal of the speaker [3].

There exist the following ways of linguistic manipulation: proving, conviction, persuasion, suggestion, request, order, compulsion and others [5].

The components of the advertising text are: a slogan, a headline, a body text, and an echo-phrase [1]. A slogan is one of the crucial elements of all advertisements. Translated from the Gaelic "slogan" means "battle cry". It is created as a phrase that consumers should remember and is used to attract consumers' attention [2]. Typically, a slogan should contain up to 10 words. It does not include unpronounceable words and phrases. It provides an exact, clear and concise formulation of an advertising idea made easy to understand and remember.

The tone of a slogan should not be condescending, dismissive, or arrogant. The main function of a slogan, according to A.A. Skopin, "is to transfer the maximum amount of marketing information using a minimum number of words" [1]. A slogan according to the basic requirements must be brief, constant, original, contain the name of the brand and be easily translated into other languages [2]. In addition, a slogan should even mention the benefits to be received by the consumer when buying the advertised product. The aim of a slogan is to identify consumer concerns and make constructive suggestions for the desired solution.

Slogans are divided into the following types: branding (express the sense of the company's philosophy, brand, product or service) and product (appeal to the unique selling proposition of the product, aimed at the rapid increase in sales) [1].

A slogan can be built as an idiom or a paraphrase and may consist of well-known proverbs, sayings, quotes, and phrases that are on everyone's lips.

We consider the ways of linguistic manipulation in the advertising according to the typology proposed by I.A. Sternin [5]:

1. Conviction

Language means are vocabulary of the advertising texts featuring verbs in the imperative mood. For example: "Hungry? Grab a Snickers" (Snickers) [8]; “Buy it. Sell it. Love it” (Ebay) [6].

2. Proving

Language means are a description of the experiment, proving to the consumer the good qualities of the advertised product, using language clichés, such as: "doctors recommend...", "scientists have proved…" For example, "More Doctors Smoke Camels than any other Cigarette" (Camels); "Doctors Recommend Phillip Morris"; "Just What the Doctor Ordered" (Philip Morris) [6].

3. Infusion

It urges the interlocutor to take at face value the said words without concern and critical thinking. For example: "No battery is stronger longer" (Duracell) [6].

4. Infection

It is the desire to cause emotion, strong feeling, or shock from the consumer. The language means belong to the emotionally expressive vocabulary, exclamations. For example, "Impossible is nothing" (Adidas), "Just do it!" (Nike) [7].

5. Persuasion

It encourages consumers to give up their point of view and to adopt the necessary one. The language means are used to create the necessary associations. For example, "Born to lead" (BMW), "For successful living" (Diesel) [6]. Here appears an associative link of the consumer's well-being from having the car.

The examples mentioned above allow us to make a conclusion that advertising contains at least one of the described methods of linguistic manipulation, possessing a certain set of linguistic resources, which have a particular impact on the consumer. In today's world, new technical possibilities and changing market dynamics force to constantly improve the strategy and tactics of advertising texts.

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Категория «Интернет-маркетинг» в институциональном дискурсе: контент-анализ веб-страниц

Статья посвящена количественному анализу элементов контекстов употребления концепта «Интернет-маркетинг» в сети Интернет. Автором проведена содержательная интерпретация фрагментов контекстов употребления концепта, определена их частотность, с целью последующего определения институциональной направленности исследуемого дискурса. Основным методом, позволившимй провести такое исследование, стал контент-анализ.

The "Internet marketing" category in the institutional discourse: content analysis of web pages

Since 1990s marketing affects the newest information technologies for consumer communications and, as a consequence, IT terminology is incorporated into the marketing terminology. These changes are reflected by the absence of unambiguous and universally accepted definitions of terms and their redundancy. Along with the emergence of new words, pre-existing special units acquired new meanings. Russian linguist S.V. Grinyov identifies the following adverse effects in vocabulary:

– Homonymy (different interpretation of the terms by members of different schools of thought);

– Synonymy, which reaches 50% in some fields of knowledge;

– Arbitrary variation of the terms' forms;

– Unclear definitions of concepts;

– Unreasonable addition of foreign-language terms;

– Extensive use of unmotivated terms;

– The lack of scientifically based principles and models of terms formation in vast majority of fields of knowledge [2].

Whereas the consequence of these negative phenomena is that in modern linguistics a comprehensive review of the communicative situation became essential for cognition of the language. Hence the necessity to define the range of possible contexts of use the "Internet Marketing" category and to measure their quantitative representation.

This article demonstrates the use of web resources regarding the content analysis of the contexts of using the category "Internet Marketing". For the purpose of the research, search engine with a special program called "spider" or "crawler" was used. This program inventoried available resources throughout the network, and simultaneously meets several requirements:

– Consideration of grammatical peculiarities of the Russian language;

– Sorting search results in accordance with their relevance;

– Displays the total number of pages (occurrences), found on the requested topic;

– High speed.

Based on these requirements, Google search engine was selected – one of the most voluminous databases in the world (more than 3 billion pages).

With regard to the search request, it is important to shape precise word request to cover as much as possible all the available information, and on the other hand – to avoid the irrelevant results. Thus, it can be concluded that the study needed web pages containing the phrase formed with lemmas "marketing", "internet", "information", "technology", as well as abbreviations "web marketing", "IT marketing», «IT-marketing", etc. Consequently, the search request was: "Internet Marketing OR IT marketing." Operator «OR» is used to find pages that contain at least one of the words. Search results were automatically sorted by relevance.

In total 38.5 million Web pages were found (the search was implemented in January, 2017). Then every hundred thousandth e-mail address was selected, so the final list included 385 addresses. But 64 pages were excluded, of which 16 (4.2%) were repeats, 48 (12.5%) did not contain the term "Internet Marketing". As a result, 321 documents were used for analysis.

The analysis was conducted in two phases: the first phase was to identify the context of using the term "Internet Marketing", the second – to determinate the context frequency. Selected types of contexts present the categories – generalized elements with similar meaning. Thus, the procedure of the context construction can be reflected in the scheme: "the Web page text" – "context's elements" – "context" – " group of contexts". Results of the first stage are shown in Table 1.

Table 1 – Types of contexts with description

Type	Elements
1. Academic contexts	
1.1. General context (In general context the term is seen as a generalizing concept, which is not associated with any separate areas)	1.1.1. A definition or a clarification of the notion
	1.1.2. A description or reference to research
	1.1.3. Using the term in titles of textbooks, dissertations, lectures and scientific journals
1.2. Economic research context	1.2.1. "Internet marketing" as an object of the seminars, conferences, forums, plenary sessions, etc

2. Publicistic contexts	
2.1. Economic context	2.1.1. "Internet marketing" is associated with an increase in revenues and profits of enterprises
	2.1.2. "Internet marketing" is used as a method of promotion on the market
2.2. Advertising context	2.2.1. "Internet marketing" is associated with advertising on the Internet
2.3. Technological context	2.3.1. "Internet marketing" is associated with the creation of new technologies and software products
2.4. Labour context	2.4.1. "Internet marketing" is used to form the names of professions
	2.4.2. A job description of "Internet marketing" professionals
2.5. Educational context	2.5.1. "Internet marketing" is associated with the acquisition of professional skills
2.6. Managerial context	2.6.1. "Internet marketing" is associated with the strategic planning at the enterprise
	2.6.2. "Internet marketing" is associated with the establishment of new departments in the enterprise
2.7. Institutional context	2.7.1. "Internet marketing" is used as a name of industry or market

The second stage is content analysis. The unit of account was a piece of text, namely: scientific articles and abstracts, chapters from monographs and textbooks, names of journals, titles of articles and lectures, advertisements, etc. The results of the content analysis are presented in Table 2.

Table 2 –Context percentage, %

Contexts	Share	Total
Academic		
General	9,33	12,00
Economic research	2,67	
Publicistic		
Economic	37,33	88,00
Advertising	14,67	
Technological	8,00	

Labour	13,33	
Educational	4,00	
Managerial	6,67	
Institutional	4,00	
Other	5,33	
Total	100,00	

Table 2 shows the prevalence of "economic" and "advertising" contexts in total quantity of publicistic contexts (37.3% and 14.7%, respectively). This is not surprising due to definition, which was given by the Federal Tax Service: "Marketing" is considered as a business activity that controls movement of goods and services from producer to consumer [4].

It should be noted that the discourse has "technical" and "labor" orientation: 8% of contexts are "technological", and 13.33% are "labor". In contrast, the number of academic contexts reached only 12%. The "general" context dedicated to the study of "Internet marketing" in general reaches 9.33%.

The obtained findings indicate that the problems of implementation and effectiveness of online marketing is widely discussed in business circles and in the public discourse, but not in the scientific community.

The "Internet Marketing" discourse is a special type of institutional discourse, formation, which includes fragments of the business, advertising and scientific discourse, reflecting different aspects of verbal communication in the field of marketing theory and practice.

First and foremost, the language of progress and informatization is the language of technical domain, but often such terminology penetrates into areas of social life. However, this lexical nearness is illusory, since only experts know the exact meaning of these terms.

Therefore, it seems necessary to problematize the "Internet marketing" category as a scientific concept – to give a clear definition of this phenomenon and create evaluation criteria because fairly wide range of meanings, which social actors attach in the concept, can provoke the appearance of so-called "semantic scissors" when using the same term interlocutors actually talk about different things.

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Образ тени в сказке А. фон Шамиссо «Удивительная история Петера Шлемиля»

В данной статье произведён анализ образа тени в сказке писателя немецкого романтизма Адельберта фон Шамиссо «Удивительная история Петера Шлемиля». Главный герой предпочёл богатство своей тени, потеряв которую столкнулся с такими проблемами как непонимание и одиночество. Сделан вывод, что тень в исследуемом художественном произведении символизирует человеческое достоинство.

Das Bild des Schattens im Märchen von A. von Chamisso «Peter Schlemihls wundersame Geschichte»

Viele Schriftsteller schrieben in allen Zeiten viele literarischen Werke, die wir auch heute lesen. Die deutsche Romantik ist sehr interessante Periode in der Weltliteratur. Nicht so bekannt, aber sehr interessant sind die Märchen von Adelbert von Chamisso, die im 19. Jahrhundert geschrieben wurden.

In unserer Arbeit versuchen wir das Bild und die Bedeutung des Schattens im Märchen von Adelbert von Chamisso «Peter Schlemihls wundersame Geschichte», das im Jahre 1814 gedruckt wurde, zu analysieren.

Der Hauptheld Peter beschreibt in den Briefen seine Lebensgeschichte, die mit einer unheimlichen Begegnung bei einem reichen Herrn eine entscheidende Wendung genommen hat. Er tauscht seinen Schatten gegen Gold und gerät darum in die Falle des Teufels.

Peter Schlemihl ist bescheidener junger Mann, als er mit einem Empfehlungsschreiben zum Herrn John kommt. Er begegnet dort einen seltsamen Mann im Grauen, der verschiedene Dinge aus seinem Rock hervorzaubert: ein Fernrohr, ein Festzelt, einen Teppich und sogar drei gesattelte Reitpferde. Niemand außer Peter Schlemihl verwundert sich darüber. Als er die Gesellschaft verlassen will, kommt ihm der Graue nach und bietet ihm ein interessantes Geschäft an. Dieser Mann wollte Peter Schlemihls Schatten bekommen und bietet ihm dafür ein Glückssäckel, mit dem er sich immer alle Wünsche erfüllen könnte.

Peter Schlemihl stimmt zu und ist sofort ein sehr reicher Mann. Aber schnell beginnt er zu verstehen, was er gemacht hat. Alle Menschen erschrecken sich, wenn sie die Schattenabwesenheit bemerken. Er versucht, den grauen Mann zu finden, um diese Situation zu verändern. Aber der Mann im Grauen sagt nur, dass er in ein Jahr zu ihm kommt.

Peter Schlemihl wohnt das ganze Jahr im Badeort, wo er unbekannte Person ist. Nur sein treuer Diener Bendel weiß um seinen Schattenverlust und hilft Peters Leben einfacher zu machen.

In ein Jahr hofft Schlemihl seinen Schatten wiederzubekommen. Plötzlich taucht der Graue vor ihm auf und ist bereit, ihm den Schatten zurückzugeben, aber hat eine Bedingung – Peter gibt ihm seine Seele anstelle des Schattens. Peter gelingt es, dieser Vertrag mit dem Teufel abzubrechen.

Für einiges Geld kauft der Hauptheld sich alte Stiefel, die Siebenmeilenstiefel heiβen. Er bereist die entfernten Teile der Erde und widmet sein Leben der Naturerforschung.

Führendes und tragendes Motiv des Märchens ist der Schattenverlust. Der Autor beschreibt die Tragödie des Menschen, der sein Schatten fürs Gold verkauft hat. Schlemihl versteht später, dass diese Tat falsch war. Der bekommene Reichtum bringt ihm nur Unglücke.

In diesem Märchen haben der gute Schatten üblicherweise ehrliche und anständige Menschen. So ist vor allem Peter Schlemihl. Bis zur Bekanntschaft mit «dem grauen Mann» hatte Peter «schöner Schatten» [1], aber merkte es überhaupt nicht. Den Schatten können wir mit der Menschenwürde assoziieren. Chamisso führt die Leser zum Gedanken, dass echte Menschenwürde nur Einige haben, die bescheiden sind und ein reines Gewissen haben. Es ist interessant, dass nur junge Mädchen, die Armen und die Kinder sehr heftig auf die Abwesenheit der Schlemihls Schatten reagieren. Die wohlhabenden Bürger sind anlässlich der Unvollkommenheit Schlemihl hingegen schadenfroh.

Wenn Peter sein Schatten verkauft hat, hat er auch irgendwelche sehr wichtige menschliche Qualitäten, die in der sozialen Beziehung wertvoll sind, verloren. Peter Schlemihl versteht, dass man Ansehen und Glück nicht kaufen kann.

Auf solche Weise können wir verstehen, warum «der graue Mann» sich so für diesen Schatten interessierte. Die Reichen, die ihren Reichtum nicht ehrlich erwerben, brauchen gute Schatten, damit die Andere ihre Nachteile nicht bemerken. Sie haben keine eigene, sondern gekaufte Schatten, der ihnen untadeliges Ansehen der ehrlichen Leute unterstützen erlaubt.

Wir stellen die Frage: gilt der Schatten als Äquivalent des Gewissens? Ehrlose Menschen auch den Schatten haben, demzufolge ist nicht gleich Moral, sondern nur ihr äußerlichen Merkmal. Chamisso deutet an: obwohl Gold teurer als die Ehre und die Tugend geschätzt wird, respektiert man den Schatten noch mehr, als Geld. Die Gesellschaft sieht in dem Menschen äußerliche Merkmale, aber Wohlbefinden ist nicht nur im Geld. Das begreift auch der Hauptheld. Der Wert des Schattens ist, dass sein Besitzer allen anderen ähnlich wird. Aber ist das sehr gut, dass alle Menschen identisch sind? Diese Frage bleibt rhetorisch.

Zusammenfassend kann man feststellen, dass die Rolle des Schattens im Märchen von Adelbert von Chamisso «Peter Schlemihls wundersame Geschichte» sehr wichtig ist. Obwohl dieses Märchen für Kinder geschrieben wurde, sind hier die Lebensfragen aufgegriffen, die auch heute für jeden Menschen aktuell bleiben. Zum Beispiel, das Problem der Auswahl zwischen Gute und Böse.

Der Schatten in diesem Märchen die Menschenwürde symbolisiert. Wir können nur erraten, was der Autor uns mit diesem Sujet erzählen möchte, welcher Sinn der Schatten im Märchen hat. Es gibt noch viele diskutable Fragen und Rätsel, aber wir haben nur die Möglichkeit, das selbst zu interpretieren.

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Пунктуационное оформление приложений и относительных придаточных предложений (на материале британских газетных текстов)

Работа посвящена проблеме пунктуирования приложений и относительных придаточных предложений в современном британском газетном тексте. Сравнивая нормативное употребление знаков препинания с их практическим использованием в британских газетных текстах начала 21 века, автор предпринимает попытку проследить изменения в узусе пунктуационных знаков (запятой и тире) при обособлении приложений и относительных придаточных предложений.

Punctuating appositives and relative clauses in newspaper English

The recent studies in the field of punctuation demonstrate that this topic is of particular interest to the researchers. The problem of punctuation is a multifaceted issue, thus in the last decade numerous research questions have been explored, namely: punctuation systems of individual languages [8, 9, 10, 13], punctuation systems of different languages in a comparative aspect [3, 5], usage of individual punctuation marks [6], punctuation of texts of different genres [1, 2, 4].

The current research addresses the punctuation of contemporary newspaper English (2000s-2016s). This field has not yet been elucidated. However, it is fair to say that the research undertaken by V. Ubushaeva [7] attempted to describe some new tendencies in the usage of punctuation marks in newspaper British and American English in the 1960s-1980s. Therefore, the purpose of this study is to find out the changes in the usage of punctuation marks in contemporary newspaper English by comparing and contrasting the standard usage recorded in manuals and reference books with the actual usage in newspaper English. Being unable to cover all the aspects of the research problem in the present article, we will focus on the usage of commas and dashes to set off appositives and relative clauses in contemporary newspaper English.

200 sentences containing appositives and relative clauses were randomly selected from the online articles (dated by 2016) in "The Guardian" [11] and "The Independent" [12].

Appositives and relative clauses have some common features: 1) they define the noun which they relate to and characterise the noun in a new way by renaming it or by providing some additional information about it; 2) they can be restrictive or non-restrictive, which determines the usage of punctuation marks.

An appositive is a noun (or a word-combination) which defines the other noun. Setting off an appositive with commas depends on whether it is restrictive or non-restrictive. In other words, if an appositive offers more information but does not limit the subject, it is set off with commas. Consider the following examples:

*But Estelle Clarke, **a former City lawyer and fair loans campaigner**, has argued that the government loans are sold deceptively, tying students into contracts with rates that are closer to 6.6 per cent* [The Independent 2016];

*Parents now based at Jad'ah, **a camp for displaced people south of the city**, have expressed their frustration that their families' futures have been so drastically altered* [The Independent 2016].

Appositives are also set off with commas in case they are expressed by proper nouns and follow the main word:

*The home secretary, **Amber Rudd**, used her maiden speech at the Conservative party conference last month to announce a crackdown on the number of overseas students coming to study in the UK, which will include different visa rules for "lower quality" universities and courses* [The Guardian 2016].

Consider an example of a restrictive appositive:

*Children living under Isis' rule are regularly forced to watch gory propaganda videos and guides on killing and making bombs, father of five **Hamid** said* [The Independent 2016].

The appositive *Hamid* helps to identify the person in question – *father of five*, i.e. it is essential to understand the sentence. Compare:

*Karim, **a father of four**, said his kids lived in fear of being recruited to fight like their classmates* [The Independent 2016].

Apart from commas, dashes are also used to set off appositives. Dashes are put around the appositive containing one or more commas to avoid the confusion like in the following example:

*The women – **Kelsey Clayman, Brooke Dickens, Alika Keene, Emily Mosbacher, Lauren Varela and Haley Washburn** – graduated in 2016 and had seen the entire "scouting report"* [The Guardian 2016].

The decision whether to use a pair of commas or dashes to set off appositives depends on the importance of the information being communicated. In the example below the appositive is highlighted by dashes, thus strongly emphasising the parenthetical element *sociology*:

*Andrews believes the curriculum is a key factor. In his own discipline – **sociology** – the canon taught as the foundation of the subject is "a collection of dead white men", he said. "And that's the same at every university."* [The Guardian 2016].

Commas would also be grammatically correct in this sentence. Unlike dashes, commas do not break the writer's flow of thought so sharply and do not focus so strongly on what is enclosed between them. With dashes, the emphasis is on the appositive, which is enclosed between them.

Similarly, setting off relative clauses with commas depends on whether they are restrictive or non-restrictive. In the sentence below, both relative clauses are non-restrictive, i.e. they provide additional information without limiting the subject:

"We find that these cognitive skills, ***which are related to mathematics performance****, show greater training effects in late adolescence than earlier in adolescence," said Dr Lisa Knoll,* ***who co-wrote the paper*** [The Independent 2016].

Consider another example:

However, even in these regions, teachers are struggling to get on the property ladder. "It's the deposit that's the killer," says 27-year-old Shaun Williams, an English supply teacher ***who lives in north Wales*** [The Guardian 2016].

In this sentence the clause *who lives in north Wales* is a restrictive clause. The article deals with housing problems many teachers in the UK face. The fact is that teachers cannot afford to buy their own property, especially in the south-east and the east of England, while the situation in the north-east and the north-west of England, Wales and Scotland is better. But it is not always easy even in these regions. That is why the clause in this case does not simply give additional information about the subject under discussion (*an English supply teacher*), but it is essential to identify and interpret the subject.

The obtained results demonstrated that the actual usage of commas and dashes to set off appositives and relative clauses in contemporary newspaper English does not contradict the punctuation norms of the English language. In prospect, we are planning to extend the time frame to observe the tendencies in the usage of punctuation marks in newspaper English.

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III. Межкультурная коммуникация

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Германия и Россия в межкультурной коммуникации: 20 ситуаций с вариантами решений (авторы Францке, Хенфлинг)

В статье представлено описание книги, материал которой был апробирован в мае 2015 в рамках семинара по межкультурной коммуникации в Уральском федеральном университете. А также описана одна из сложных ситуаций российско-немецкого взаимодействия и варианты ее решения.

«Interkulturelle Kompetenz Deutschland Russland 20 Critical Incidents mit Lösungsmustern» Publikation 2017 Franzke / Henfling

Um sich in einem anderen Land zu orientieren, sich im Alltag zurechtzufinden und am gesellschaftlichen Leben teilzunehmen, sind Kenntnisse der jeweiligen Fremdsprache wichtig, doch reichen sie allein nicht aus. Es bedarf darüber hinaus interkultureller Kompetenzen. Diese umfassen Fähigkeiten und Fertigkeiten, die nicht über ein Schnellverfahren oder die Blitzlektüre eines Reiseführers erworben werden können. Sie setzen nicht nur Wissen über Gegebenheiten und Gewohnheiten in einem anderen Land voraus, sondern eine Vielzahl persönliche Dispositionen wie Empathie, die Bereitschaft zum Perspektivwechsel und nicht zuletzt eine hohe Kommunikationsfähigkeit.

Die Auseinandersetzung mit Critical Incidents (CIs) sind eine moderne, Erfolg versprechende Methode, interkulturelle Kompetenzen auf- bzw. auszubauen. Sie sind als kritische Ereignisse definiert, die in interkulturellen Interaktionen auftreten können. CIs fokussieren

Situationen, die mit Unbehagen, Frustration, Irritation, Unverständnis, Verunsicherung, Enttäuschung, Befremden oder Ärger verbunden sind. Dies soll jedoch nicht den Blick dafür verstellen, dass deutsch-russische Kontakte auch von positiven Gefühlen wie Neugier, Freude, positivem Erstaunen, Humor und einer bereichernden Perspektiverweiterung begleitet werden können.

Die in diesem Buch zusammengefassten Fallbeschreibungen zeigen auf, dass der deutsch-russische Austausch teilweise spannend und horizonterweiternd ist, doch nicht immer und durchgehend problemlos verläuft. Die Fälle sind authentisch und lösen bei Menschen mit Erfahrungen in deutsch-russischen Kontakten oft Wiedererkennungseffekte aus. Zu jedem dargestellten Fall werden Fragen und Lösungsmuster, die das Einfühlungsvermögen schulen und zu Perspektivwechsel sowie (Selbst-)Reflexion auffordern, beschrieben. Unter Berücksichtigung des aus dem Perspektivwechsel gewonnenen Wissens werden die Lernenden ermutigt, Herangehensweisen zu suchen, die den Bedürfnissen der verschiedenen Interaktionspartnerinnen und -partner gerecht werden. Gerade in kulturübergreifenden Arbeits- und Alltagszusammenhängen stellt dies eine immer wichtiger werdende Herausforderung dar, die manchmal anstrengend, doch auch lohnenswert ist, da sie zur Zufriedenheit aller Beteiligten beiträgt.

Nachdem im Kapitel 2 auf die Chancen und Herausforderungen in deutsch-russischen Interaktionen eingegangen worden ist, werden im Kapitel 3 die Bedeutung und Elemente interkultureller Kompetenz sowie Konzepte interkulturellen Lernens beschrieben. Anschließende werden im Kapitel 4 die Entwicklung und Umsetzung von Critical Incidents bzw. die Arbeitsweise mit diesen vorgestellt. Kapitel 5 gibt Aufschluss über die Herkunft der Fälle. Ferner werden Hilfestellungen zur Analyse bzw. Interpretation der Fälle gegeben. Ein eigener Abschnitt widmet sich der Umsetzung von CIs bei der Vorbereitung auf Auslandsaufenthalte und im Fremdsprachenunterricht. Kapitel 6 enthält das Herzstück des Buches, die 15 Critical Incidents.

Präsentiert werden 20 kurze Situationsbeschreibungen, sog. Critical Incidents, als Instrument für interkulturelles Lernen in deutsch-russischen Kontakten. Die CIs wurden im Zuge eines gemeinsamen Workshops an der Uralen Föderalen Universität im Mai 2015 mit 14 berufstätigen Erwachsenen, die in Deutschland oder Russland leben und arbeiten, generiert und bearbeitet. Im weiteren Forschungsprozess wurden die Fallbeispiele im Sinne der CI-Technik weiterentwickelt und für das interkulturellen Lernen aufbereitet. Ein Teil der CIs bezieht sich auf Erstkontakte in deutsch-russischen Beziehungen und behandelt sehr stark die Themen Gastfreundschaft bzw. Willkommenskultur. Ein anderer Teil fokussiert Interaktionen in der Arbeits- oder Alltagswelt, vor allem in den Bereichen Schule, Hochschule und kulturelle Austauschprogramme.

Im Kapitel 7 wird ein Ausblick gegeben und im Kapitel 8 ist die Literatur angeführt.

Der Band liefert hilfreiches, aktuelles und wissenschaftlich fundiertes Material für Qualifizierungsprogramme zur interkulturellen Kompetenz Deutschland-Russland. Die Auseinandersetzung mit den CIs fördert Empathie, die Fähigkeit zum Perspektivwechsel und führt zu neuen Herangehensweisen in deutsch-russischen Begegnungen. Der hier beschriebene Aushandlungsprozess ist auf eine Vielzahl deutsch-russischer Kontakte übertragbar.

Die Fälle können im Fremdsprachenunterricht sowie von Institutionen und Wirtschaftsunternehmen als Vorbereitung auf kurze oder auch längere Auslandsaufenthalte in Deutschland und Russland verwendet werden. Darüber hinaus bietet das Selbststudium der CIs Einblicke in die Anforderungen, welche an Menschen gestellt werden, die sich in einem Land bewegen, dessen Kultur nicht ihren gewohnten Standards und Orientierungsmustern entspricht.

Den Autorinnen ist bewusst, dass deutsch-russische Beziehungen historisch bedingt stark emotional und darüber hinaus politisch besetzt sind. Sie betonen, dass das vorliegende Buch kein politisches ist. Es soll auch nicht für politische Zwecke verwendet werden. „Interkulturelle Kompetenz Deutschland-Russland: 20 Critical Incidents in deutsch-russischen Kontakten“ versteht sich als ein psychologisches Fachbuch, das die individuelle Perspektive von Menschen sowie Interaktionsprozesse in deutsch-russischen Begegnungen in den Mittelpunkt rückt.

Der Band verdeutlicht, dass wir noch eine lange Strecke vor uns haben, Phänomene der interkulturellen Kommunikation zu verstehen. Perspektivwechsel wirklich vornehmen zu wollen, diese tatsächlich zu vollziehen und die Bereitschaft aufzubringen, in einen aktiven Aushandlungsprozess zu gehen, erfordert einen hohen Grad an Selbstreflexion.

CI12: «So, wie Du aussiehst, kommst Du hier nicht rein!» – Kleider machen Leute

Markus hat gerade sein Studium Deutsch als Fremdsprache an einer deutschen Universität beendet und seine erste Stelle als Sprachenassistent für ein Goethe-Institut in Sibirien angetreten. Das Sprachlernzentrum des Goethe-Instituts ist an die dortige Universität angeschlossen. Maria, die Leiterin des Zentrums hat lange und gute Erfahrung in der Arbeit mit Muttersprachlern.

Für Markus ist es der erste Aufenthalt in Russland. Vor seinem Abflug hat er ein wenig über Land und Leute gelesen, insbesondere hat er sich über das Wetter informiert. Nicht nur Markus selbst, sondern auch seine Eltern machen sich große Sorgen, dass er im winterlichen Sibirien erfrieren könnte. Ausgestattet mit Trekkingrucksack, robusten Wanderstiefeln, dicker selbst gestrickter Mütze, einem warmen Schal sowie dem alten geflickten Pelzmantel seines Großvaters besteigt Markus das Flugzeug.

Als er im September in Sibirien ankommt, ist er überrascht, dass noch über 25 Grad sind. Doch die Temperaturen fallen schnell und bald beginnt es zu schneien.

Nach einer zweiwöchigen Reise, die Markus nach Moskau unternommen hatte, sind in seiner Stadt die Temperaturen auf -42 Grad gefallen. Markus zieht die mitgebrachten Sachen an und macht sich auf den Weg zur Arbeit. Bei diesen Temperaturen frieren sowohl seine langen Haare als auch sein zotteliger Bart sofort ein und werden in kürzester Zeit weiß. Auf den Straßen sieht Markus viele Gestalten in dicken Mänteln, die ihre Schals über die Nase und die Mützen tief ins Gesicht hin-eingezogen haben.

Als Markus die Universität betritt und wie üblich den Sicherheitsdienst an der Pforte mit seinen geringen Russischkenntnissen begrüßt, packen ihn die Wachleute blitzschnell an und befördern ihn vor die Tür, zurück in die Kälte. Markus versteht die Welt nicht mehr. Er will erneut hinein, worauf die Männer vom Sicherheitsdienst nunmehr den Eingang blockieren. Auf die Frage „Warum?“ gibt ihm einer der Männer die kurze Antwort: „So, wie Du aussiehst, kommst Du hier nicht rein!“

Markus ist empört und kann nicht nachvollziehen, weshalb sich der Sicherheitsdienst so verhält, schließlich konnte er die letzten zwei Monate jeden Tag passieren. Von seinem Handy aus ruft er seine Chefin Maria an, die ihn an der Pforte abholt. Sie spricht mit den Wachleuten und anschließend gehen beide ins Sprachlernzentrum. Maria kommentiert die Situation mit: „Kein Wunder, dass Du so nicht reingelassen wurdest.“ Markus rätselt, was damit gemeint ist. Dieselbe Situation wiederholt sich den Winter über noch mehrere Male.

Fragen

1. Welche Vorstellungen haben Markus und seine Eltern von Russland und Sibirien?

2. Wie ist die Aussage des Sicherheitsdienstes: „So, wie Du aussiehst, kommst Du hier nicht rein!“ zu verstehen? Analysieren Sie die Aussage nach dem Vier-Ohren-Modell.

3. Weshalb verweigert der Sicherheitsdienst Markus den Einlass in die Universität? Was sind die Gründe dafür?

4. Wie erlebt Markus die Situation? Welche seiner Werte und Orientierungsstandards sind verletzt? Wie wird er selbst über sein Aussehen denken?

5. Welche Bedeutung hat Kleidung im deutschen Arbeitsalltag und im Privatleben? Könnte es Markus auch in Deutschland passieren, dass ihm aufgrund seines Aussehens oder seiner Kleidung der Zutritt zu einem Gebäude oder einer Einrichtung verwehrt wird? Wo und in welchem Zusammenhang wäre ein solches Verhalten denkbar?

6. Was empfehlen Sie Markus, was er tun kann, um einer Klärung der Situation herbeizuführen? Was raten Sie ihm, um einer Zurückweisung in der Zukunft vorzubeugen?

Zusatzfrage für Lehrende

7. Wie könnte Maria mit Markus über den Vorfall sprechen, damit Markus mehr Kenntnisse über russische Gewohnheiten und Verständnis für diese gewinnt?

Lösungsskizze

Zu 1:

• Viele Deutsche assoziieren Russland erstrangig mit Sibirien, manche dürften sogar beides gleichsetzen. Und über Sibirien gibt es in Deutschland ausgeprägte Vorstellungen, die sich in folgendem Stereotyp bündeln: Sibirien liegt aus Sicht vieler Deutscher sehr entlegen und ist schwer erreichbar. Es herrscht ein raues Klima, bittere Kälte, und die Menschen sind den Naturgewalten ausgesetzt. Es gibt wilde Tiere, beispielsweise Bären, die frei auf der Straße laufen – so das Bild über Sibirien. Dieses Bild wird einerseits durch Fernsehreportagen (Dokumentarfilme), andererseits durch überlieferte Erzählungen über Kriegsgefangenschaften, insbesondere im Gulag, konserviert. Unter nicht wenigen Deutschen ist der Gedanke anzutreffen, dass wenn Menschen in eine aus ihrer Sicht so unattraktive Gegend wie Sibirien gehen, sie dies nicht freiwillig tun.

Zu 2:

- Die Aussage „So, wie Du aussiehst, kommst Du hier nicht rein!“ transportiert die inhaltliche Botschaft, dass Markus aufgrund seines Aussehens keinen Zutritt zur Universität bekommt. Auf der Beziehungsebene bedeutet die Anrede im Du, dass sich der Sicherheitsdienst in der Hierarchie über Markus stellt und einen Macht- und Durchsetzungsanspruch behauptet. Auf der Selbstoffenbarungsebene wird Markus von den Wachleuten „Wir haben das Sagen“ signalisiert. Auf der Appellebene wird Markus die Aufforderung „Bleiben Sie fern!“ kommuniziert.

Zu 3:

- Aussehen und Kleidungsstil sind in Russland wichtige Ausdrucksmerkmale für gesellschaftlichen Status und Prestige. Eine so hoch geschätzte Bildungseinrichtung wie eine Universität verlangt ein gepflegtes Erscheinungsbild, das bestimmten Konventionen wie tadelloser, arbeitsgerechte Kleidung entspricht. An einer Hochschule ist es üblich, dass das Lehrpersonal sowie die Verwaltungsbeschäftigten in Kleidung erscheinen, die aus Ihrem Blickwinkel angemessen ist. Dies bedeutet Stoffhosen oder Röcke bzw. Anzüge. Jeans oder ein sportlicher Kleidungsstil werden nicht begrüßt – das ist ein ungeschriebenes Gesetz. Vor allem in den provinziellen Regionen wird noch sehr stark auf einen angebrachten Kleidungsstil geachtet. Hochschulen, Schulen, aber auch kulturellen Institutionen wird durch den Kleidungsstil auch ein bestimmter Grad an Respekt und Hochwertigkeit unterstellt. Markus wird mit seinem Erscheinungsbild diesen Erwartungen nicht gerecht. Sein zotteliger Bart, seine langen Haare, der alte, geflickte Mantel, der selbst gestrickte Schal und die schweren, klobigen Schuhe wirken in Kombination mit der Vereisung aus russischer Sicht hochgradig ungepflegt. Sein Aussehen wird mit demjenigen einer nicht sesshaften, sozial bedürftigen, wenig gebildeten und sich vernachlässigenden Person in Verbindung gebracht, die an diesem Ort völlig deplatziert ist. Deshalb wird er vom Sicherheitsdienst abgewiesen.

Zu 4:

- Dass Markus der Zutritt zur Universität verweigert wird und er unter Einsatz von Körperkraft vor die Tür gesetzt wird, irritiert ihn stark (er „versteht die Welt nicht mehr“). Über dieses rigorose Verhalten und den Eingriff in seine Freiheiten ist er empört. Dabei ist sich Markus seiner auffälligen Gestalt sehr wahrscheinlich gar nicht bewusst, da die Anderen auf der Straße ebenfalls dick eingekleidet sind und er sein Aussehen mit demjenigen der anderen nicht vergleichen kann. Oder er achtet einfach nicht darauf, weil er seinem Erscheinungsbild und dem Vergleich mit anderen keine hohe Bedeutung zumisst.

- Dass der Zutritt an eine Universität von Kleidung und Aussehen abhängt, entspricht nicht Markus aus Deutschland gewohntem Orientierungsstandard oder seiner Alltagsnormalität. Bildungseinrichtungen wie Hochschulen oder öffentliche Orte wie zum Beispiel Bibliotheken sind in Deutschland entweder frei zugänglich oder die Nutzung wird an bestimmten Ausweisen festgemacht. Die Regeln gelten für alle gleich und sind unabhängig vom Erscheinungsbild. Darüber hinaus sind in einem individualistischen Land wie Deutschland sehr unterschiedliche Kleidungsstile üblich und sozial legitimiert (siehe Punkt 5).
- Markus wird an seinem Kleidungsstil nicht Schlimmes finden können. Aus deutscher Sicht entspricht er dem weit verbreiteten Stereotyp „Öko". Das heißt, er legt Wert auf funktionale Kleidung, die durch selbst gemachte Accessoires eine persönliche Note aufweist und bei der die Verwendung gebrauchter Utensilien einen Beitrag zur Nachhaltigkeit leistet.

Zu 5:

- Aussehen und Kleidung sind aus deutscher Perspektive etwas Privates und Ausdruck individueller Geschmacksrichtungen. In Deutschland hat Kleidung für viele Menschen in erster Linie praktisch und nicht elegant zu sein. Viele sind bei Wind und Wetter mit dem Fahrrad unterwegs, was dem Tragen von Schuhen mit hohen Absätzen, kurzen Röcken oder eines eleganten Anzugs entgegensteht. Markus' Aussehen entspricht dem eines „Öko" (vergleiche Punkt 4) und damit einem unter Studierenden gängigen Kleidungsstil.
- Ganz allgemein herrscht derzeit (2015/2016) in Deutschland der Trend, dass sich Männer Vollbärte wachsen lassen, man wieder strickt und näht, Taschen selbst entwirft und Kleidungsstücke trägt, die man beispielsweise in einem Laden für gebrauchte Kleidung („Second-Hand-Shop", „Vintage") kauft und dann individuell umnäht. Der Trend zu nachhaltigen Kleidung / Wiederverwertung ist auch besonders unter Akademikern anzutreffen.
- Bei festlichen Anlässen (zum Beispiel einem Ball, Empfängen, Abschlussfeiern an der Hochschule) und in der Geschäftswelt (zum Beispiel Tätigkeiten im Verkauf) wird dagegen konventionelle Kleidung getragen mit Geschäftsanzug (auch für Frauen möglich), Kleid (für Frauen), gerichteter Frisur, Schmuck, Schminke und Make-Up. Im

Abendprogramm beruflicher Veranstaltungen ist die Kleiderordnung („Dresscode“) aber wiederum lockerer. Häufig findet sich in der Einladung ein Hinweis auf den erwarteten Kleidungsstil. Verstöße gegen die Kleiderordnung werden oftmals toleriert oder allenfalls in einem vertrauensvollen Gespräch thematisiert. Sie gelten als Ungeschicklichkeiten.

- Die beschriebene Situation würde sich an einer staatlichen Universität in Deutschland mit hoher Wahrscheinlichkeit nicht ereignen. Dort gibt es in der Regel weder Pförtner noch Wachpersonal. Hochschulen sind öffentliche Gebäude, es gibt Hausordnungen, nach denen keine Unbefugten das Gebäude betreten dürfen, aber es wird nicht kontrolliert und oft toleriert, dass beispielsweise auch Nichtstudierende den Lesesaal einer Bibliothek nutzen.
- Misstrauen gegenüber Menschen und Kontrollen durch Sicherheitsdienste und -behörden werden eher an der Hautfarbe bzw. „ausländischem“ oder „südländischem“ Aussehen festgemacht. Wer fremd wirkt, gerät eher in den Verdacht, sich illegal in Deutschland aufzuhalten oder etwas im Schilde zu führen. Diese Stereotype werden jedoch weniger am sozialen Status oder der Kleidung, sondern an körperlichen Merkmalen, festgemacht.

Zu 6:

- Markus sollte sich vertrauensvoll an seine Chefin Maria oder eine Mitarbeiterin oder einen Mitarbeiter auf gleicher Ebene wie er wenden. Um aufschlussreiche Antworten zu erhalten, sollte Markus nach Möglichkeit eine Person ansprechen, die mit den Gepflogenheiten in Deutschland und Russland vertraut ist, also einen Vergleich hat. Er sollte diese fragen, wie die Aussage des Sicherheitsdienstes zu verstehen ist.
- Sobald sich für Markus die interkulturellen Hintergründe der Situation erschlossen haben, stellt sich für ihn die Frage, ob er die Entscheidung des Sicherheitsdienstes unhinterfragt akzeptiert oder in einen Aushandlungsprozess geht. Zusammen mit jemandem aus dem russischen Kollegium oder seiner Chefin kann er versuchen, dem Sicherheitsdienst seinen Standpunkt und seine Motivation hinsichtlich seiner Erscheinung zu erklären. Vielleicht erreicht er aufgrund seines Ausländerstatus eine Ausnahmeregelung. Wahrscheinlicher ist es jedoch, dass er mit den Entscheidungen des Sicherheitsdienstes leben muss, zumal beim entsprechenden Personal eine hohe Fluktuation zu verzeichnen ist und Markus somit damit rechnen muss, auf Wachleute zu treffen, die ihn (noch) nicht kennen. Wenn Markus seinen Kleidungsstil beibehalten will,

muss er sich darüber im Klaren sein, dass seine Akzeptanz immer wieder und auch in anderen Situationen in Frage gestellt wird. Er wird sich immer wieder kritischen Blicken ausgesetzt sehen, und zwar nicht nur an der Hochschule, sondern auch im öffentlichen Raum, wo er häufiger in Polizeikontrollen geraten könnte.

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A touch to a broad topic: The role of intercultural communication in sharing ideas and experiences among students

В статье рассматриваются вопросы взаимоотношений между студентами из различных культур с точки зрения социальных, образовательных и культурных аспектов. Особое внимание уделяется вопросам развития компетенций в рамках университетского образования, а также вопросам преодоления культурных и социальных проблем в образовательной среде.

Intercultural communication:

The world is developing due to technological advancement and interaction among different nations. The concept of boarders between countries has been removed in the era of globalization and resulted in the cultures interacting with each other. People of different countries are interacting through different means (Yaser et al., 2015). The intercultural communication can be more precisely defined as the interaction between those people whose cultural perceptions and symbols are different from each other (Samovar et al., 2009). Communication in the sphere of education by inviting foreign students not only helps to raise the status and rank of the university but also serves as a link in developing the relations between states (Inna et al.,2016).

Exchanges of Ideas

Academics need to be aware of intercultural communication to improve communication and learning skills of foreign students (Sara et al.,2016). The diverse culture in the institutions push the academics to discuss global issues which continuously upgrade important skills and knowledge of students They are learning to survive in culturally diverse environment (Knight, 2008). The stronger connections among the students can make it possible to provide a suitable environment to keep cultural heritage and provide a better learning environment (Kate et al.,2016). It has been found that the interaction of students from different cultures increases the knowledge and skills of foreign students. They will apply these skills and knowledge in their practical working environment (Angela et al.,2017). Involving students into discussions, solving tasks and making decisions build strong relationships. To include cultural diversity into a program is a creative approach to solving a problem and creating new ideas (Yener ,2013). The study program abroad develops the knowledge in different spheres which are part of the country's culture, their daily life, food and politics (Lori et al.,2015). The perceptions of foreign students staying abroad help them understand various cultures which develop their problem-solving abilities, tolerance and intercultural competences (Binnur et al.,2016).

Discussion

Most developed countries and their universities offer scholarships and different exchange programs to foreign students. This relationship between universities and countries are producing a lot of experts in different fields but due to the lack of focus on minor things sometimes the intercultural communication becomes incomplete and inefficient. People living in different parts of the world have different culture symbols and perceptions which we sometimes come across even in the same culture (Binnur et al.,2016). Studying abroad for a very short period of time makes it more difficult for students to adjust to a different cultural environment (Lori et al.,2015). Another problem the foreign students face is the medium of communication and the learning environment which is totally different with the one they are used to (Inna et al.,2016).

Conclusion and Recommendations

The gaps in literature on intercultural communication within the education context shows that this topic needs a lot of consideration and needs to be investigated further. Intercultural communication is of great importance and it affects the learning ability of students in every aspect. Transferring knowledge and skills needs the proper medium of communication; some symbols mean one thing in one culture but they can be interpreted differently in another culture. Thus, there are some useful and effective recommendations.

Firstly, when a university or country is offering scholarships or exchange programs, clear description of purpose of invitation and the language of education may be very helpful before selecting the candidate. It will make the scenario clear for applicants to match the profile of their previous programs with the one they are going to apply for.

Secondly, they need proper guidance about everything e.g. the learning environment in which they will receive further education. This guidance may be very helpful for foreign students to understand what they are going to learn and it will save their time in stating the purpose of electing to study in a foreign country.

To learn different things about the host country culture, they need proper and pleasant interaction with local students. Here the role of university is important in providing equal non-discriminative environment to bring all students of different cultures to one platform to exchange different cultural experiences.

Furthermore, not only they need the environment where they can share the norms, values and beliefs of their culture but also brainstorming platforms where they can share and create new ideas.

Universities are using different ways to help international students overcome these problems. Student unions and buddy systems in different universities handle foreign students' problems on the whole but they do not get proper rewards, encouragement and motivation for this work. The members of students' unions and buddy system also have their own study routine because of that they are unable to give proper time to problems of foreign students. Theoretically, all the above observations can bring some additional information to universities and literature concerning the issue of how to create a better learning environment for foreign students by providing them with a proper platform for studies and interaction.

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Модели межкультурной компетенции в немецкой межкультурной дидактике

Данная статья посвящена проблеме межкультурного обучения и воспитания, ключевой целью которого является развитие межкультурной компетенции. В статье приведено описание и характеристика моделей межкультурной компетенции, которые используют в межкультурной дидактике в Германии и могут применяться в ходе обучения и воспитания студентов-лингвистов теории и практике межкультурной коммуникации в России.

Modelle interkultureller Kompetenz in der deutschen interkulturellen Didaktik

Die Linguisten müssen in Rahmen ihrer professionellen Tätigkeit mit den Situationen interkultureller Zusammenwirkung zu tun haben. Eine ihrer wichtigsten Aufgabe wäre die Vermeidung der Konfliktsituationen interkultureller Kommunikation und Hilfe bei deren Entstehung. Gerade deswegen ist interkulturelles Lernen unbedingt in Lernprozess der Studierenden linguistischer Fachrichtungen zu realisieren.

Unter interkulturellem Lernen versteht man ein Prozess des Wissenserwerbes über fremde Kulturen, sowie eine Entwicklung der Kompetenzen, die für die interkulturelle Interaktion mit den Vertretern dieser Kulturen notwendig sind [6] Als Hauptziel des interkulturellen Lernens gilt die Entwicklung interkultureller Kompetenz. Darunter versteht man die Fähigkeit zur erfolgreichen und adäquaten Kommunikation mit Vertretern anderer Kulturen im fremdkulturellen Kulturkreis. Im engeren Sinn ist es die Fähigkeit zum allseitig befriedigenden Unterhalten der Menschen mit unterschiedlichen kulturellen Orientierungen. Dabei passiert die effektive Zusammenwirkung auf Basis spezieller Verfahrensweisen und Einstellungen, sowie der Fähigkeit zum Handeln und zur Reflexion in den Situationen interkultureller Kommunikation. [5].

Interkulturelle Kompetenz bedeutet die Entwicklung:

– von Kenntnissen über Besonderheiten mutuales Zusammenlebens der Kulturen, darunter die formen und Einflüsse individueller und gesellschaftlicher Diskriminierung und des Rassismus;

– die Erkenntnis eigener kulturellen Identität, die Fähigkeit zur Vorstellung eigener kulturellen Identität den Vertretern anderer Kulturen;

– Rollendistanz, Empathie, Ambiguitätstoleranz, Bereitschaft zur interkulturellen Kommunikation;

– Stresstoleranz, Bereitschaft zu den Gegensätzen und Fähigkeit zur Überwindung von denen;

– Wissen über eigene und fremde Sprache und Kultur. [6]

In dem Bereich der Entwicklung interkultureller Kompetenz mit den Mitteln des interkulturellen Lernens gibt es einige Modelle interkultureller Kompetenz. Besonders bekannt und benutzt unter ihnen sind Struktur- und Prozessmodelle interkultureller Kompetenz. Diese Modelle kann man auch während des interkulturellen Lernens der zukünftigen Linguisten in Russland benutzen.

Das Strukturmodell interkultureller Kompetenz existiert in einigen Variationen, die aber gemeinsame Elemente enthalten. In diesem Fall sieht man interkulturelle Kompetenz als Gesamtheit interkultureller Teilkompetenzen (eine Struktur), die als Strukturdimensionen gelten. Dazu gehören folgende Kompetenzen:

– affektive Kompetenzen (Wertorientierungen, Einschätzungen, Empfindungen) [1]. Diese Aspekte charakterisieren die Sichtweise des Menschen auf die kulturellen Unterschiede in den Situationen interkultureller Kommunikation. [2]. Affektive Dimensionen sind stark mit interkultureller Sensibilitätät verbunden, sie fußen aufs Entwicklung kulturbedingtes menschlichen Verhaltens sowohl in eigener, als auch in fremder Kultur, die Fähigkeit, das Gemeinsame und Unterschiedliche in den Kulturen zu sehen, um die Möglichkeit zum beiderseitigen Erkennen und Kooperieren erledigen.

– konative Kompetenzen (Fertigkeiten, Fähigkeiten, Handlungen). [1]. Diese Aspekte betreffen soziale und kommunikative Fähigkeiten, die in den Situationen interkultureller Zusammenwirkung nötig sind. [2].

– kognitive Kompetenzen (Wissen, Veerständnis). [1]. Diese Aspekte fassen kulturelles Wissen und interkulturelles Verständnis um, die potenziell interkulturelle Kontakte erleichtern sollen. Kognitive Dimensionen erfordern theoretische und praktische Kenntnisse über das Land und seine Bewohner, Kenntnisse der Theorie der Kommunikation und Kultur, Möglichkeit der Reflexion und des Bewusstseins der notwendigen Handlungen für weitere Selbstentwicklung im Bereich interkultureller Kommunikation. [2].

Das zweite Modell namens „Jenaer Modell“ wurde von dem leitenden Wissenschaftler und Forscher im Bereich interkultureller Wirtschaftskommunikation Professor Dr. Jürgen Bolten entwickelt [3]. Er meint unter interkultureller Kompetenz die Fähigkeit zur Benutzung individueller, sozialer, fachlicher und strategischer Kompetenzen, die sich auf interkulturelle wirtschaftliche Kontexte stützen. Prof. Bolten hat folgende beziehungsvolle interkulturelle Kompetenzen zugeordnet, die gemeinsame interkulturelle Kompetenz bilden. [4]:

– interkulturelle Fachkompetenz, die professionelle Kenntnisse und Erfahrungen im interkulturellen Kontext enthält;

– interkulturelle strategische Kompetenz, die Fähigkeiten zur Lösung interkultureller Probleme, der Beschlussfassung und organisatorische Fähigkeiten meint;

– interkulturelle Sozialkompetenz, die die Fähigkeit zur Metakommunikation (Kommunikation über Kommunikation) Fertigkeit zur Teamarbeit, Empathie und Kontaktknüpfung vermutet;

– interkulturelle individuelle Kompetenz, die die Bereitschaft zum interkulturellen Lernen, Toleranz zu den negativen Situationen, zur Ambiguitätstoleranz, Stresstoleranz und Optimismus vermutet. [2].

Jede dieser Modelle hat eigene Besonderheiten, doch gibt sie große Möglichkeiten zur Auswahl und Kombination der Lernmittel und Lernmethoden und kann ganz perfekt im Laufe des interkulturellen Lernens auch in Russland benutzt werden.

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О проекте «Академическая мобильность студентов»

Статья представляет собой информацию о групповом проекте студентов магистерской программы “Профессиональная коммуникация в евразийском контексте”, целью которого является развитие академической мобильности и установление партнерских взаимоотношений с китайскими университетами. В статье описываются актуальность, цели и задачи, форма осуществления проекта, полученные результаты и перспективы развития. Данные, представленные в статье, могут служить руководством к действию по установлению международных контактов между образовательными учреждениями разных стран.

About the Project "Students Academic Mobility"

At the end of the 20th century higher education in Russia and China enters a qualitatively new stage of the integration with the global academic community. This stage opens opportunities to borrow progressive international experience. Economic reforms both in China and Russia, and also the establishment of market relations have set an important task, such as training of competent specialists. The accomplishment of this task requires strengthening of friendly cooperation and scientific exchange between universities of China and Russia.

In this context students and professors of the Northern (Acrtic) Federal University initiated the project which is meant to promote international collaboration between Russian and Chinese universities. The main **object** of this project is a continuous partnership with Chinese universities. The idea itself is rooted in the programme "Professional Communication in Eurasian Context" (field of studies: "Linguistics"). One of the aims for the programme is the promotion of academic mobility (both for students and lecturers) to facilitate participants' professional training. The process of building relationships with Chinese universities with its singularity and difficulties can be considered as a **subject** for the project.

The **importance** of this project consists in the opportunity for Russian students and lecturers to have internship in a Chinese university to improve their skills of teaching the Chinese language and to create conditions for the Russian language teaching in China. The organization of the exchange would help them to attend language courses and summer schools. The advantage of these interactions is a great professional communication experience, intensive language training, acquaintance with partner country culture and customs, that can be applied for the current study or research work.

To achieve the project's goal a number of steps that were made:

1. Making a list of Chinese universities with their website addresses;

2. Overview of universities' websites by each group member (even those students who don't speak Chinese were able to look for information on the websites, because all the websites had an English version). One of the main tasks was to find out what faculties/ departments the universities had, whether there were Departments of Foreign Languages/ Linguistics or not, which programmes and possibilities for foreign students were suggested by the universities. Also it was important to find contact information;

3. Preparing a brief description of universities appropriate for the project as potential partners;

4. Translation of the information about the master's programme "Professional Communication in Eurasian Context" into English and Chinese; writing of a cover letter;

5. Composing of a list of propositions that NArFU is ready to offer for partners in case of agreement on the development of joint programmes or implementation of student exchange;

6. Sending the information about the master's programme "Professional Communication in Eurasian Context" in English and Chinese to Chinese universities;

7. Analysis of the answers received and the possibilities suggested for foreign students;

8. Discussion of the possibilities of further collaboration and future perspectives for students of NArFU;

9. Analysis of the project's progress and outcomes, evaluation of the group work.

During the work the group obtained the following results: out of thirty letters sent, six answers were received. That means that the participants's input has been successful and reached its aim to the denoted extent. Replies were received from two universities in Shanghai (East China University of Science and Technology and Shanghai Jiao Tong University), the Peking University, two universities in Tianjin (Nankai University and Tianjin University) and Hebei Normal University of Science and Technology.

We consider this result as a prospect for the further development of relations between NArFU and Chinese universities mentioned above. As a continuation of our project we will attempt to expand cooperation with given universities through further dialogue and make personal contacts.

We need to build strong relationships with the universities following two main ideas. First, to provide Russian students with the opportunity to apply for grants and go abroad to the country of their academic interest. Second, to help students find people who are ready to communicate with NArFU university on mutually beneficial terms and keep NArFU students in priority.

In summary, the group project "Student Academic Mobility" was created to increase the number of potential partner universities for cooperation with NArFU. In the course of work on the project the participants have not only collected and classified information on about thirty potential partner universities, but have also contacted with each of them in order to inform Chinese universities about NArFU's interest in the establishment of cooperation between universities. As a result six positive answers were received, which means that the project «Student Academic Mobility» can be seen as successful. The Chinese direction is considered to be new for NArFU and this project lays a solid foundation for further cooperation with universities of this country.

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Межкультурные особенности образовательной среды в контексте классификации культур

В статье рассматриваются межкультурные особенности, которые необходимо учитывать при организации образовательного процесса. Рассматривается возможность конструктивного использования классификации культур, как основы создания благоприятных условий в образовательной среде.

Cross-cultural features of education environment in context of cultures' classification

The current time is characterized by ever-increasing migratory flows and the interaction of different cultures. Education environment is no exception. Universities are integrated, developing dynamically in order to adapt to rapidly and continuously changing conditions.

Moreover, taking into account the difficult demographic situation, it is necessary to reduce the negative effect of decreasing the total number of students in Russian universities until 2025. Presumably, it is possible due to the increase of foreign citizens. If the annual rate of increase of foreign citizens in Russian universities remains at current levels (4-5%) by comparison with the 2009/2010 academic year, by 2025 their number in higher education institutions of the Russian Federation will increase about twice: 76.6 thousand people – 2009/2010; 159.3 – 2024/2025 [2, p.88].

Therefore, in Russian universities it is necessary to take into account foreign students' cultures. For a deeper understanding of the subject we'd like to appeal to different classifications of cultures. There are several approaches: [1, p. 73-83]

1. Semiotic approach. According to the approach, culture is a system of signs through which the storage and retransmission of social

information are implemented, and the "axis of culture" is a natural language. According to the Lotman's concept [4], all cultures are differentiated into the cultures, focusing on the sources (mainly Eastern cultures) and cultures, focusing on end-use (e.g., the USA). If we consider such an option as the attitude to time, some (eastern) cultures are trying to make sense of this category in circular terms ("mythical time"), and Western ones consider time as a linear category ("historical time"). So, in this context, it is interesting to consider the category of the "geographical space". Different cultures are unequally placed in space, distinguishing between "theirs" and "foreign". For example, some "continental types of cultures" (the USA, Russia) can easily integrate new information but others, "island" ones (Japan, the UK), cannot.

2. Existential and cultural approach. In his research T.G. Gachev [3] has attributed to the field of the existential Cultural Studies and suggested differentiating cultures on the following criteria: space, time, nature, world model, archetypes-characters, horizontal / vertical dimension, understanding the origin of the world. For example, for the Germans time is more important, than the space while for the Russians it is v.v.

3. Cognitive-linguistic approach. In her work A. Wierzbicka also studies the impact of cultural differences on differences in thinking through the national language. The author argues that a successful communication between different cultures depends on the universality of the base set of semantic primitives, of which language can create an almost infinite number of concepts specific to a given culture.

The concept of cultural knowledge, developed by Australian scientists F. Sharifian [6], is of interest in terms of explaining the phenomena of the distribution of cultural knowledge. He argues that knowledge must be regarded not only as an individual asset, but as belonging to the peculiar cultural group as a whole. In fact, it is a collective experience. In fact, two people belonging to the same cultural group may have both common and different knowledge about any phenomenon that may complicate the understanding between them, as they treat incoming information to the wrong part of the pattern and accordingly, activate a different experience. Under our existing patterns we perceive incoming information and interpret it according to our experience and in accordance with it we behave in similar situations.

4. Operational approach. If we take into account R. Lewis's research,

there is a classification of cultures on the specifics (nature) of activity, according to which all cultures are divided into:

• Cultures of a monoactive type;
• Cultures of a polyactive type;
• Cultures of a reactive type.

Representatives of a monoactive type of cultures (Western Europe, the United States) are mostly characterized by the objective discourse and rationalism. It is reflected in the linear perception of time, strict and clearly planned approach to activities. As a rule, representatives of a monoactive type of culture have an algorithm in their work, are good planners, often operate with facts, emotions are never a communicative dominant for them.

A polyactive type of cultures includes representatives of the Latin American countries, Romance group, representatives of some Arab and African nations. Communication with the representatives of this type is based on the information getting in the course of personal contacts with people. The emotional sphere in the process of communication often dominates. As a rule, the representatives of this type of culture are not punctual, disparagingly refer to all kinds of schedules and instructions, not always rationally spend their time (especially from the perspective of a monoactive type of culture), as in the polyactive socio-cultural discourse, time is not a linear value but perceived as a cyclic quantity.

They tend to do several things at once and it is considered a criterion of full life. In communication they focus on the dominant of interpersonal relations, emotional intimacy, sympathy and eloquence, but often the representatives of this type of culture are autocratic decision-makers. Here a hierarchical position, status, reputation, origin and often material prosperity of a communicant are dominated.

A reactive type of cultures includes representatives of the countries of East and South-East Asia, including Japan, China, Taiwan and Singapore, as well as Turkey and Finland. For representatives of the cultural format the communication dominant is to achieve harmony in the relationships. However, the harmony in the relationships is not always directly proportionally related to verbosity. For example, the Finns, as representatives of a reactive type of culture, in the process of communication are laconic and introverts. The behavioral model is based on humility, politeness and professionalism. The cognitive discourse operates on the principle of "monologue-pause-thinking-monologue." Pauses are perceived as a very important part of the business discussion without active non-verbal communication.

5. Contextual approach. E. Hall describes the spatial and temporal dominance in different cultures, as well as differentiates them according to the context of communication. The concept considers two time perception systems: monochronic and polychronic. The first is based on the tendency to divide the time into small segments and consistent implementation of planned affairs. The monochronic time is linear, so in this context they use such expressions like "spend time" and "save time". This perception of time is typical in North America, Germany and Switzerland. The polychronic perception of time, in terms of E. Hall, is a characteristic feature of high-context cultures where the dominant is the harmony of human relations. This type is characterized by unpunctuality and strict adherence to the time norms and frames. It is especially noticeable among representatives of Arab and Hispanic cultures.

6. System approach. In the Kluckhohn & Strodtbeck's model [5] there are 6 criteria of the culture assessment:

1). Attitude to the surroundings (this criterion is considered with 3 positions, "obey it", "harmony with it" or "attempt to dominate").

2). Attitude to time. Time is perceived differently in different cultures. This fact is noted in virtually each of classifications. Typically, researchers essentially divide time into "linear" and "cyclic".

3). Human nature. Depending on the perception of human nature in each culture there mainly used an autocratic or confidential approach.

4). Orientation of activities. In different cultures activities can be focused on actions and results (control). Residents of the United States are characterized by the focus on the action. They work hard, hoping for a career promotion and financial well-being. Latinos in their perception of the world are focused on entity. The French, British, Germans focused on control, rationality, logic of life.

5). Focus on responsibility. There are cultures with dominated "individual" responsibility (the USA) and cultures with dominated "collective" responsibility (China).

6). Concept of space. Cultures with "open" and "closed" workspaces.

Thus, dealing with different cultures knowledge of the cultural specificity should allow and help to select and use communication strategies as efficiently as possible.

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Внеаудиторная самостоятельная работа студентов по иностранному языку как средство поликультурного образования в неязыковом ВУЗе

В статье рассматривается внеаудиторная самостоятельная учебная деятельность как средство поликультурного образования студентов на примере проведения конкурса фотографий и видеороликов по курсу иностранного языка в неязыковом ВУЗе. Автор анализирует опыт организации фотоконкурсов и конкурса видеороликов в родном ВУЗе в аспекте межкультурной коммуникации. В статье обосновывается возможность реализации поликультурного образования во внеаудиторной самостоятельной учебной работе студентов.

Students' out-of-class independent study of a foreign language as a means of multicultural education in a non-linguistic higher school

The current global situation evidences culturological issues becoming more and more topical. Today's undeniable verities of life are another "great migration of peoples"; mixed populations; "the clash of cultures" and confessions. "European higher education also faces the major challenge … of globalization and accelerated technological developments". [5] Teaching young generation dialogue, collaboration, tolerance and respect of other people's culture will help students develop the knowledge and skills needed to cross cultural borders and to perpetuate a democratic and just society.

The subject of intercultural communication is of special importance in higher educational establishments of Yekaterinburg. The statement is especially true about the USLU. The student body of our higher school is a poly-ethical and multi-cultural staff. We receive entrants from Ural regions, Buryatia, Sakha-Yakutia, Tyva, Kazakhstan, Azerbaijan, and

Caucasian republics. Friendly associations of young people from the same areas demonstrate lively activities within the school. The non-study educational process of ethnic students' fraternities is led in accordance with the "Programme of civic and patriotic education of students in the USLU" and the "Programme of patriotic up-bringing of Russian citizens for a period from 2016 till 2020". The didactic purposes pursued by these normative instruments are to form students' "juridical values, tolerance, patriotic spirit and other basic elements of legal professionalism".

The "Strategic Development Programme" of our University also reads that prime tendencies for educational environment design are courses to form "planetarian world apprehension" and contemporary set of human values, pluralistic ideologies, up-to-date communication means and occupational forms. The decree points out that global evolution defining novel type of multi-cultural civilization specifies the higher school politics.

Sometimes, cultural education and patriotic up-bringing is mistakenly seen as elements of non-study activity only, whereas the terms of these phenomena are more intense and profound. In reality, there are frequent and ample opportunities for teachers to use ethnic and cultural content to illustrate concepts, themes, and principles in different disciplines. Opportunities of great potential exist to integrate multicultural content into the language arts. Moreover, a foreign language study course suggests the scrutiny of native country's peculiar features together with foreign ones.

The general part of this article will discuss the out-of-class independent study work of students. This type of cognitive activity is defined as a method of task-oriented knowledge acquisition under the tutor's guidance and control less his/her direct participation in the process.

A wide and diversified range of extracurricular activities in the USLU is complemented by a linguistic Olympiad. The primary goals of such a kind of study work are increased learning and enhanced academic advancement. The linguistic competition held at our University is an integral component of a greater event called "The week of the Russian and Foreign Languages", which subject matters and contents are elaborated in accordance with the Federal State Educational Standards.

The Week programme includes contests in the form of physical presence and correspondent tournaments of the Olympiad. Our special feature is on "Photo and Video Contest" research. Holding the contest aims

- to support the longing of exercising a Foreign Language as a means of interpersonal communication;

- to motivate a cultural awareness, positive attitude, and recognition of multifarious beliefs, values and customs;
- to expand and strengthen multicultural communication agents' ties.

Special posters announce the Photo and Movie Contest open on the University campus and introduce the mission, the tasks, and the entries guidelines of the contest. The competition offers students to submit their works under a specific heading. The heading of a photo or a video is to be a short literary translation or a brief English interpretation (1-3 sentences) of the contest's theme.

It should be noted, that the contest organizers choose the theme for Photography and Video Contest not at random. Implementing the activity we find it of major importance that students' awareness about Russian and foreign culture should be complemented, enhanced, and classified. The integrity of the discussed out-of-class activity and a Foreign Language Study Course in the aspect of their subject matter and content is accepted as the utmost term. In the USLU English language acquisition goes within the subject matters of "Educational and cognitive communicative competence" and "Social and cultural communicative competence" during the first semester. This serious and comprehensive material falls into three modules: "Higher Education in Russia", "Higher Education in the UK and the USA", "My native country and the country of the English language". Inasmuch as in 2016 our educational establishment celebrated its anniversary, the pedagogues responsible for Photo and Movie Contest made the conversational situation "My Higher School" their choice. That is an inclusive subject of the 1st module intended to develop a general language learning competence in the sphere of personal education. In the long run, the event took the name "East or West, home is best".

Together with the announcement of the Photo and Movie Contest the student are delivered a special kind of tutorial, during which the pedagogues explain the idea of the activity and prepare audience for their autonomous out-of-class job. That time, the aim of the lesson was to enlighten the academic audience about the concept of "home" in intercultural studies as a question of identity and belonging. We used this English proverb as a springboard to promote among the students the idea of their belonging, now and forever, to their higher school, "alma mater". The main intention of the class work was to establish the conceptual understanding of home as a place that one can identify with and house one's memories. Then it was put forward that home is a shelter for a dweller protecting him from dangers of the outside world, but it will serve one productively for a long time in case he takes care of it and is concerned about it. Next, “home” was presented as the most personal and intimate idea, and extremely sensitive element of our lives. It was underlined that for both Russian people and inhabitants of the British Isles, “home” is an eternal value, because this concept includes ideas of “family” and “personal life” as well. So, students were assigned to visualize all discussed perceptions of “home” in their works of photography art or to convey their messages through film elements.

This academic year the Photography and Video competition component was entitled “Unity in Diversity”. The slogan was offered by poly-ethnical academic atmosphere of our higher school and defined in the content accordance with the module of “My World Around”, developing social and cultural communicative competence. Similarly, a specific class enlarged conversation is devoted to motivate and prepare the students for participation in the contest. The competition theme is represented as topical because the status of USLU students increases both their cross-cultural communication and the similarities among cultures they represent. The pedagogues of the groups talk of the meaning of the motto in the context of our multi-cultural academic society. They specify that we are all diverse but equal, despite belonging to different racial, ethnic, cultural, and socioeconomic groups. It is emphasized that these are fanciful ideas for people to be of the same appearance, physiology, intelligence, and way of thinking. The ideas of diversity and dissimilitude are based as meaningful and valuable at the discussion class. The educators try to bring the students to view cultural unlikeness as a national might and wealth rather than as a predicament to subdue through assimilation.

In conclusion, it is noteworthy saying the Photography and Video Contests are quite new in our University and reflects the tendency to widen the sphere of study and didactic events and forwards the purpose of meeting a variety of young people’s interests and developing the individual student’s level. We would like to underline that defining this linguistic Olympiad assignment in the practice of autonomous language acquisition we focus on cross-cultural component of higher education. The area of a multicultural home, a diverse nation and world takes on special, core significance in the context of poly-ethnic students’ community.

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IV. Современные информационные технологии и их применение

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Применение информационных систем для хранения данных

Статья рассказывает о развивающихся надежных технологиях хранения данных и информационных ресурсов, доступа к ним через сеть, а также о не менее важном аспекте – резервном копировании.

Use of Information Systems for Data Storage

Enterprises and business organizations strive to optimize existing business processes in order to improve control efficiency and minimize expenses. The most important assets are information availability and its relevance; these are the key factors of success in the competitive environment. This situation stimulates a large-scale development of data storage technologies.

The ultramodern data storage system ensures the reliable storage of information resources and access to them. The system includes disc arrays, access infrastructure and data storage control software systems.

Network Data Storage

The access infrastructure of data storage devices is responsible for the information being available for applications and final users. That is why this component of data storage systems shows the most dynamic development. Instead of the conventional direct connection of disc arrays to servers (i.e. DAS - Direct Attached Storage), a number of new and now widely used technologies appeared, which are based on the use of network as an infrastructure to access the data.

The SAN (Storage Area Network) technology uses a dedicated network based on the Fibre Channel protocol and exchanges data on the level of units.

The NAS (Network Attached Storage) devices are, in fact, specialized file servers. The NAS technology uses existing IP networks as transport and operates at the file level. The best option is to use SAN and NAS simultaneously, and the data access method will be defined depending on certain requirements [4].

The main advantages of the network storage are:

- high scaling. While the data volumes grow, the solution of scaling becomes of great importance as it allows to cut the cost of data storage;
- high performance. The application of the Fibre Channel protocol for the SAN technology (and the Gigabit Ethernet protocol for the NAS one) ensures high data exchange speed.
- high availability and reliability. The network architecture enables storage system component backup and elimination of a single point of failure;
- effective implementation of data migration procedures (backup, data replication, etc.); reduced loads on the main network (SAN) and on the computing complexes (SAN, NAS);
- long distance of information transmission and possibility to create distributed storage systems;
- possibility to control memory distribution and data storage device consolidation;
- possibility to access data from the heterogeneous environments [1].

Nowadays the main topology in the construction of SAN is FC_SF – a switch fabric allowing the extension of addressability up to 16 million devices, the increase of data accessibility area dimensions, and the readiness of the whole storage network for operation.

With the continuing growth of the data volumes the use of SAN technology becomes the most economically feasible solution. Nowadays the cost of introducing a storage area network differs slightly from the cost of direct attached storages. Further high SAN scaling will allow to reduce the cost of information storage.

Data Replication

Data replication ensures the implementation of a large number of tasks. The most relevant of them are the following:

- data backup – storing of a relevant information copy at the alternative storage devices;

- data separation – the possibility for several servers at once to change the distributed data set;

- data consolidation – copying data from the remote hosts to the central host;

- “follow-the-sun” technology – managing local data copies to ensure information support of the organization.

Data replication can be effected via the integrated software complex facilities; however, in this case the centralized replication process will be impossible. Moreover, data replication at the application level leads to additional loads on the server computing capacities. Special program replicators or data replication hardware facilities are used to eliminate these disadvantages.

Irrespective of the replication method one of two modes – synchronous or asynchronous – can be used. The synchronous replication mode ensures absolute data relevance but requires high performance of the communication infrastructure, for example, SAN [2].

Data Backup

One of the effective means to prevent information losses that occur as a result of failures is mirroring. But the mirrored data cannot eliminate user errors – the initial cause of losses. Data backup copying allows to prevent losses both in case of software or hardware failures and in case of operators' errors.

When constructing backup copying and data recovery systems two tasks are solved:

- backup copying "gap" reduction (zero downtime);

- reduction of backup data copying traffic and computing resource cost.

The application downtime can be minimized with special methods such as snapshots. Snapshot is a shot of state and record of data location. Using this information, the data can be restored in case of loss or damage. Snapshot creation requires the application to stop but the downtime amounts to seconds.

With the application of the SAN architecture the processes of backup copying and data recovery can be arranged without local area network resources (LAN-free backup) and server resources (server-free backup). Moreover, the centralized data backup scheme reduces the number of devices (tape storage, etc.) participating in the process.

In the LAN-free backup the data are transported from the disc arrays inside the SAN to tape storages connected directly to the storage network.

In the server-free backup the data are transported from storage devices to tape storages not involving servers directly – the data exchange occurs between the storage devices inside the SAN at the data unit level but, if necessary, file-by-file data recovery is possible. The main advantage of server-free backup is a release of server computing resources [3].

In conclusion, massive amounts of digital information are with us today, and even more are being collected, at an ever-increasing rate. But this – and the technology described – is not the final goal: what matters is how we make good use of information and the technology around it to make better-informed decisions that improve our businesses and our lives.

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Печатные платы со встроенными компонентами

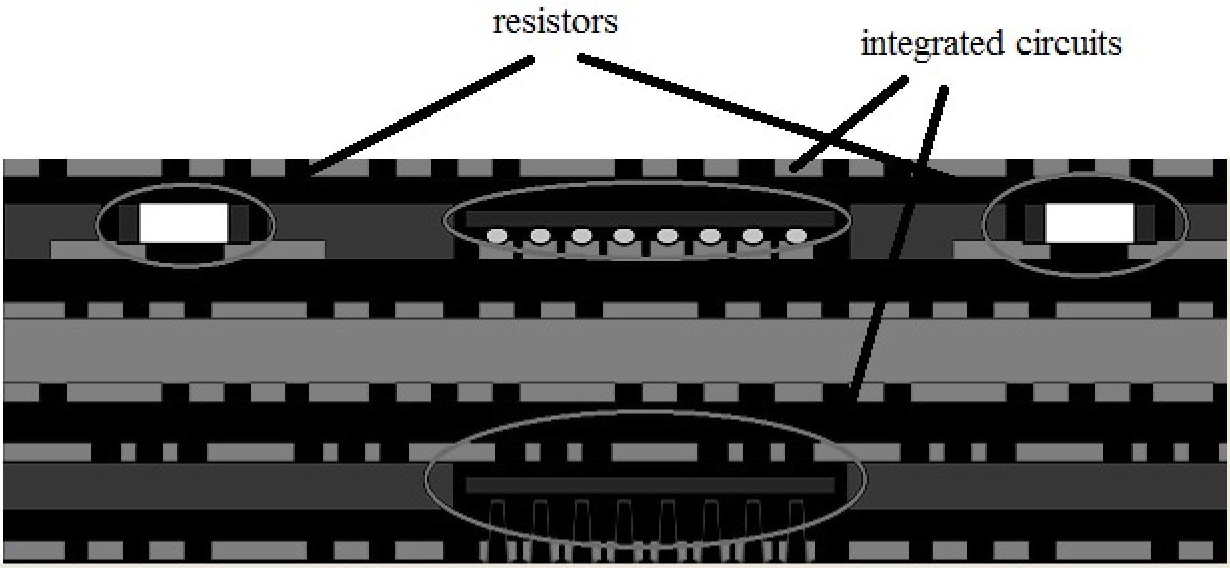
В данной статье описывается одно из современных направлений проектирования и производства плат со встроенными компонентами. Данная технология позволяет размещать чип-компоненты на внутренних слоях платы. Такая технология позволяет увеличить плотность монтажа и расширяет функциональное предназначение устройства.

В настоящее время технология изготовления печатей со встроенными компонентами широко развивается в Юго-Восточной Азии, в таких странах, как Япония и Китай. В России технология только начала развиваться, но уже имеются опытные образцы.

Эта статья описывает общие понятия о технологии изготовления плат со встроенными компонентами и основные ее преимущества.

Printed circuit boards with built-in components

Due to the decrease in the dimension and mass characteristics the major problem is how to minimize connection nets between the elements. We connect different function elements and this helps us to increase the mounting density. To solve this problem, manufactures are trying to produce crystals with specific functions for the circuits and micro assemblies. Such crystals allow us to combine different functionalities together. But the production of such devices requires highly skilled personnel and expensive equipment. Unfortunately, only a few of manufactures have such resources, so this solution is not suitable for us and we need to use a different one, namely to produce printed circuit boards with built-in components.



Pic. 1. Example of PCB with Build-in components.

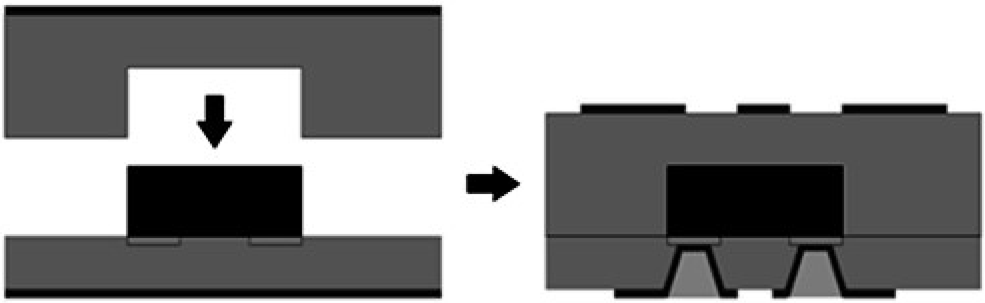
One of the modern trends of electronic device production and manufacturing is a circuit board with built-in components. This technology allows us to place chip-components on the inner layers of the PCB.

This solution enables us to create compact modules and combine functional units. Currently the main technology development center is the South-East Asia, in countries such as Japan (production share is about 30%), China (40%) and Korea (17%). This is due to the fact that the major electronics manufacturing center is located there. In Russia specialists have also begun to develop this technology, but the production share is lower than 1%.

There are two methods of creating PCBs with build-in components: forming components during manufacturing of the printed circuit board and embedding discrete components in a printed circuit board body. The formation of the components means that the components of the production process take place simultaneously with other PCB elements. The second method uses traditional components, which is in large quantities used around the world and fairly ready to be set in PCB.

The built-in component in the plate is much better protected from external factors such as vibration, heat radiation, moisture and some other factors. Also there was the possibility of placing the crystals of the active components without body. This helps us not only to reduce the dimensions of the components, but also to reduce the connection nets.

But this method has also some limitations. When we place components into the internal board layers, in the next step we need to close the PCB from top to a new layer and compress all the layers. Pressing temperature usually reaches 150-170°C, when the peak of operating temperature of the components is about 120°C. This means that we can just burn out our integrated components and get a defective board in the end. To solve this problem it is necessary to use a glass fiber with a pressing temperature less than 120°C, making it difficult to the manufacturing processes, because such material needs to be developed. Then the pressing process needs to be controlled, because we can just break some sensitive elements, so we need to consider the height of each component. Today special elements for mounting on an internal board have not been developed yet, so the final thickness of the boards can be more than the ordinary. This problem does not apply to the method of forming components, but the process is more time-consuming and expensive.



Pic. 2. Example of the steps of pressing layers.

And of course in addition to these weaknesses, there are several advantages of this technology. Firstly, as we have mentioned above, the connection nets substantially reduced between the components, which have been built into the board. Function elements that previously could be created only as micro-assemblies are combined in one unit with the board and there is more space to install other components on the board surface. Also there are no any changes in the PCB fabrication technology itself, the stages of its manufacturing are exactly the same as in the ordinary multilayer printed circuit board manufacturing. Glass fiber also helps to remove heat from the components; therefore we cannot worry about overheating of our components.

In conclusion we would like to sum up some results about the new technology of creating PCB with built-in components. Of course, an individual approach of designing is required for each PCB. The board is not designed for rework, in case of failure of an internal component in the PCB, board cannot be fixed, and all the PCB should be replaced.

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Исследование средств тестирование систем на устойчивость к (D) DoS-атакам

В статье рассмотрены основные инструменты для проведения тестирования информационных сервисов на устойчивость к (D)DoS-атакам. Проведено исследование наиболее эффективных и универсальных средств.

(D) DoS-testing

A Denial-of-Service (DoS) attack is an attack in which one or more machines target a victim and attempt to prevent the victim from doing useful work. The victim can be a network server, client or router, a network link or an entire network, an individual Internet user or a company doing business using the Internet, an Internet Service Provider, country, or any combination of or variant on these.

Almost all Internet services are vulnerable to denial-of-service attacks of sufficient scale. In most cases, sufficient scale can be achieved by compromising enough end-hosts (typically using a virus or worm) or routers, and using those compromised hosts to perpetrate the attack. Such an attack is known as a Distributed Denial-of-Service (DDoS) attack. However, there are also many cases where a single well-connected end-system can perpetrate a successful DoS attack [2].

DoS and DDoS pose a significant risk to critical infrastructure and business entities. (D)DoS Testing will show whether your system is well protected, and how you can protect it.

(D) DoS attacks can be divided into the following categories:

- attacks operating at the application layer, using features of a specific application;
- attacks that use host layers protocols of the network model;
- attacks operating at the media layers of the network model, aimed at reducing the channel capacity.

Testing Tools can be classified as follows:

- Hardware and software systems, such as IXIA, Spirent, and so on. This solution is effectively and provides detailed reports and statistics at the output, but it is very expensive and it has poor scalability. It can be used in large companies.
- Tools, what we can find in special Linux distributions (especially - Kali Linux). It is free and universal solution. It is described in table 1.
- Software solutions, for example, WAF Testing Framework by Imperva and Akamai. It is also quite expensive.
- Vulnerability scanners, which allow to simulate the attacks. This solution has limited functionality.
- Amateur tools. Such tools are easy to use. It is possible to overwatch the reaction of the test object, but it is impossible to have output statistics.

Table 1 – Kali Linux tools

Title	Description
SlowHTTPTest	• SlowHTTPTest is a highly configurable tool that simulates some Application Layer Denial of Service attacks; • It works on majority of Linux platforms, OSX and Cygwin – a Unix-like environment and command-line interface for Microsoft Windows;

	• Depending on the level of detail, the output can be simple, as generated messages every 5 seconds, and full, as traffic dump.
GoldenEye	• Implements HTTP-flood (GET and POST); • Each GET request contains different line, different user agents and different referee, including Bing, Baidu, Yandex and other search engines, so the server transmits traffic with code 200 (OK).
Hping3	• It works well if there are other running DoS tools such as GoldenEye on your computer; • It is a free packet generator and analyzer for the TCP / IP protocol (it implements SYN-flooding attacks, TCP connects) [1].

The simulation DDoS tools of KaliLinux 2.0 were tested experimentally. The scheme of test stand is shown in figure 1.

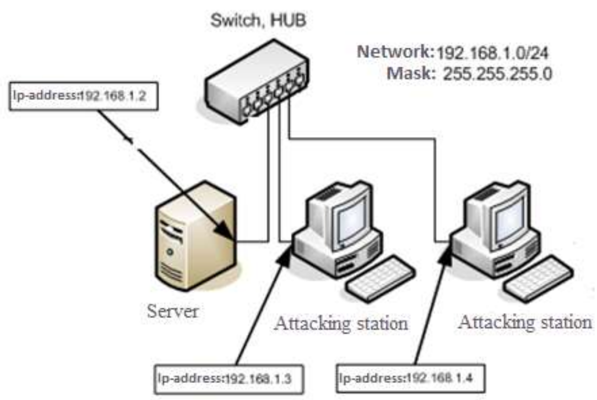


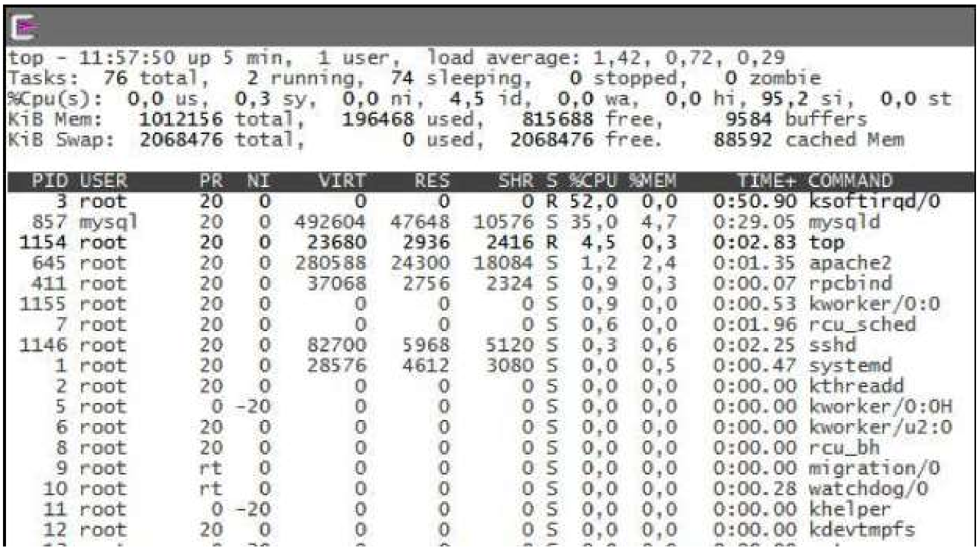
Figure 1 - The scheme of test stand

The PC was as a server (the object of attack), with the operating system UbuntuServer 12.0, Apache Web Server was installed on it. The two PC were as attacking stations with operating systems KaliLinux 2.0 and Windows 8.

First of all, Hping3 utility has been tested. For example, we have used the following situation. The following command starts hping3:

- *root@WebWare-Kali:~# hping3 -c 10000 -d 120 -S -w 64 -p 21 --flood --rand-source 192.168.1.2.*

Let's look at the situation from the server. The state of the server after the start attack is shown in figure 2. We can see that the processor is loaded with 95 percent.



```
top - 11:57:50 up 5 min,  1 user,  load average: 1,42, 0,72, 0,29
Tasks:  76 total,   2 running,  74 sleeping,   0 stopped,   0 zombie
%Cpu(s):  0,0 us,  0,3 sy,  0,0 ni,  4,5 id,  0,0 wa,  0,0 hi, 95,2 si,  0,0 st
KiB Mem:   1012156 total,   196468 used,   815688 free,     9584 buffers
KiB Swap:  2068476 total,        0 used,  2068476 free.    88592 cached Mem

  PID USER      PR  NI    VIRT    RES    SHR S %CPU %MEM     TIME+ COMMAND
    3 root      20   0       0      0      0 R 52,0  0,0   0:50.90 ksoftirqd/0
  857 mysql     20   0  492604  47648  10576 S 35,0  4,7   0:29.05 mysqld
 1154 root      20   0   23680   2936   2416 R  4,5  0,3   0:02.83 top
  645 root      20   0  280588  24300  18084 S  1,2  2,4   0:01.35 apache2
  411 root      20   0   37068   2756   2324 S  0,9  0,3   0:00.07 rpcbind
 1155 root      20   0       0      0      0 S  0,9  0,0   0:00.53 kworker/0:0
    7 root      20   0       0      0      0 S  0,6  0,0   0:01.96 rcu_sched
 1146 root      20   0   82700   5968   5120 S  0,3  0,6   0:02.25 sshd
    1 root      20   0   28576   4612   3080 S  0,0  0,5   0:00.47 systemd
    2 root      20   0       0      0      0 S  0,0  0,0   0:00.00 kthreadd
    5 root       0 -20       0      0      0 S  0,0  0,0   0:00.00 kworker/0:0H
    6 root      20   0       0      0      0 S  0,0  0,0   0:00.00 kworker/u2:0
    8 root      20   0       0      0      0 S  0,0  0,0   0:00.00 rcu_bh
    9 root      rt   0       0      0      0 S  0,0  0,0   0:00.00 migration/0
   10 root      rt   0       0      0      0 S  0,0  0,0   0:00.28 watchdog/0
   11 root       0 -20       0      0      0 S  0,0  0,0   0:00.00 khelper
   12 root      20   0       0      0      0 S  0,0  0,0   0:00.00 kdevtmpfs
```

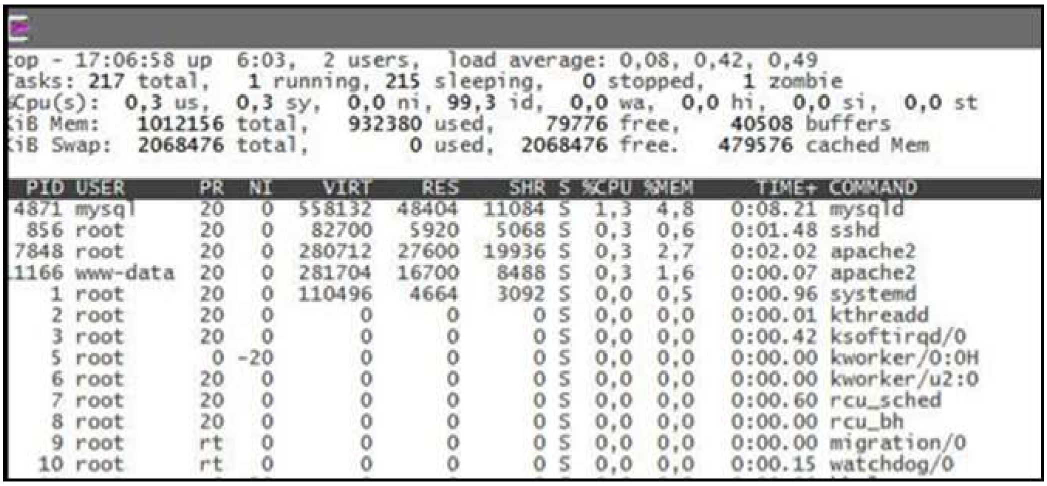
Figure 2 - The state of the server Hping3

Then, GoldenEye has been tested. The program starts with the following command:

- *./goldeneye.py http://192.168.1.2/info.php*

Let's look at the state of the server (figure 3). In this case, the processor is still practically inactive, but the amount of free memory reduced, in addition, the number of sleeping processes increased.

As a result of logs analysis we can see different strings, different user agents and a variety referee in GET request. When the Web server meets this attack, it analyzes the entering traffic, checks the requested URL, the source address and «Referrer» field. Then, it skips them with code 200 OK.



```
top - 17:06:58 up  6:03,  2 users,  load average: 0,08, 0,42, 0,49
Tasks: 217 total,   1 running, 215 sleeping,   0 stopped,   1 zombie
%Cpu(s):  0,3 us,  0,3 sy,  0,0 ni, 99,3 id,  0,0 wa,  0,0 hi,  0,0 si,  0,0 st
KiB Mem:   1012156 total,   932380 used,    79776 free,    40508 buffers
KiB Swap:  2068476 total,        0 used,  2068476 free.   479576 cached Mem

  PID USER      PR  NI    VIRT    RES    SHR S %CPU %MEM     TIME+ COMMAND
 4871 mysql     20   0  558132  48404  11084 S  1,3  4,8   0:08.21 mysqld
  856 root      20   0   82700   5920   5068 S  0,3  0,6   0:01.48 sshd
 7848 root      20   0  280712  27600  19936 S  0,3  2,7   0:02.02 apache2
 1166 www-data  20   0  281704  16700   8488 S  0,3  1,6   0:00.07 apache2
    1 root      20   0  110496   4664   3092 S  0,0  0,5   0:00.96 systemd
    2 root      20   0       0      0      0 S  0,0  0,0   0:00.01 kthreadd
    3 root      20   0       0      0      0 S  0,0  0,0   0:00.42 ksoftirqd/0
    5 root       0 -20       0      0      0 S  0,0  0,0   0:00.00 kworker/0:0H
    6 root      20   0       0      0      0 S  0,0  0,0   0:00.00 kworker/u2:0
    7 root      20   0       0      0      0 S  0,0  0,0   0:00.60 rcu_sched
    8 root      20   0       0      0      0 S  0,0  0,0   0:00.00 rcu_bh
    9 root      rt   0       0      0      0 S  0,0  0,0   0:00.00 migration/0
   10 root      rt   0       0      0      0 S  0,0  0,0   0:00.15 watchdog/0
```

Figure 3 - The state of the server GoldenEye

Thirdly, SlowHTTPTest has been tested. It takes all available connection pool. Attacks Slowloris and Slow HTTP POST occupy server resources and cause a denial of service by slow retrieving or sending the request.

For example:

- *slowhttptest -c 1000 -H -i 10 -r 200 -t GET -u http://192.168.1.37/info.php -x 24 -p 3:.*

Let's look at the state of the server, in fact, at the state of RAM (figure 4). We can see that the amount of memory was reduced very quickly. The server went down and levelled off (figure 5).

```
root@WebWare-Debian:~# free
             total       used       free     shared    buffers     cached
Mem:       1012156     651984     360172       9912      37960     476428
-/+ buffers/cache:     137596     874560
Swap:      2068476          0    2068476
root@WebWare-Debian:~# free
             total       used       free     shared    buffers     cached
Mem:       1012156     828352     183804       9912      37968     476428
-/+ buffers/cache:     313956     698200
Swap:      2068476          0    2068476
root@WebWare-Debian:~# free
             total       used       free     shared    buffers     cached
Mem:       1012156     845908     166248       9912      37968     476428
-/+ buffers/cache:     331512     680644
Swap:      2068476          0    2068476
root@WebWare-Debian:~# free
             total       used       free     shared    buffers     cached
Mem:       1012156     845988     166168       9912      37968     476428
-/+ buffers/cache:     331592     680564
Swap:      2068476          0    2068476
root@WebWare-Debian:~# free
             total       used       free     shared    buffers     cached
Mem:       1012156     846084     166072       9912      37968     476428
-/+ buffers/cache:     331688     680468
Swap:      2068476          0    2068476
root@WebWare-Debian:~# |
```

Figure 4 - The state of the server's RAM

Test parameters	
Test type	SLOW HEADERS
Number of connections	1000
Verb	GET
Content-Length header value	4096
Extra data max length	52
Interval between follow up data	10 seconds
Connections per seconds	200
Timeout for probe connection	3
Target test duration	240 seconds
Using proxy	no proxy

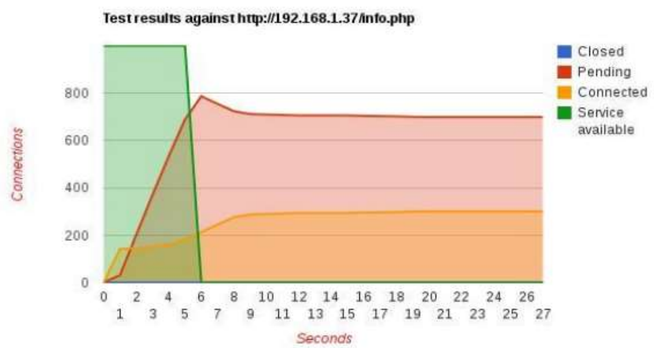


Figure 5 - Report about the work of program

So, the existing (D)DoS-testing tools have been reviewed and conducted. It has been found that these tools can be used to create scalable network services. For example, it is possible to use cloud computing power to create such services.

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Пространственно-временная модель сигнала радиовысотомера с ЛЧМ при отражении от морской поверхности

В статье рассматриваются особенности моделирования отражённого сигнала радиовысотомера над морской поверхностью при различной высоте волн, введении углов эволюции и скорости летательного аппарата, а также изменении ширины диаграммы направленности антенны. Произведено краткое описание влияющих факторов, которые были учтены при моделировании работы радиовысотомера. Дан анализ результатов моделирования.

Space-time model of radio altimeter LFM signal reflected from the sea surface

Currently, modern computational power allows implementing quite plausible ways to simulate signals reflected from different objects. Besides the fact that modeling a random process is economically much more profitable than full-scale trials, it also allows saving time by modifying the test conditions almost instantly since all the simulation parameters are set by means of equations and constants that can be changed depending on the task. Mathematical modeling allows taking into account the features and characteristics of the radar objects under specified conditions of observation and provides the necessary accuracy of the physical processes description.

The aim of the study is the radar altimeter modeling above the sea surface.

The relevance of this topic lies in the fact that the development of low-altitude aircraft navigation systems arise the need to measure the sea state parameters in order to avoid emergencies at an altitude of up to 50 meters

The object of the study is the radio altimeter operation using a chirp signal over the sea surface.

A method of work is mathematical modeling in MatLAB that is computing environment using the phenomenological approach.

The principle of radio altimeter operation with frequency modulation is the following: a high-frequency signal with a symmetrical linear frequency modulation is radiated by the transmitting antenna and reflects from complex radar scene that consists of reflecting facets of the sea surface roughness [2, 3].

When studying sea surface it is necessary to consider the factors that influence wave generation, such as speed and wind direction, waves fetch length, ocean motion, etc. [1].

The sea state modeling algorithm is as follows [5]:

- The energy spectrum of sea waves is calculated (capillary model for ripples and TMA model for wind waves):

$$E_{TMA}(f) = E_{JONSWAP}(f) \cdot \Phi(f^*, h), \qquad (1)$$

$$E_{JONSWAP}(f) = \frac{\alpha \cdot g^2}{(2\pi)^4 \cdot f^5} e^{-\frac{5}{4} \cdot (\frac{fp}{f})^4} \cdot \gamma^{e^{-\frac{\frac{f}{fp}-1}{2 \cdot \sigma^2}}}, \qquad (2)$$

where α is the scaling parameter;

γ is the peak enhancement factor;

σ is evaluated as 0,07 for $f \leq f_p$ and 0,09 otherwise;

fp is the frequency at the spectral peak;

$\Phi(f^*,h)$ is the Kitaigorodoskii depth function.

- According to this spectrum the parameters for each elementary wave of sea surface are defined (height and wavelength, direction of propagation, wave phase, etc.).
- These data, together with the aircraft speed vector, current time t and antenna direction are inserted into the analytical formula:

$$\xi(x,y,t) = \mathrm{C}\cdot\sum_{n=0}^{N_f-1}\mathrm{A}_n\sin\left(K_{0n}\cdot\left[(x+(V_x-U_{nx})\cdot t)\cdot cos\beta_n + \left(y+\left(V_y-U_{ny}\right)\cdot t\right)\cdot sin\beta_n\right]-\Omega_n\cdot t+\alpha_n\right), \quad (3)$$

where x, y is the actual location at time t;

n is the number of wave trains;

V_x,V_y is aircraft speed projection;

U_{nx}, U_{ny} is waves speed;

$x + (V_x - U_{nx})t$, $y + (V_y - U_{ny})$ is offset in the Oxy plane;

α_n is the wave phase;

β_n is the direction of wave propagation;

Ω_n is the wave pulsation;

K_{0n} is the wave number;

$N_f >> 1$ is the number of waves;

A_n is the sea wave amplitude;

C is the normalization constant.

- The resulting surface is converted into an unordered set of triangles by Delaunay triangulation (every three samples are grouped into facet) (Figure 1).
- Further, there is a calculation of each triangular facet parameters (facet area, center and normal vector).
- As a result there is a finite region of formed facets that represents sea waves.

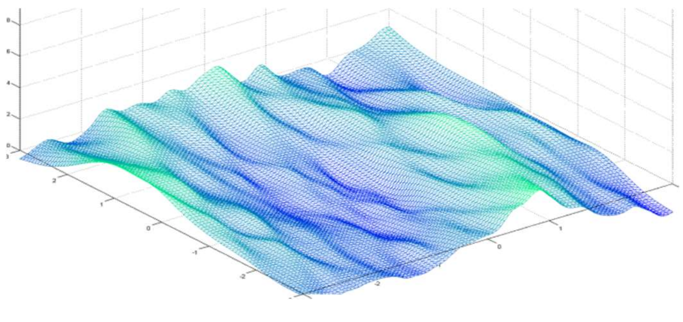


Figure 1. Discrete facets surface

Radio altimeter modeling

The underlying surface is constructed as follows: taking into account the antenna pattern it is possible to construct a conical surface with a small number of faces. Further, this surface is determined by the intersection of the horizontal plane at a suitable distance. The rectangle is constructed from the resulting set by the extreme points. It includes all facets of sea surface.

The modeling algorithm of reflected from the sea surface signal is as follows [2]:

- the scan area (area(j)) is determined by the formed sea wave facets;
- further the power of the signal reflected from each of the facets in the area (P_j), its time delay (τ_j) and Doppler frequency shift (ω_{dj}) are calculated;
- feedthrough signal (P_{ft}), its time delay (τ_{ft}) and white Gaussian noise (P_n) are measured;
- we can obtain a beat signal using previous data:

$$U_б = \sum_j \sqrt{P_j}(t) \cdot \sin\left(\frac{2\omega_д}{Tmod} \cdot \tau_j \cdot t + \omega_{дj} \cdot t + \varphi_0\right) + P_k(t) \quad (4)$$

where Tmod is signal modulation time;

φ_0 is random phase;

P_k is the sum of feedthrough and additive white Gaussian noise;

- spectrum of the beat signal is defined using fast Fourier transform FFT (Ub);
- the spectrum is assessed in three different ways: at the maximum spectral range, the leading spectral edge and the center of spectrum gravity [5].

Modeling results were obtained with different input parameters, such as:

- wind speed variation, which leads to waves speed and height change in the sea surface;
- aircraft speed, pitch and roll angles, the height above the sea level;
- antenna pattern variation.

The results are presented in Figures 2, 3, 4, 5, 6.

Each figure contains three graphs: 3-dimensional moving sea image, beat-frequency spectrum and beat-frequency signal.

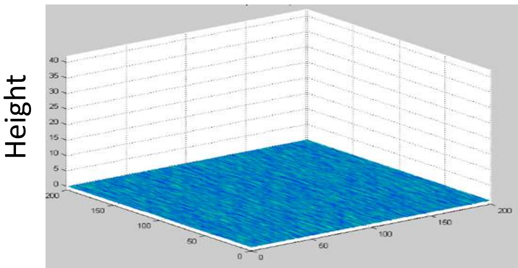
Wind speed has a direct impact on the sea surface commotion. The greater speed, the faster wave formation and as a consequence the waves become higher. Heights variation determined by altimeter becomes larger than in perfectly flat surface. The spectrum amplitude is increased because of wave heights increasing. The maximum spectral range is more uncertain due to the spread of wave heights. Figure 2 shows plots at the wind speed of 1 m/s, Figure 3 shows the plots at the wind speed of 10 m/s.

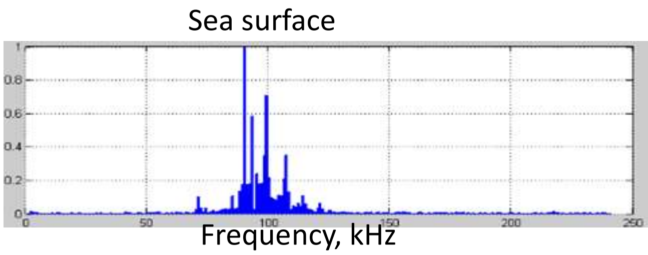
The radio altimeter antenna pattern width is one of the most important parameter. The wider it, the higher the stability of the altimeter at large angles of pitch and roll. In the model antenna pattern width is 40 degrees, which corresponds to the antenna pattern width of A-053 and A-052 altimeters [4].

There is a slight enlargement of the spectrum in the high frequency region when increasing the beam from 40 degrees to 60 degrees. This is due to the fact that increasing of the beam width there is a consideration of the same and additional facets that are on the longer range with greater "amplitude" (Figure 4).

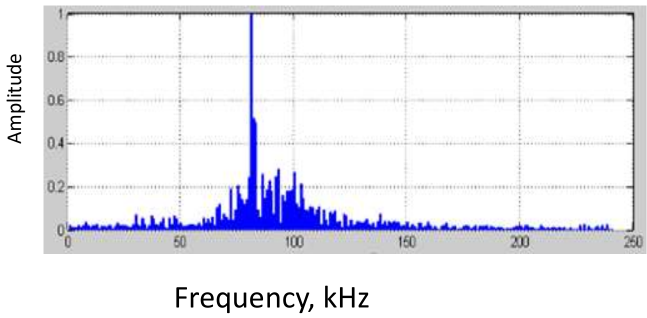
When decreasing antenna pattern, scanning area also decreases, and consequently the spectrum narrows (Figure 5).

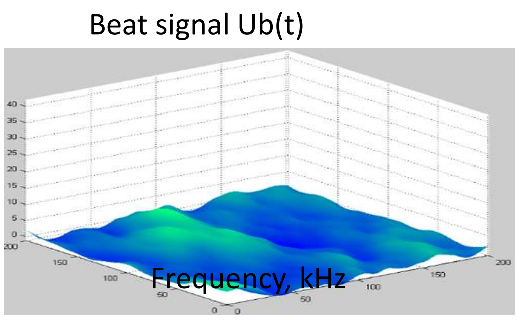
In response to a weak deviation of the antenna pattern, the spectrum shifts to higher frequencies. This is due to the fact that in case of the aircraft deviation antenna pattern will scan long-distant facets and their frequencies will appear in the spectrum. If there is a strong deviation of antenna pattern (more than half of the antenna axis), the spectral maximum shifts in the region of high frequencies. Roll and pitch are 10 degrees in Figure 6.





Beat signal spectrum. Height over the sea = 30.375 m. Spectrum width at 0.5 = 1000 Hz





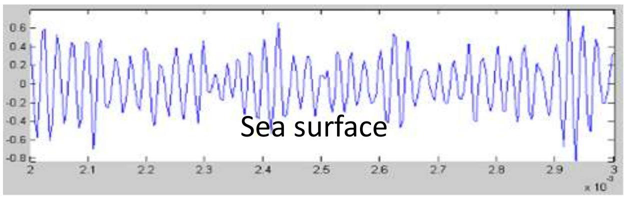


Figure 2. Output modeling data at aircraft speed = 0; height above the sea = 30 m; wind speed = 0 m/s; no pitch and roll angles; antenna pattern width = 40^0

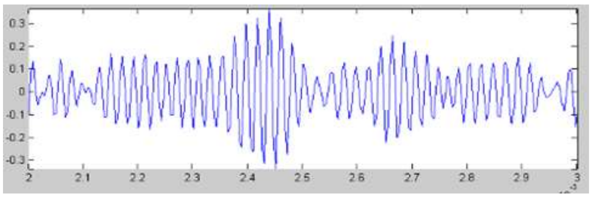
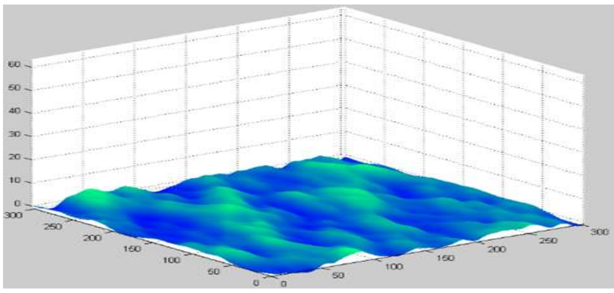
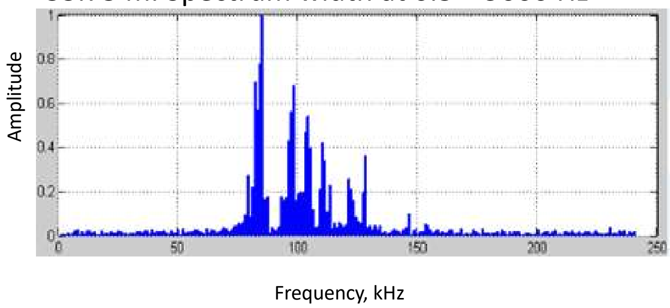


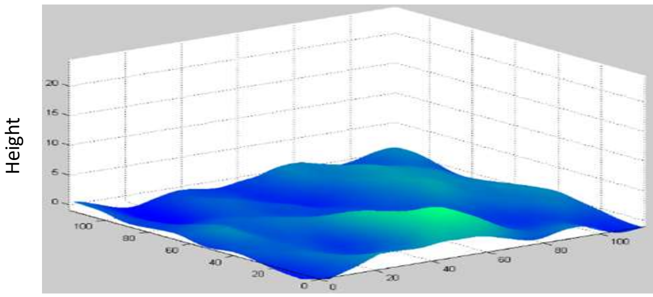
Figure 3. Output modeling data at aircraft speed = 0; height above the sea = 30 m; wind speed = 10 m/s; no pitch and roll angles; antenna pattern width = 40^0



Beat signal spectrum. Height over the sea = 30.75 m. Spectrum width at 0.5 = 22000 Hz

Beat signal spectrum. Height over the sea = 33.75 m. Spectrum width at 0.5 = 9000 Hz





Beat signal spectrum. Height over the sea = 30.75 m. Spectrum width at 0.5 = 11000 Hz

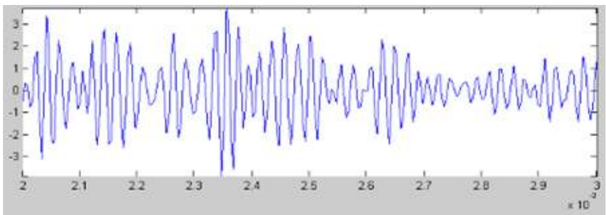
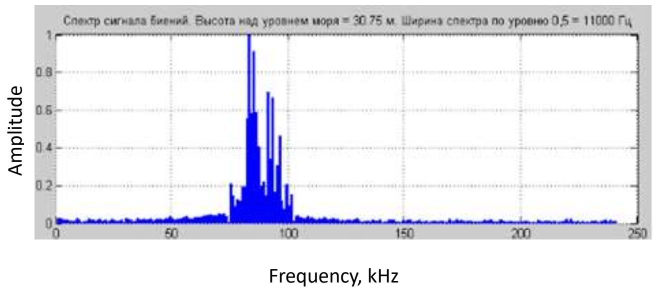


Figure 4. Output modeling data at aircraft speed = 0; height above the sea = 30 m; wind speed = 10 m/s; no pitch and roll angles; antenna pattern width = 60^0



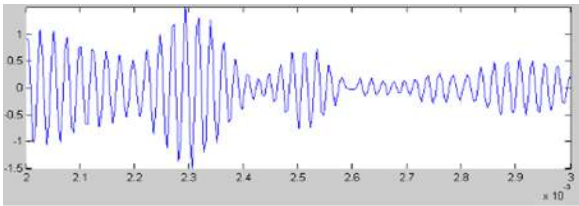
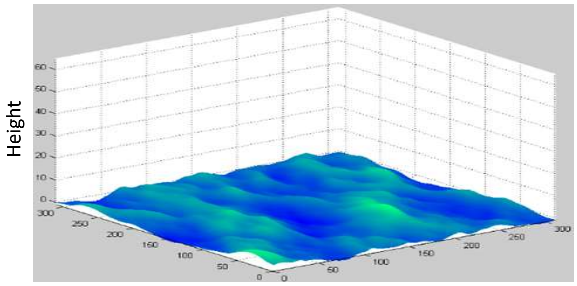
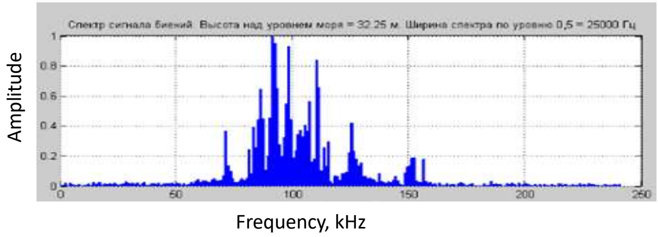


Figure 5. Output modeling data at aircraft speed = 0; height above the sea = 30 m; wind speed = 10 m/s; no pitch and roll angles; antenna pattern width = 20^0





Beat signal spectrum. Height over the sea = 32.25 m. Spectrum width at 0.5 = 25000 Hz

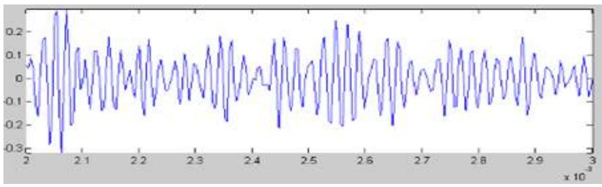


Figure 6. Output modeling data at aircraft speed = 0; height above the sea = 30 m; wind speed = 10 m/s; pitch and roll angles = 10^0; antenna pattern width = 40^0

We can determine the errors for each of the following spectrum estimates when calculating the heights above sea level.

Figures 7 and 8 show the height measurement estimation errors above the sea in the absence disturbances at the sea surface and in the presence of waves up to 4 meters high (wind speed is 10 m/s). The measurements are performed at attitudes up to 50 meters and typical conditions for radio altimeters operation [3].

Relative measurement error is defined by the following formula [1]:

$$\delta_{\mathrm{x}} = \Delta\mathrm{x}/\mathrm{X}_{true} \,, \qquad (5)$$

where δ_{x} is relative measurement error; $\Delta\mathrm{x} = |\mathrm{X}_{true} - \mathrm{X}_{meas}|$ is absolute error; $\mathrm{X}_{\mathrm{true}}$ is true value and $\mathrm{X}_{\mathrm{meas}}$ is measured value.

The results are obtained using the known measuring methods [3] (the maximum spectral range, the leading spectral edge and the center of spectrum gravity) in two states of the sea surface.

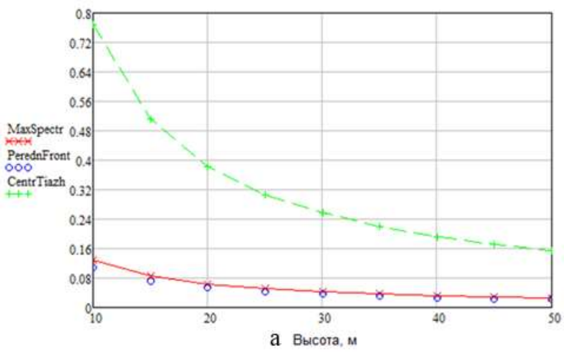


Figure 7. The relative error of the aircraft height determination that depends on the height of the flight in zero wind speed: MaxSpectr is the maximum range spectrum estimate; PerednFront is the leading spectrum edge estimate; CentrTiazh is the center of spectrum gravity estimate

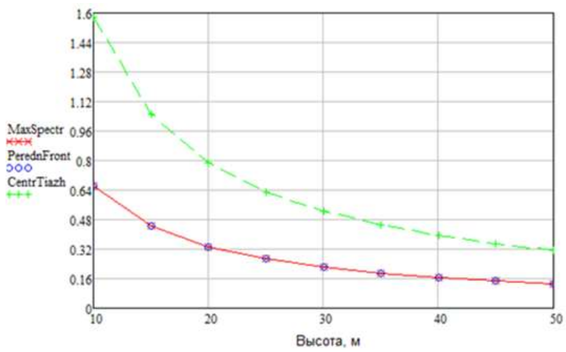


Figure 8. The relative error of the aircraft height determination that depends on the height of the flight in 10 m/s wind speed: MaxSpectr is the maximum range spectrum estimate; PerednFront is the leading spectrum edge estimate; CentrTiazh is the center of spectrum gravity estimate

As we can see from the figures above the center of spectrum gravity has the greatest error. The leading spectrum edge estimate is the most accurate.

As the work result, mathematical model considering the sea surface parameters impact on the beat signal and accuracy of altimeter work is developed. It allows exploring the faceted surface. The sea waves dynamics is implemented at different wind speeds. The analysis of the modeling results is made.

The developed model adequacy is analyzed by changing the following input parameters: flight height variation above sea surface, the addition of the aircraft pitch and roll angles, establishment of the wind and aircraft speeds and changing the width of the antenna pattern.

As it can be seen from the results, the radio altimeter mathematical model is adequate enough and corresponds to the field experiments data [3].

Applications include aircraft radar navigation systems. This work provides the opportunity to carry out mathematical and HIL modeling of radio altimeter systems under various external influences without expensive field tests.

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Обзор технологии «Дополненная реальность»

В статье рассматривается технология дополненной реальности, описаны принципы работы, компоненты для реализации, сравнение данной технологии с виртуальной реальностью. Рассмотрены существующие реализации приложений на основе дополненной реальности. Предоставлена информация о перспективах развития технологии.

Overview of Augmented Reality Technology

In summer 2016, a game called Pokémon Go became extremely popular worldwide. Nice 3D models of fantastic creatures overlaid real world's view from a smartphone or tablet camera and interacted with users. A technology that allows to implement this concept is called augmented reality or AR.

AR lets virtual objects to be placed on top of the real world's image in real-time. The result of this process is enhanced information about the world around us. Information can be presented in different ways, such as text or pictures. Devices with a camera and a display, as well as applications with AR logic are required for this technology.

In spite of the fact that AR has gained its popularity not so long ago, the first attempt of using this technology was made in 1968 when computer scientist Ivan Sutherland developed the first head-mounted display system called 'The Sword of Damocles'. The system used computer-generated graphics to show users simple wireframe drawings. One of the first functional AR systems used in daily life was displaying the yellow first down line seen by TV viewers during an American football match in 1998.

Nowadays, as different technologies have been spreading everywhere, there is a common misunderstanding of two terms: *virtual reality* and *augmented reality*. They are similar in a way that their output is visual information. While the concept of augmentation is to add information to the original scene, virtual reality completely changes the world around, though it interacts with it as well as AR. The user is isolated from the reality and can have experiences impossible in his current circumstances, such as flying on a plane or riding on a roller coaster.

For enhancing information, AR uses plain text, graphs, pictures, 3D models and even sound. The important thing in it is that visual components interact with real environment in real time. When the environment changes, the graphic elements change, too. Text and images can appear or disappear, change their position and angles. Graphs can update values of their subject every period of time. But the full potential of the technology is revealed through the usage of 3D models. Three-dimensional models can be rendered from any angle of the device's position that creates an effect of model's presence in the real world.

Real-time interaction implies immediate changes of a model after the change in the environment. This can be achieved with a help of a device's sensors, such as an accelerometer that measures the device's movement and orientation, a gyroscope that measures angular rotation in the inertial frame, and a magnetometer that can determine cardinal points. Almost all smartphones and tablets have these. More complicated devices use depth sensors, and that gives the ability to operate with actual sizes. On obtaining the required input data, the model is rendered accordingly.

In some cases, when augmentation takes place in more responsible areas, such as industrial environments, hand devices become uncomfortable to use. It would be better if information appeared right before a person's eyes and a job could be done manually. In this case, helmets and glasses, combined under a category of head-mounted displays, could be a solution. Microsoft and DAQRI are the leaders in the production of such tools. Microsoft presented HoloLens [5], Windows 10-based glasses with a wide range of sensors. HoloLens glasses create holograms that can be controlled by head movements, gestures and voice commands. They are mostly used in entertainment and business spheres. The company sells the device even though it is under development.

DAQRI is a company that builds AR devices for industrial use, and smart helmets occupy a major part in the range of their products [3]. Equipped with powerful processor, high-speed wide-angle camera and a thermal camera, this DAQRI helmet can quickly locate thermal anomalies of any industrial facilities and place it on a display.

Each AR application has its own logic responsible for object recognition, tracking and rendering of the model, as well as for calculating the user's viewpoint. There are several toolkits for the development of such apps. Vuforia, augmented reality software development kit, is one of leading programming tools for creating AR applications [2]. Another perspective one is ARToolKit [1]. Both of them use computer vision algorithms for recognizing objects and the Unity game engine.

There are a lot of spheres where AR brings improvements. Commerce and marketing are two of them. This technology is widely used here, and one of the areas employs image scanning. Customers are able to see what lies inside a package before unfolding it by means of scanning a product's scheme or image, for example, a complex constructor or household appliances. The device recognizes the image and creates a 3D model of the product.

The process of ‘trying on’ products is another area of application. It is designed for clothes, shoes, accessories and furniture online stores. Customers can try on any things in the store’s assortment virtually – whether clothes fit on a certain part of the body, or whether the furniture can be placed on the given surfaces (floor and walls). IKEA, a leading home furnishing retailer, did a major breakthrough in 2014 by releasing their catalogues loaded with extended digital content. The readers had to download their IKEA Catalog app, and scan special pages with their device. Such features as 360° room views, tips and videos improve the perception of products and make experience more enthralling. The app also allows to place furniture models in a room.

One of the most significant benefits that AR brings into manufacturing is simplifying the process of working with complex industrial equipment. Using of the technology reduces time spent on training for manipulating, assembling or refitting different facilities. This can be achieved by providing real time information about the parts of such facilities, such as cables, buttons, components and by giving instructions or manuals about operation details within a person’s field of view. This means that using augmented reality allows people with minimum amount of training do their jobs consistently well, which reduces costs spent on their training.

AR technologies can also be used for detecting defects and problems in the machines. The following popular companies use augmented reality on a daily basis: Bosch, that actively uses it for training and education with Oculus Rift headset, and Lockheed, where the engineers train to assemble F-35 aircrafts by means of AR glasses.

Head-up displays, which also can be thought of as augmentation technology, came from military aviation, where pilots were able to see navigational information on the aircraft windshields. A bit later it came to use in commercial aircrafts and automobiles. DAQRI offers a smart display for automobiles that places information about a car’s speed, weather and road conditions on a windshield, and this gives safe and more enhanced driving experience.

Besides Pokémon Go application, in 2016 there were several popular apps that use augmented reality for entertaining. These are Snapchat and MSQRD; both recognize human face and overlay it with various effects, such as cat or dog masks, beards, hats and so on. The Snapchat app also uses sound effects.

There are also areas where the augmented reality is less implemented. Nevertheless, they have great potential. Tourism is one of them. When no guide is available, travelers can be entertained by a virtual one. After recognizing some place of interest, the display can show the information about it. Tourism is a sphere where sound augmentation is well suited, as audio information is always welcomed during sightseeing.

It is well known that visual representation of data makes it more memorable and captures attention. Therefore, education is another sphere that should be taken into account. A lot of objects are hard to explain in 2D, such as human anatomy, physics laws in action, and so on. And that is where AR helps. For example, it is capable of simulating processes that take place in a certain part of a human body or draw plots of math equations together with their solutions. AR can be combined with daily chores and healthy activities, so even the most tedious and routine tasks can turn into thrilling games.

According to Gartner, the world's leading information technology research and advisory company, all technologies have a hype cycle consisting of these segments: technology trigger, peak of inflated expectations, trough of disillusionment, slope of enlightenment, and plateau of productivity [4]. By June 2016 Augmented Reality had been considered being in the third stage. As compared to June 2005, it was not even reaching the peak of inflated expectations. This stage is characterized with waning of interest and fails of implementation, but gives time and ability to understand the technology limitations. In less than approximately five years AR will leave this area and pass into the next one, where its benefits will be widely understood but companies will still remain a bit cautious.

To sum up, augmented reality is a technology that has not revealed its full potential yet and is only becoming productive. There are plenty opportunities for AR developers in all spheres. AR can help to solve a wide range of tasks from education to manufacturing and promises to fill our daily life in the future.

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Создание безопасной социально-медийной среды в образовательном пространстве

В статье автор предлагает идею создания безопасной социально-медийной среды в образовательном пространстве. Также автором описываются основные положения безопасной социально-медийной среды и ожидаемые результаты. Приводится ряд особенностей безопасной социально-медийной среды и условия реализации в образовательном пространстве.

Safe Social Media in Learning Environment

The modern world presents information as an important resource to let society function successfully. We can evidence the fact that students are deeply involved into information exchange. Actually, socially adapting students get knowledge and access to various mass media, handle huge database that are relevant for their personality. Any human is able to process enormous amount of information choosing all urgent and rejecting unnecessary facts. However, some cases reveal that a person has no opportunity to decide whether information received is vital or not. The reason is that a recipient undergoes speech manipulation. Moreover, mass media implement speech manipulation regularly and efficiently. The legal documents of the Russian Federation consider mass media to be periodical publications, network edition, television or radio channel, the Internet or television program, newsreel, any periodical form spreading mass information with a permanent label [1].

The author has created an experimental project in order to work out information filter system in learning environment as well as model perceiving and understanding information mechanisms. Safe Social Media project appeals to investigate speech manipulation mechanisms, apply local mass media in learning environment, generate behaviour scripts to follow, focus on cultural events. Valuable social attitude, outreach programs, cultural promotion, patriotic feeling advocacy are broadcast in different ways such as collecting, processing and spreading messages daily. Social disturbances and lack of culture in some areas of the world have become prerequisites for the project. This was an attempt to improve learning conditions and background in order to keep rising intelligent cultural generation of people.

Conventional wisdom states that printed press and online texts implement speech manipulation effectively. It’s commonly agreed that commercials and newsreels are based on these specific media texts. Media texts could be represented as social media products because they report events in learning environment, have motives to make recipients do certain things.

Going into particulars, analysis of the media texts that actualize speech manipulation is an essential component of Safe Social Media project. This helps to reveal some key language units with great speech manipulation potential, aims and goals, consequences and a future outcome.

Media texts demonstrate several features. For example, study appeal, basic needs, image of a perfect student, legend. Thus, study appeal can be expressed through phrases and words to promote education and aspiring students. Moreover, the image of a perfect student includes lexical units describing high-achievers and high-flyers. Description of basic needs makes media texts more compelling and convincing for recipients. While creating media texts it's utterly crucial to highlight any social issue. Sometimes an author finds it useful to provide a legend or proceeding history to make the text well-grounded. Someone should not forget about stylistic devices to enrich the text.

As a result, media texts along with safe social media enable us to form public conscience, perform mind control, model student's behavior and realize state programs. Basically, media texts rely on psycholinguistic speech manipulation model. To conclude, safe social media should help any person to elaborate protective filters from disruptive behaviour. That's why we face the prospect and great social responsibility implementing Safe Social Media project.

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Использование web-квестов в процессе обучения

В статье проанализировано понятие «web-квест», описана его структура, охарактеризована классификация его разновидностей. Особое внимание уделено рассмотрению различных типов web-квестов в зависимости от формулировки задания.

The use of Web Quests in the process of education

The Internet swiftly entered the life of the humankind in the 20th century. It took us less than ten years to face the fact of its spreading all over the world, including the developing countries [2]. It has become not only the hugest information resource in the world, but has introduced improvements in technology, communication, online entertainment and, of course, education.

The Internet provides instant availability of vast stores of information in real time. One seeking an education used to have to be physically near the information he wished to learn. Learners got to go to school, listen to a teacher and have access to a library. Nowadays, with the Internet, students have instant access to information on almost any subject. Teachers might use it to supplement their lessons, and a number of prestigious universities have opened up free online lectures and courses to every student in the world. Widespread use of the Internet has opened up a substantial amount of knowledge to a much broader range of people than ever before. So today the way people can get the information can be described by one phrase: “any time, any place, any path, any pace”.

Today there are many forms of electronic education. WebQuest is one of them. A WebQuest is an inquiry-oriented lesson format in which most or all the information that learners work with comes from the web [3]. The model was developed by Bernie Dodge at San Diego State University in February, 1995 with early input from Tom March.

A WebQuest has six essential parts:

1. Introduction. The introduction section provides background information, roles for students to play (such as a research scientist, an architect, a designer or a journalist) and an overview of the learning goals to achieve.
2. Task. The task is a formal description of what students will have accomplished by the end of the WebQuest.
3. Process. The process section provides a description of the steps learners should go through in order to accomplish the task.
4. Resources. This section of the WebQuest consists of a list of the resources (such as links or bookmarked Web sites) that students might need to complete the task.
5. Evaluation. This section consists of a list of the fair, clear, specific standards and the criteria by which students' performance will be evaluated.
6. Conclusion. This step allows for reflection by the students and summation by the teacher.

The task section is the most important part of a WebQuest. It provides a goal and focus for student energies and it makes concrete the curricular intentions of the designer [1].There are twelve types of the task section:

1. Retelling Tasks. Sometimes all you need is to read information and show that you understand it. Students can report on what they have learned from the Internet by creating PowerPoint presentations, posters, or short reports. These are the least challenging but the most commonly used WebQuests.
2. Compilation. This one is a task for students to take information from different sources and put it into a common format, like a cookbook or a deck of cards. This task provides learners with practice in making selection choices and explaining them, as well as organizing and paraphrasing information drawn from a number of sources.
3. Mystery. Everyone loves a good mystery. Sometimes all teachers have to do to lure students into a topic is to wrap it in aт interesting puzzle or detective story. A well-designed mystery task requires synthesis of information from a number of sources. The task should be created in the way that it cannot be solved by simply finding the answer on a particular page.
4. Journalistic. Students have to act like reporters covering the event. The task involves gathering facts and organizing them into an

account within the usual genres of news and feature writing. This time accuracy is important and creativity is not.

5. Design. A design task requires students to create a product or plan of actions that accomplishes a pre-determined goal and works within specified constraints. The key element in a design task is to build in authentic constraints.

6. Creative products. A creative task leads to the production of something within a given format. It can be a painting, a play, a skit, a poster or a song. Students are allowed to be more imaginative than in design tasks. There should be something unique in every creation and a teacher should be able to tell which work belongs to which student.

7. Consensus building. A consensus building task requires different (even opposite) viewpoints to be articulated, considered, and accommodated where possible.

8. Persuasion. A persuasion task requires from students to develop a convincing case that is based on what they have learned. Persuasion tasks might include presenting at a mock trial, writing a letter or producing a poster or videotaped ad designed to sway opinions.

9. Self-knowledge. The essence of a self-knowledge task is to allow the learner to answer personal questions about themselves. It provides a greater understanding of oneself.

10. Analytical. In analytical tasks, learners are asked to look closely at one or more things and to find similarities and differences, to figure out the implications for those similarities and differences. They might look for causes and effects of different events and be asked to discuss their meaning. Tables, schemes or diagrams can be the result of this task.

11. Judgment. A judgment task presents a number of items to the students and asks them to rank or rate them, or to make an informed decision among a limited number of choices. It is important to get learners to explain and defend their system of evaluation.

12. Scientific. The task in which students have to create scientific articles or presentations based on scientific information found on the Internet.

The advantages of using WebQuests in the process of education:

1. WebQuests allow students to use higher level and critical thinking.
2. Students can work on the task at home or library.
3. WebQuests stimulate learner’s imagination.

4. WebQuests encourage effective and structured use of Internet time.

5. Students can improve their social skills. WebQuests are more often group activities, so learners have to communicate with each other and share information.

6. WebQuests allow students to use up-to-date information and resources.

7. WebQuests encourage learners to view their activity as something 'real' and 'useful'. This leads to more effort, greater concentration and a real interest in achievimg the task.

8. It is something different.

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Разработка мобильного приложения «Мир УрФУ»

Недостаточная информатизация образовательного процесса одна из главных проблем университета. Данная статья представляет мобильное приложение, которое позволит оптимизировать как учебную, так и внеклассную деятельность студентов и сотрудников университета.

Development of the mobile application «Mir UrFU»

The national ranking of higher education institutions is based on the combination of several indicators, one of which is Innovation and Entrepreneurship. It reflects the level of optimization of the educational process and the efficiency of IT services, such as mobile apps, web sites, etc. Thus, it can be assumed that information technology is the key to effective education and, therefore, to improving the reputation of Ural Federal University (UrFU).

The research identified the following problems that the university faces on a daily basis: the complexity of interaction between students, faculty, administration, and different university departments, excessive bureaucracy, lack of informatization of educational processes, lack of individual approach to every student, inefficient use of information resources of the university.

The purpose of this article is to study the possibility of establishing an interactive information platform, which will enable effective interaction between students and teachers with the help of virtual environment, and which may be used not only in this university, but also beyond it.

The research focuses on the creation of a multifunctional mobile application which will allow the stakeholders (i.e. students, lecturers, administration, and university departments) interact with each other in real time. Every group will have their own set of rights. The students, for instance, will have access to educational resources, the university score-ranking system, the schedule, news; they will also be able to send applications online, fill in questionnaires and surveys. The teachers will have an opportunity to provide contact information, communicate with other users of the application, receive in-house news, and have access to the score-rating system. The administrative staff will be able to alert students and teachers, conduct surveys, contact partners, and publish information about different events. University unions will send newsletters, conduct surveys, contact the students directly.

To reach the goals of this research, the design team will have to:

- analyse the statistics,
- analyse the suggestions of the main stakeholders,
- examine the relevance of the application to the university educational process,
- establish the functionality of the application taking the statistical data and user preferences into account,
- identify the optimal technology for the application development and its further integration with other university services,
- to evaluate the feasibility of the proposed product.

According to the national rating of universities conducted by "Interfax" (http://www.univer-rating.ru/), Ural Federal University takes 15th overall position. The rating is based on the following indicators (UrFU position is provided in brackets): educational activities (11th), research (10th), socialization (7th), the university brand (4th), innovation and entrepreneurship (17th) (see Diagram 1).

First, 1500 people participated in the survey whose aim was to find out their opinion about the existing application and their expectations of the application under development.

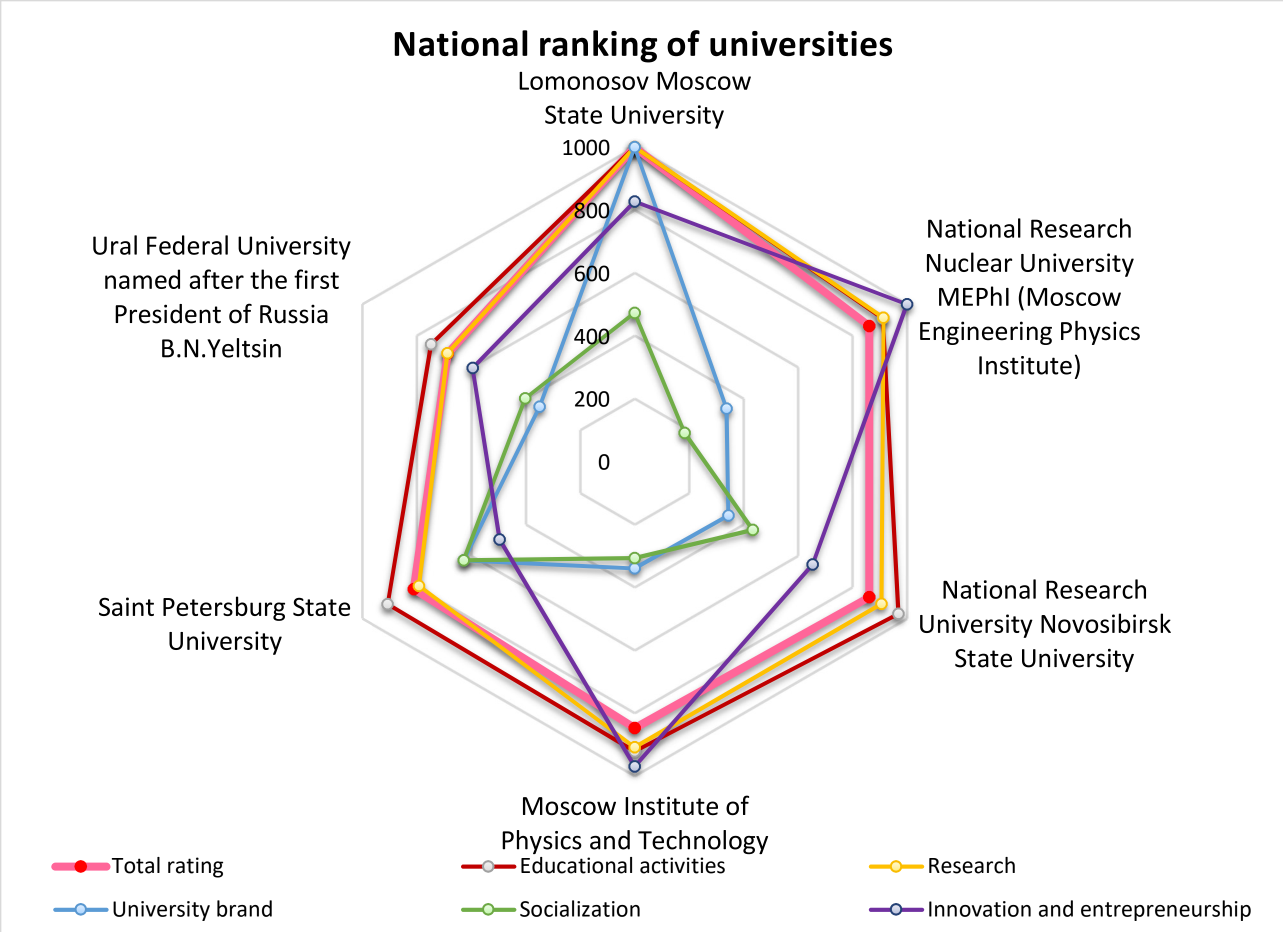

Diagram 1 – National ranking of universities

To implement all the functionality of the application, it is necessary to:

1) develop an API for all the university services with a view to their integration into a single environment, which will be convenient for the developers and users and will make the development and testing of any new applications faster and more effective;

2) create a flexible system that will identify the users' rights and provide access to the appropriate functionality;

3) design a database, which will systematize data and save it for further analysis and reference;

4) optimize data flows for the smooth operation of the application;

5) write the server-side code;

6) design the layout.

Finally, testing the application and conducting the pilot project will become possible.

The innovative component of the product is the integration of two functional areas, i.e. UrFU official website information base and the messengers, like Telegram or VK.

The implementation of the app takes time and money. The application design will take about 3 months. Its testing is supposed to take another 6 months. As for the expenses, this project was calculated by the method of weighted average cost, as it is expected that students will perform part of the work, and the rest will be done by professional developers. The approximate cost of the pilot project constitutes 429, 175 rubles (Table 1).

The financial model for the first 6 months	
Cost of implementation:	**360175**
- creating an **account** on **the AppStore**	**6125**
- creating an **account** on **Google Play**	**1550**
- publication in the AppStore and Google Market	**2000**
- layout design	**44000**
- layout design implementation	**18000**
- database development	**35000**
- writing server-side code	**92500**
- APIs development for university sites	**150000**
- testing	**11000**
Additional:	**69000**
- hosting server rent	**24000**
- error correction	**45000**
Total	**429175**

Table 1 – The financial model for the first 6 months

The ideal university of the future is the interaction between teachers and students, which will optimize the learning process and make it easier. We propose the concept of the university of the future, which will be able to change the idea of educational effectiveness, focusing on a continuous exchange of information and feedback between the key university stakeholders.

To summarize, nowadays no prestigious university can exist without effective use of information technologies, different websites, mobile apps because the future belongs to innovations. Since the university does not have a convenient unified service that can quickly provide real-time interaction between its stakeholders, our initiative may be widely welcomed in that it can improve low informatization level mainly by creating the university's own API.

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Система ФАПЧ

Приведены результаты исследований системы фазовой автоподстройки частоты с учетом и без учета аддитивных помех, сопровождающих эталонный сигнал. Использованием метода теории выбросов проведен теоретический анализ зависимости вероятности срыва слежения (синхронизации) за заданное время наблюдения от отношения мощностей сигнала и помехи в канале эталонного сигнала. Для получения более точных результатов разработана имитационная модель системы в пакете динамических систем «Simulink» в среде Matlab, с использованием которой получены основные характеристики системы

The PLL

Phase-locked loop system is a multifunctional system, which is used for frequency synchronization, multiplexing and channel separations, frequency conversion and multiplication, and for other purposes. PLL is a system of automatic regulation that adjusts the phase-controlled generator in accordance with the value of the phase reference signal.

Digital simulation of the PLL implemented in Matlab package applications. Model PLL with different types of filters constructed in a graphical environment Simulink. Types of system: PLL with inertial link, with proportional-integrating filter, with izodromny filter.

The principle of operation of the system

Let us consider simplified one-loop, isolated from external influences PLL. By the structure PLL is the system of automatic regulation with one-input, one exit and one- feedback loop (Fig.1).

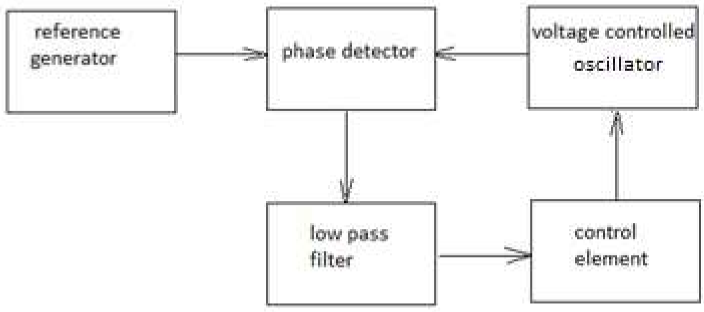

Fig.1. Functional diagram PLL

PLL is used for frequency stabilizing of the self-oscillator on a signal of more stable reference generator (RG). The object of regulation – the voltage controlled oscillator (VCO) and a signal of control make an influence on the frequency and a phase of its auto-oscillations. A reference signal generator in the form of a periodic function (controlling influence) effect on input of the system, the VCO signal is the output signal. Error sensor in the system is a phase detector. Its function is fixing variance between the phase reference signal and VCO. The low pass filter is used for the correction of a transfer function of a closed system and filtration of potential interference. The control element is required to change the frequency (phase) VCO [2].

For experiment the simulation model of the system PLL is built in Matlab environment using graphical environment simulation Simulink. Model consists of the following elements: generator harmonic oscillations with a constant frequency, a generator with a linearly changing frequency, white noise generator, a phase detector, consisting of a multiplier and a low-pass filter, band pass filter, three types of feedback filters, amplifier, and a voltage controlled oscillator [3].

Analysis of tracking failure

The PLL system at impact of noise is subject to tracking failure. There are several tracking failure analysis methods. This study presents a method of emission.

Method of the theory of emissions

In this method failure of tracking is meant as VCO signal phase exit out of limits of an aperture of a phase detector. As a result, of transformations the following expression for an assessment of probability of failure of tracking is received [1].

$$P \approx f_{II} T\exp(-\frac{x^2}{2\sigma_x^2}) = \frac{1}{2\pi}\sqrt{\frac{K}{T\phi}}\, T\exp(-\frac{(x-m)^2}{2\frac{1}{q^2 \Delta fe}}) =$$

$$\frac{1}{2\pi}\sqrt{\frac{K}{Tf}}\, T\exp(-\frac{(x-m)^2 2q^2 \Delta f э}{K * \Delta Fe})$$

Where: $q^2 = \frac{U_0^2}{2\Delta f N_0}$ the relation of mean powers of a signal and noise on an entrance of a phase detector

U_0^2 - RG amplitude,

Δf – transmission band of a bandpass filter,

K – transmission ratio of system,

T_f – time constant of the filter in a feed-back loop,

T – time of functioning of system,

x– threshold value,

m – expectation of phase shift of VCO

Δf_e – the equivalent noise strip of the filter at the exit of the generator of a white noise,

ΔF_e – the equivalent noise strip of loop system.

Based on the theory the experiments were performed for system without filter, system with the proportional integrating filter, systems with the izodromny filter. Experiments are made in the Simulink [3].

The analysis of the received results

Analyzing the data obtained by method of the theory of emission, we see the following regularities. The experimental results showed that in case of small values of noise power the probability of failure of tracking is high that is quite expected.

Comparing of three researched options of system is given in Table 1.

Table 1. Pivot table of comparing of different options of system

	5 Hz	7 Hz	9 Hz
without filter	P = 0.32	P = 0.73	P = 0.99
with inertial link	P = 0.17	P = 0.48	P = 0.88
with PIF link	P = 0.12	P = 0.37	P = 0.91

Analyzing this table, we see that the phase-locked system with PIF link in a circuit of back coupling is more noiseproof, than system without filter and with inertial link.

In this work the principles of operation of phase auto-adjust in the developed software in the environment of Matlab are probed. In the environment of graphic simulation of Simulink the simulation model of the phase-locked system with different types of filters of the lower frequencies in a loop of back coupling, namely with an inertial link, with the proportional integrating filter, with PID link and without filter is constructed. Method of the theory of emissions carried out the analysis of failure of tracking in the phase-locked system with different types of filters in a loop of back coupling. Based on the obtained data the most noiseproof system is revealed – the phase-locked system with the proportional integrating filter in a circuit of back coupling as failure of tracking in it began in case of great importance of noise became it. The phase-locked system without filter in a circuit of back coupling became the least steady. Conflicting data were obtained in the analysis of results of the phase-locked system with an izodromny link.

The further study of failure of tracking in different versions of phase-locked systems of frequency is in the future planned. Special attention will be paid to research of failure of tracking in the phase-locked system with the PID filter in a circuit of back coupling which results of simulation turned out ambiguous.

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От инвалидности к улучшению через протезы

Статья рассказывает о последних разработках в области биопротезирования. Описаны возможности современных электронных биопротезов, их интерфейсы, а также компании, занимающиеся разработкой таких биопротезов в разных странах.

From Disability to Improvement through Prostheses

People are known to change their environment to suit their needs and achieve goals. A lot has been done for human proliferation. However, one thing is limiting possibilities of people. Despite the fact that a human body is very durable as compared to other species, it stops us from exploring new places. For example, space exploration is now presented mostly by remote controlled robots, and no man has ever been further than the Moon`s orbit. Space is a harsh place, with nothing to sustain a life in any form. A lot of efforts go into finding a way to sustain a life where it is never meant to be.

A possible solution comes from somewhat unexpected angle, though.

The history of prosthetics starts in the New Kingdom of Egypt, where the first prosthetic toe was found [3]. Another famous example is a prosthetic arm used by Götz von Berlichingen (1480–1562), a German (Franconian) Imperial Knight. He lost his right arm during the siege of the city of Landshut. Two prostheses were made for him, the second of which is the most famous one. It was made of iron and was capable of holding shields, reins and quills [5].

Modern prostheses research has new challenges to accomplish.

Hugh Herr (born 1964) was a rock climber since his childhood, being recognized as one of the best rock climbers in the USA by the age of 17. In

1982, he spent three days in very low temperatures after getting into blizzard. After rescue, both his legs had to be amputated below the knees. After receiving his prostheses, he realized that they can be changed, unlike a human body, and be able to do a lot of different activities which are normally not possible for a human. He said to himself that it was not the body that restrained many people but the technology, and technology could be improved. He started with developing special limbs that allowed him to return to climbing again.

Today Hugh Herr is a head of Biomechatronics research group at the MIT Media Lab. Here he is engaged in constructing advanced prostheses. During TED 2014, he demonstrated a neural controlled leg prosthesis, which allowed him to run. There has been a lot of work put into that.

There are three interfaces for bionic limbs: mechanical, dynamic and electrical.

The mechanical interface defines how the limbs are attached to the body. Different measurement tools, such as MRI and actuators, are being used to figure out the location of bones, tissues and their compliance. These data are used to create the shape of prostheses, but there is more to it. It is possible to create the material that changes their stiffness. It allows more control over the prostheses. When you walk, they can be made soft for more comfort, and hard when more control is needed.

The dynamic interface is about redoing what usually muscles do. First, you have to collect data on how normal human muscles operate, what forces act in them, where and when they are applied. It allows to create a prosthesis that emulates a human leg during walk. On the heel strike, it becomes stiff to attenuate the shock of the limb hitting the ground. Then the limb pushes the leg forward on mid-stance. All this makes using steps, walking, and running much easier.

The electrical interface allows you to communicate with a prosthetic limb only with your thoughts. The electrodes can measure electrical pulses of the muscles. When a person thinks about moving their limb, the prosthesis can read these signals and act accordingly.

With this technology, Hugh Herr was able to return Adrianne Haslet-Davis, a ballroom dancer, who lost her left leg in the Boston terrorist attack, back to the dance floor [4].

One thing still wasn't mentioned. All of the technologies above allowed better control over the prosthetic limb, but without any neural feedback, the recovery may never be complete. You need to feel your limbs.

This technology is being researched at the Johns Hopkins` Applied Physics Lab and funded by DARPA (Defense Advanced Research Projects Agency).

Melissa Loomis lost her right arm due to the raccoon`s bite, which caused a severe infection. Her only desire is to be able to do usual everyday routines like she used to do before the loss.

Some patients go through surgery called “targeted muscle reinnervation”, which allows using nerves normally connected to the limb, for the prosthesis control. But Melissa`s case was special. Dr. Ajay Seth, an orthopaedic surgeon, was able to do “targeted sensory reinnervation”. It allows to use sensory nerves of the lost limb again. He found and connected the nerves, which were connected to Melissa’s fingers, to the skin on her arm. Now, when something touches the skin in these spots, Melissa actually feels the touch to her now lost fingers.

Later, they placed electrodes on the reinnervated spots on her skin and connected them to the sensors on a robotic arm. The sensors generate a signal, when something touches them; send it to the electrodes on the arm, allowing Melissa to feel through the robotic arm. She is able to tell which finger is being touched now, and grab things using only her touch feel. Without neural feedback, this would be impossible [6].

There are also Russian companies engaged in making bionic prostheses represented on the market.

The “Motorika” company was created on the basis of ITMO University and the Skolkovo Foundation. They make prostheses and other devices to restore finger functionality. Their main product is “KIBI” prostheses. It allows to replace the amputated hands. Their main goal is to help kids with hand traumas. Kids are special case, because they grow fast and often replacement of prostheses is needed. “Motorika” uses 3D-printed prostheses made individually for each case. The technology allows to reduce the cost of each prosthesis and make it affordable for more families. The prostheses for kids also can be customized to have flashlight, compass, MP3-player, etc.

“Motorika” also makes myoelectric prostheses for adults. The technology is the same, but it allows controlling the prosthesis with muscles [1].

Another company is “Can Touch” – they make prostheses for children in collaboration with “W.E.A.S. Robotics”. They also use 3D-printed parts and work individually with each patient [2].

For this moment, humanity starts to acknowledge the possibilities of artificial prostheses. Today it is a rare technology, but tomorrow it is going to be available for masses. Nobody will stop at just returning to what it had once been. We will be able to change our bodies in the ways we cannot imagine yet. The brain-machine interface may change communication, as we know it. So maybe the solution to the further expansion is in changing ourselves rather than in changing the environment around us.

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Искусственные нейронные сети и их применение

В данной статье рассматриваются принципы работы, возможности и использование искусственных нейронных сетей. Приводится общая характеристика нейронных сетей, описываются принципы их функционирования, достоинства, недостатки и возможности применения в современном мире.

Artificial Neural Networks and Their Application

Nowadays the topic of machine learning, intelligent algorithms, and artificial intelligence is very popular because the artificial neural networks are actively developing and already used in many branches of science and spheres of life [3]. When solving tasks other than number crunching, a human brain possesses many advantages over a digital computer. Our brain is also remarkably reliable because it does not stop working just because a few cells die. But perhaps the most fascinating aspect of the brain is that it can learn without any necessary software [4].

The development of artificial neural networks (ANN) is inspired by biology. The researchers use terms borrowed from the principles of the brain organization while considering network configuration and algorithms [1]. Indeed, our brain is a complicated biological neural network consisting of a large number of neurons, which receives information from the senses and somehow processes it.

A biological neuron is an extremely complicated system. ANN are created by means of computer simulation of models of biological neural networks and represent a total of interacting components [1]. Thus, we can define the ANN as a set of interacting artificial neurons.

The gist of how neurons work lies in the synapses. A synapse is the place where two neurons are joined, and where the signal may be either amplified or reduced. Each synapse is unique. Moreover, synapses can change in the course of time and, therefore, the nature of the signal change will change as well. If the parameters of the synapses are properly selected, the input signal will be converted to the correct output after passing through the neural network. The number of neurons of the ANN and the speed of information processing is far less than in our brain, and even about 1,000 times less than in that of a fly [2]!

Using ANN for solving problems is feasible if there is no specific solution algorithm and for solving highly complicated problems. But the most interesting feature of neural networks is their ability to learn things that people do unconsciously (facial recognition, for example). Beside their ability to solve new problems, neural networks have a number of additional advantages such as *resistance to input data noise*. After being trained, they are able to ignore the noise data. Another advantage of neural networks is their *ability to adapt to changes*. Using data for learning, the ANN always adapt themselves to the environment. ANN are able to function properly even when they are seriously damaged, and this is the evidence of their *fault-tolerance*. One of the major advantages of neural networks is their *supreme processing speed* as each neuron can be represented as a small processor that receives and converts the signal.

Neural networks might seem to be ready to fully replace computers but it is not so. Neural networks have their drawbacks: for example, they are *not able to give precise and unambiguous answers*. The ANN are also *not able to solve the problem step by step* – they can do it only in one go. Thus their last drawback is the *inability to solve computational problems* [2].

To simplify the understanding of the operating principle of neurons and ANN the neurons can be represented in the form of circles and the inputs and outputs as the arrows aimed in the direction of traffic signal. Then the ANN will be represented as a set of circles connected with arrows.

In the biological neural network, the electrical signal is transmitted from inputs to outputs and it changes as it goes through the network. The signal magnitude is also changed in this process, and its value can be represented with a number. Therefore, the numbers served on the network inputs symbolize the electric signal, as if it actually were there. These numbers will change while passing through the network, and we shall obtain some resultant number at the output a response of the network. Remember that the synapses can amplify or reduce the signal passing through them. In the ANN each such relationship is characterized by a certain number called a link weight. The signal transmitted through this link is multiplied by the weight of the corresponding link. Thus, each of the arrows connecting the abovementioned circles corresponds to a number representing a link weight.

Let us consider the internal structure of an artificial neuron and the way it converts the incoming signal. The signals arriving to the input are multiplied by their weights, and then all the products pass on to the adder, which adds together all input signals multiplied by the corresponding weights. The result of it is a number called the weighted sum, which can be represented as an extent of general neuron excitation. The neuron should somehow process this weighted sum and generate the appropriate output signal. The activation function is used for these purposes. Different types of artificial neurons use different activation functions that take a weighted sum as an argument; for example, a unit step function whose value changes from 0 to 1 when passing a certain threshold. A sigmoid is also used quite often [2]. If the horizontal axis contains the values of the weighted sum and the vertical axis contains the values of the output signal, the graph of this function resembles a letter S. It is more flexible than the unit step function, and any number between 0 and 1 can be its resultant.

But how can the ANN neurons be positioned and connected with each other? Most neural networks usually have an input layer which task is only to distribute the input signals to the remaining neurons. The neurons of this layer do not make any calculations. Then in the single-layer neural networks, the signals from the input layer are immediately fed to the output layer, which makes the necessary calculations, and their results are fed directly to the outputs. Meanwhile, the multilayer neural network generally have hidden layers located between the input and output layers. The hidden layers also convert input signals to some intermediate results. Such structure of a neural network copies the multilayer structure of certain human brain divisions. Multilayer neural networks have a much greater capacity than single-layer ones. There are also feedforward ANN, where signal goes only in the direction from the input layer to the output one. In the feedback networks the signal can go in the opposite direction. In this case, the neuron output is determined not only by its input signal and weights but also by the previous outputs.

If you simply send a signal at the input of the ANN, it will make no sense. The network settings have to be changed until the input signal is converted into a desired output. However, the only thing to be changed is the weights of links.

Training a neural network implies searching for such a set of weight coefficients that converts the input signal after passing over the network to the desired output. Training samples i.e. a set of input signals to train a network are used for this purpose. And the test samples – the sets of input signals for evaluating network performance quality – are used to access the quality of network performance after training.

There are two approaches to the training of the network that lead to different outcomes: training with the teacher and without the teacher. When training with a teacher the signal is supplied to the input, and the network response is compared with the correct answer. Then the link weights are changed if needed and the process is repeated until the network answers differ minimally from the correct ones. A computer program usually acts as a teacher because it is often necessary to train the network for hours and days. When training without a teacher the network classifies the input data on its own, the correct output signals not being shown [2].

In fact, the study of neural networks began much earlier than it might seem. Artificial neural networks become available for the first time as early as in the 1940s due to the efforts of Warren McCulloch and Walter Pitts. Seeking to reproduce the functions of the human brain the researchers created a simple hardware (and later software) models of biological neuron system and its links. These ideas were later developed by Frank Rosenblatt, a neuroscientist, who proposed a device simulating the process of human perception and called him a "perceptron" (from the Latin word *perceptio* meaning – perception). In 1960, Rosenblatt introduced the first neurocomputer named "Mark-1", which was able to recognize some of the letters of the English alphabet [2].

The general arrangement of a perceptron is practically the same as it was described above but there are some differences. The input layer consists of the so-called sensors (S-elements), the hidden layer consists of the associative ones (A-elements), and an output layer is composed of the reacting (R-elements) elements. The S-elements may be in the state either 0 or 1. The S-A-links may have a weight of -1, 0 and 1. If the signal on the A-elements passes through a certain threshold, its condition changes to 1, otherwise it remains equal to 0. The A-R-links may be of any weight. If the signal on the R-element passes a certain threshold, its condition changes to 1, otherwise it remains equal to -1. The R-element determines the total perceptron output. There are also multilayer perceptrons, which have more than one A-elements layer.

The perceptrons are good at solving the problems of classification, and even a maximally simplified perceptron, where A-R-links may take only integer values, each A-element has only one S-element and there is only one R-element, can solve the simplest task on recognizing digits.

ANN are used in various fields of science: starting from the speech recognition systems to recognizing the protein secondary structure, classifying different types of cancer, and genetic engineering [3].

For example, in September 2016 the adventurous Japanese from Omron Corporation showed the world the robot named FORPHEUS. This robot was awarded the Guinness Book of Records certificate as the first artificial intelligence machine that not only can compete with a human in table tennis but also train its own students. Moreover, FORPHEUS is a self-learning machine that can learn from people and adapt to them, and such abilities would not be possible without the use of ANN!

At the same time, Google Inc. has updated its text translation service – Google Translate. Now neural networks are used for translation. The advantages of this method are that the network is able to learn on its own and the quality of translation will not remain the same and can be improved as people use the service.

The neural networks are now a part of our lives and you can find goals for them in every area.

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Беспоисковые методы определения частоты на примере интерференционного измерителя частоты

В данной статье будут рассмотрены беспоисковые методы определения частоты на примере интерференционного измерителя частоты, как обычного, так и более совершенного – использующего в качестве основного элемента фазовый детектор на двойном волноводном тройнике. Особое внимание будет уделено выводу зависимости выходного напряжения соответствующего интерференционного измерителя от частоты входного сигнала. Так в ходе работы будут приведены соответствующие функциональные схемы, формулы и графические зависимости.

Non-searching methods of frequency finding on example of the interference frequency finder

Principally there are two main frequency finding methods: searching and non-searching.

Non-searching methods of frequency finding imply intelligence made in all sectors of working range.

Receivers (RCVs) of non-searching methods of frequency finding provide simultaneous reception of working frequencies in broad range without heterodynes and filters restructure. Frequency intelligence time during non-searching methods can be very small because all received signal components are identified together and almost instantly. For non-searching frequency finding intelligence methods with frequency discriminators, functional (interference) methods and exploration methods with multi-channel RCVs are used. [1]

Famous phase deviation from path length and frequency relation is a base for main frequency interference method finding. Intelligence RCVs designing principal where interference method of frequency finding is used (illustrated by Fig. 1).

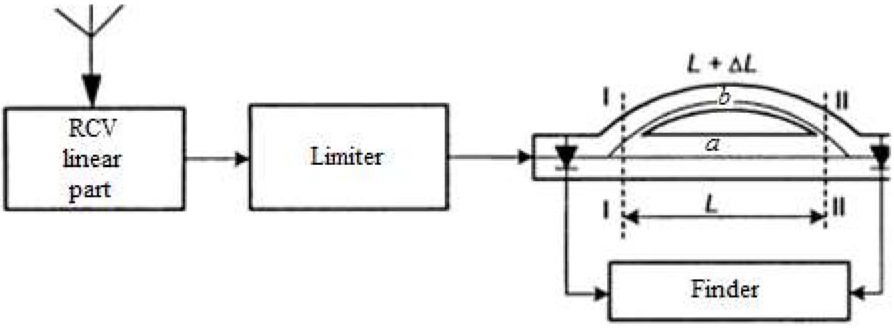

Figure 1. Interference frequency finder functional scheme

Received oscillations propagate in the common waveguide. Waveguide branches in the I-I section and signal propagates in different waveguides *a* and *b*. Waveguide *b* is longer than waveguide *a* in ΔL value. Fields coming from *a* and *b* waveguides are summarized geometrically in the II-II section. As for summarizing fields phases they will differ in the following value:

$$\Delta\varphi=(\omega\Delta L)/v_{ph}, \quad (1)$$

where v_{ph} is an electro-magnetic wave phase velocity in the waveguide.
In the I-I section (before branching) we have the following relation:

$$u_{in}=U\cos(\omega t+\varphi_0). \quad (2)$$

On the *a* and *b* waveguides outputs appropriately we have the following relations:

$$u_1=kU\cos(\omega(t+L/v_{ph})+\varphi_0);$$
$$u_2=kU\cos(\omega(t+(L+\Delta L)/v_{ph})+\varphi_0). \quad (3)$$

where L is *a* waveguide length; $L+\Delta L$ is *b* waveguide length; k is a constant coefficient.
Resulting voltage equals to *(4)*:

$$u_{out}=u_1+u_2=k2U\cos((\omega\Delta L)/(2v_{ph}))\cos(\omega t+\varphi_0'), \quad (4)$$

where

$$\varphi_0'=\varphi_0+(\omega\Delta L)/(2v_{ph})+(\omega L)/v_{ph}. \quad (5)$$

After the second detection process the following voltage is forming on its output:

$$u_{out2}=k2U\cos((\omega\Delta L)/(2v_{ph})). \quad (6)$$

Consequently, u_{out2} output voltage is a frequency function value.
As for u_{out2} output voltage from input signal frequency relation in can be illustrated by figure 2. [2]

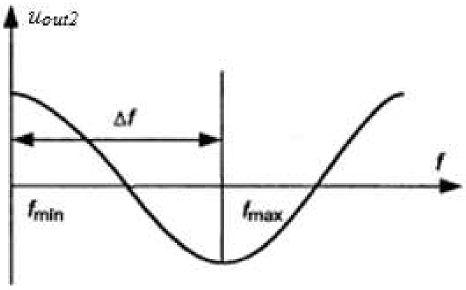

Figure. 2. Interference frequency finder output voltage from input signal frequency relation

Δf frequency range of unambiguous frequency finding is defined by *a* and *b* waveguides lengths difference *ΔL* and as it follows from *(6)* it can be possible only in range of any cosine semi-wave of its argument value from *nπ* to *(n+1)π.* Therefore minimum and maximum intelligent frequencies are defined by the following relations:

$$f_{min}=(nv_{ph})/\Delta L, \quad (7)$$

$$f_{max}=((n+1)v_{ph})/\Delta L, \quad (8)$$

where $n=1,2,3,\ldots$

Joint *(7)* and *(8)* solution give the following relation:

$$f_{max}=f_{min}(n+1)/n. \quad (9)$$

If $n=1$ we can find frequency unambiguously in the following range:

$$f_{max}=2f_{min} \quad (10)$$

u_{out2} output voltage can’t be used directly for frequency finding because its value depends on input signal intensity. For this dependence excluding u_{out2} output voltage to input signal normalization is made. Input signal detection is made until waveguide branching and normalizing to u_{out1} output voltage. As a result we get the following relation depending only on frequency:

$$(f)=u_{out2}/u_{out1}=K\cos((\omega\Delta L)/(2v_{ph})). \quad (11)$$

Interference frequency finder with phase detector on double waveguide branch as main element is a more perfect device that you can see in figure 3.

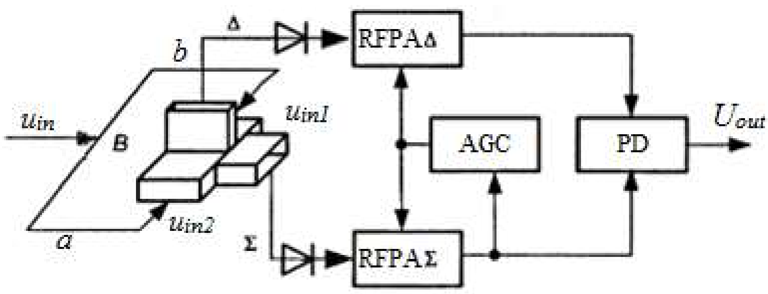

Figure 3. Interference frequency finder with phase detector on double waveguide branch functional scheme

u_{in} input signal comes to *E* and *H* branches of the double waveguide branch from the antenna by the waveguide branching into *a* and *b* waveguides of different lengths in point B and then connecting to the double waveguide branch. As for *a* and *b* waveguides electrical lengths, they differ in the Δl value that is equivalent to their geometrical lengths difference of the ΔL value. Then total and differential fields appropriately effect *E* and *H* branches curve detectors. From these detectors outputs signals come to the radio-frequency power amplifiers $RFPA_\Delta$ and $RFPA_\Sigma$ and then come to the phase detector PD.

Amplitude normalization operation is made by automatic gain control AGC scheme with the help of summarizing signal. Considering all scheme functional identity (detectors and branches matching, $RFPA_\Delta$ and $RFPA_\Sigma$ identity, AGC and other elements ideality) we can describe scheme work by the following relations.

Monochromatic input signal is defined as

$$u_{in}=U\cos(\omega t+\varphi_0) \tag{12}$$

Double waveguide branch *a* and *b* waveguides signals are defined as

$$u_{in1}=U\cos(\omega t+\varphi_0+\varphi);$$
$$u_{in2}=U\cos(\omega t+\varphi_0), \tag{13}$$

where

$$\varphi=(\omega\Delta L)/v_{ph}, \tag{14}$$

where

$$v_{ph}=v/\sqrt{(1-\lambda/(2a))}. \tag{15}$$

Total and differential channels input voltages are defined as

$$u_\Sigma=U(\cos(\omega t+\varphi_0)+\cos(\omega t+\varphi_0+\varphi));$$
$$u_\Delta=U(\cos(\omega t+\varphi_0)-\cos(\omega t+\varphi_0+\varphi)). \tag{16}$$

Therefore curve detectors and amplifiers circuits outputs are defined as

$$u_{d\Sigma}=2k_dKU\cos(\varphi/2);$$
$$u_{d\Delta}=2k_dKU\sin(\varphi/2), \tag{17}$$

where k_d is a detectors transmission coefficient and *K* is the same parallel *E* and *H* branches RFPA gain.

AGC parameters should be chosen in the way that the following relation should be completed

$$K=k_0/2k_d\cos(\varphi/2), \tag{18}$$

and after signals multiplying in PD we have the following output voltage

$$U_{out}=k_{pd}k_0tg(\varphi/2), \tag{19}$$

that is unambiguous connected with input signal main frequency in wide waves length range that is illustrated by the figure 4. [3]

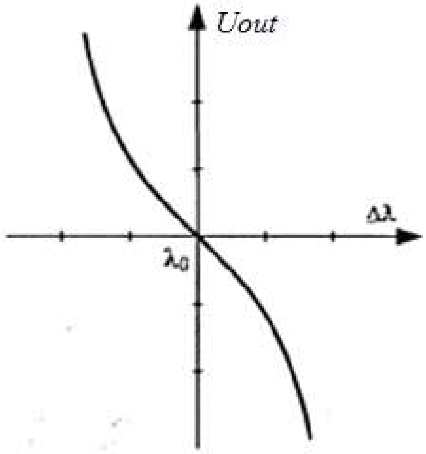

Figure 4. PD output voltage from wave length increment relation

Principally above mentioned relation can be found directly on the $RFPA_{\Delta}$ output. As for PD usage it helps to widen the frequencies range *Δf* finding by such device.

Non-searching method allows to find main frequency almost instantly but as for searching method it requires some time because of RCV resetting need. Frequency finding non-searching method allows to reduce intelligence time significantly, but such intelligence time reducing is possible because of accuracy and calculation resolution capability decreasing or devices quantity increasing. But as for searching method because of higher intelligence time it allows to find main frequency with higher accuracy and provides higher calculation resolution capability.

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Современные языки программирования

В статье описываются наиболее известные языки программирования, рассматриваются их особенности и сферы применения. Такая профессия как программист сегодня является весьма востребованной: навыки программирования пользуются высоким спросом, а должность программиста хорошо оплачивается. Из данной научной статьи читатели смогут выделить достоинства и недостатки представленных языков и, возможно, выбрать самый подходящий для изучения.

The modern programming languages

The development of information technologies in today's world means the evolvement of IT-service systems based on powerful hardware and latest infocommunication technologies. Computers are used in many areas of our life,using tons of specialized supporting software. As a result, a high demand on IT-experts can be seen. The market continues to expand in multiple dimensions, including the appearance of new fields of work.

There are hundreds of programming languages in use today. But how should we understand which one to use? One can easy get lost in the diversity while looking for a language that would be the most suitable for specific purposes.

Let’s look at what the most popular programming languages are nowadays, their capabilities, area of applying, current demand and the direction they are headed towards.

1. Java

Java is one of the most popular languages for the backend development of modern corporate web applications. Java is an object-oriented programming language developed by Sun Microsystems in 1990, which is minimally dependent on the application. It works on the principle of "create once - use everywhere", that is, in the preparation of the code in the future, this code becomes independent of the system in which you use it. With Java, as well as based on it frameworks, developers can build scalable web applications for a wide range of users. Java is the main language used for developing applications for Android smart phones and tablets.

2. JavaScript

Every modern website uses JavaScript. JavaScript is a programming language that runs on the client browser and processes the commands on the end user's computer, not the server, resulting in reduced server load and increase the speed of the application, created by Netscape. Much of its syntax is taken from the language C., but with the language Java. It is a key language for creating interactivity and animation of the site or building a user interface with one of a dozen popular JavaScript frameworks. JavaScript interpreter is built into Google Chrome, Safari, Adobe Acrobat and Reader, as well as Adobe Creative Suite

3. C #

C # was developed in 2000 and is the basic language for the development of platforms and services of Microsoft. Whether it is the development of modern web applications using Azure and NET applications for Windows «devices» or powerful "desktop" applications for business, C # is the fastest way to use all that to offer Microsoft. Furthermore, it is one of the major languages for game development engine Unity. C # combines the reliability of C ++ with additional features of Java. Therefore, if you are familiar with Java, you can easily switch to C # and vice versa. From this point of view, the C # language is worth learning if you plan to develop applications for Windows platforms.

4. PHP

Do you write a Web application to work with data? PHP language along with databases (e.g., MySQL) is an important tool for creating modern Web applications. Most developed on PHP sites are focused on a large amount of data. It can be directly embedded in the HTML source code of the document, rather than a single file, which makes it a popular programming language among web developers.

This is also an underlying technology of powerful content management systems like WordPress.

5. C ++

The financial industry has always valued professionals who know C ++. A significant part of the exchange and brokerage infrastructure were created just using that language. It is an ideal choice for the development of powerful "desktop" software, games with hardware acceleration, as well as applications for PC, consoles and mobile devices that require large amounts of memory to run. This is one of the most powerful programming languages; most of the operating systems that we use today, are written on it.

6. Python

Python was conceived in the late 1980s and its implementation began in December 1989 by Guido van Rossum at Centrum Wiskunde & Informatica (CWI) in the Netherlands.

Python is a widely used high-level, general-purpose, interpreted, dynamic programming language. Its design philosophy emphasizes code readability, and its syntax allows programmers to express concepts in fewer lines of code than possible in languages such as C++ or Java. The language provides constructs intended to allow writing clear syntax both on a small and a large scale.

Python supports multiple programming paradigms, including object-oriented, imperative and functional programming or procedural styles.

It is heavily used in education sector, web and internet development, scientific and numeric computing as well as in big data and machine learning algorithms development.

7. C

C is a compiled, procedural language developed in 1972 by Dennis Ritchie for the UNIX operating system. C is the predecessor to more complex programming languages like Java and C#. It was designed to be compiled using a relatively straightforward compiler, to provide low-level access to memory, and introduce language constructs that map efficiently to machine instructions, requiring a minimum of run-time support

Although C is a relatively old language, it is still widely used for system programming, writing other programming languages, and in embedded systems.

8. SQL

SQL was initially developed at IBM by Donald D. Chamberlin and Raymond F. Boyce in the early 1970s.

SQL is a database query language (SQL stands for Structured Query Language) that's ideal when operating with data. SQL lets you transfer helpful data from massive databases. Nearly every app has a backend database, and SQL is the language that helps you to interact with that data. The scope of SQL includes data insert, query, update, delete, schema creation and modification, and data access control queries.

Database technologies such as MySQL, PostgreSQL and Microsoft SQL Server are used by big and small companies, hospitals, banks, and universities.

9. Ruby

Ruby is an interpreted, object-oriented language written by Yukihiro Matsumoto in 1995. It is one of the most popular object-oriented languages in the world. Everything is an object in Ruby, even letters and numbers can have method calls.

Ruby is programming language that is simple and aids rapid application development. Ruby is best known for its popular framework Rails (Ruby on Rails) and is used mostly for web programming.

10. Objective-C and Swift

If you're interested in making apps for iOS, you'll need to know Objective-C or Swift.

Swift is a relatively new language and it is becoming more and more common among Apple developers. Creating Swift started in 2010 by Apple engineer Chris Lattner. It brings in the best of C and Objective-C.

One of the biggest hurdles people face when trying to learn Objective-C is its confusing syntax. Swift is designed to have a simpler syntax, in line with other modern programming languages.

Apple's new language Swift is raising in the ranks, but Objective-C is still the recommended starting point for those looking to craft Apple apps for iPhones and iPads.

The capabilities of today's programming languages let developers unleash their potential and build technologies of tomorrow.

If you are a forward looking developer or looking forward to be a developer, it is high time to start learning programming with at least one of the top programming languages.

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Моделирование системы связи с эффектом межсимвольной интерференции (МСИ) в программном пакете Matlab Simulink.

В данной статье будет описана модель системы связи с эффектом межсимвольной интерференции. возникающего после прохождения сигналом многолучевого канала. Основное внимание будет обращено на адаптивные методы обработки сигнала, позволяющие избавиться от эффекта межсимвольной интерференции. Также будет приведена модель системы связи с обработкой сигнала после его прохождения через многолучевой канал с возникшим эффектом МСИ.

Communication systems modelling with the effect of inter-symbol interference (ISI) in the software package Matlab Simulink.

Multipath is the effect of signal transmission. In the process of this phenomenon, there are several ways of transmitted signal receiving at the one moment or with a slight delay. The multipath effect is illustrated by the figure 1.

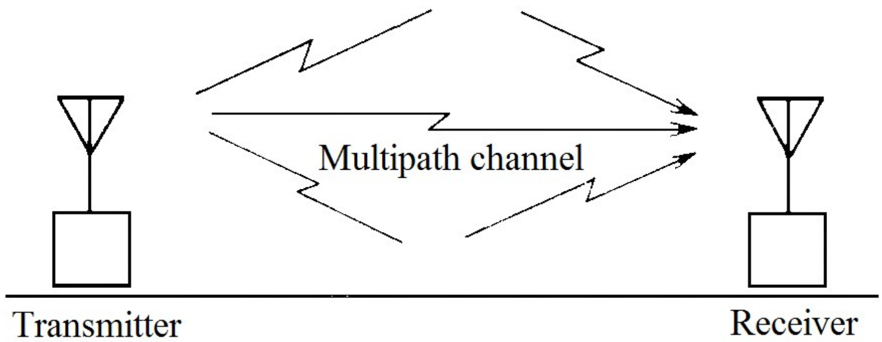

Figure 1 – Multipath signal transmission.

During the multipath signal transmission the following effects can appear:

- signal reflection;
- fading;
- inter-symbol interference.

Today conditions of signal propagation are very diverse, for example, a lot of buildings, different noises from mobile and base stations and etc. and it means that each of effects mentioned above can appear in unique way. Therefore, when one of mentioned effect appears conditions of several signal copies or several signal propagation ways appear too.

After this phenomenon studying, we can conclude that multipath signal problem is overall. Moreover, it is necessary to create such devices and methods of signal processing that echo signal or signal inter-symbol interference effects can be compensated to their minimum values or absolutely disappeared. The examples of such methods and devices are the following: adaptive filtration, channel equalizer, separate receiving, wideband signals, guard intervals between symbols. The algorithm of adaptive filtration or equalizing will be described in details further. [1]

The theoretical information about multipath is considered to present a model of a communication system with multipath channel (Figure 2).

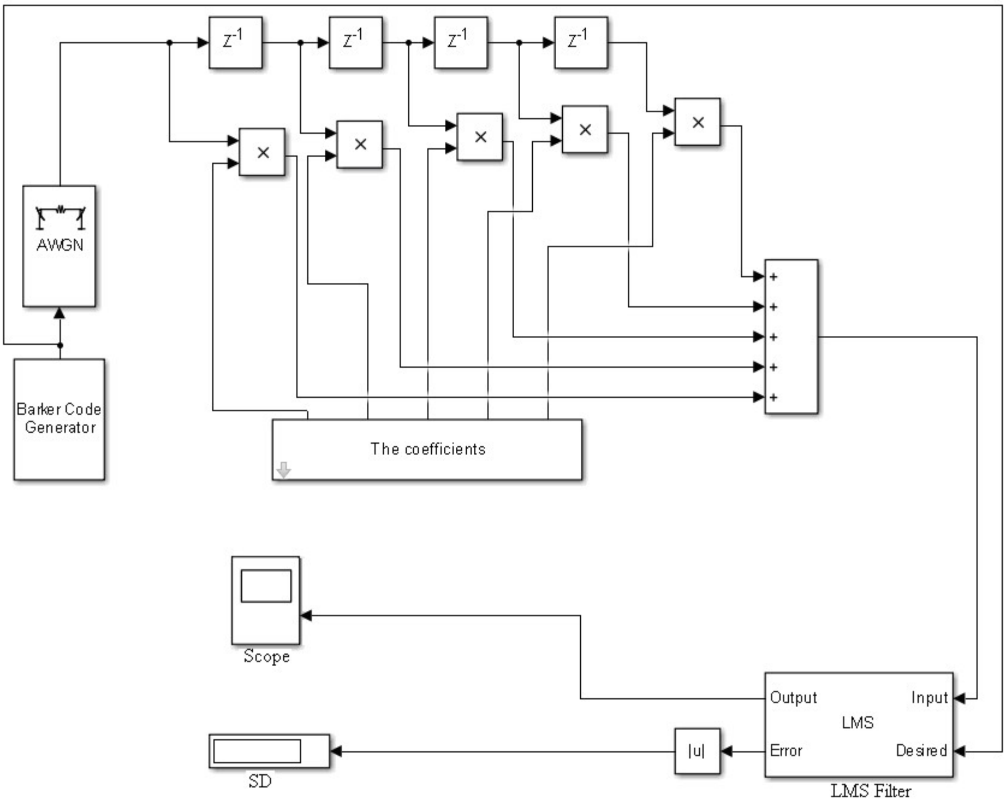

Figure 2 - A model of adaptive equalizer (SD is a standard deviation)

A model of adaptive equalizer (figure 2) consists of several blocks that allow creating the effect of the inter-symbol interference with the help of a multipath channel. Moreover, it shows cleansing of the signal from the effect of ISI using LMS Filter.

The LMS Filter block can implement an adaptive FIR filter using five different algorithms. The block estimates the filter weights, or coefficients, needed to minimize the error, e(n), between the output signal y(n) and the desired signal, d(n). When you select LMS for the Algorithm parameter, the block calculates the filter weights using the least mean-square (LMS) algorithm. This algorithm is defined by the following equations.

$$y(n) = w^T (n-1)\, u(n) \qquad (1)$$

$$e(n) = d(n) - y(n) \qquad (2)$$

$$w(n) = \alpha w(n\text{-}1) + f(u(n),e(n),\mu) \quad (3)$$

where n is a current time index; u(n) is a vector of buffered input samples at step n; w(n) is a vector of filter weight estimates at step n; y(n) is a filtered output at step n; e(n) is a estimation error at step n; d(n) is a desired response at step n; μ is a adaptation step size; α is a leakage factor ($0 < \alpha \leq 1$).

The various LMS adaptive filter algorithms available in this block are defined as:

- Standard LMS

$$f(u(n),e(n),\mu) = \mu e(n)u^*(n) \quad (4)$$

where u*(n) is a complex conjugate of the vector of buffered input samples at step n.

- Normalized LMS

$$f(u(n),e(n),\mu) = \mu \cdot e(n) \cdot \frac{u^*(n)}{\varepsilon + u^H(n) \cdot u(n)} \quad (5)$$

- Sign-Error LMS

$$f(u(n),e(n),\mu) = \mu sign(e(n))\, u^*(n) \quad (6)$$

- Sign-Data LMS

$$f(u(n),e(n),\mu) = \mu e(n) sign(u(n)) \quad (7)$$

where u(n) is real.

- Sign- Sign LMS

$$f(u(n),e(n),\mu) = \mu sign(e(n)) sign(u(n)) \quad (8)$$

where u(n) is real.[2]

Now we consider a few various of LMS adaptive filter algorithms and examine simulation results (figure 3). The simulation was performed for the Barker code of length 13, for three different LMS adaptive filter algorithms and for the similar amplitudes of the multipath component [0,05 0,04 0,03 0,02 0,01].

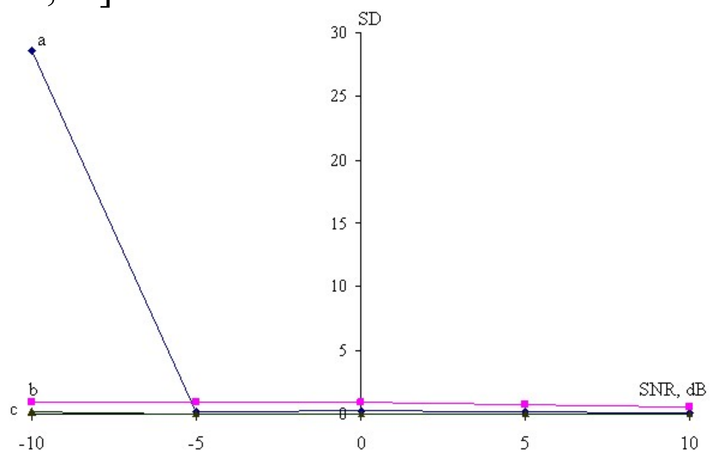

Figure 3 – Standard deviation from signal-to-noise ratio
(a – LMS; b – NLMS; c - Sign-Error LMS)

Experiment conclusions.

As the result of my own experiment with the model of figure 2 for the Barker code of length 13 we can see that three of LMS adaptive filter algorithms converge in the right sequence according to the theory. This experiment starts from standard LMS adaptive filter algorithm that has the worst convergent ability and finishes with LMS adaptive filter algorithm with better convergent mistake between all previous LMS adaptive filter algorithms. This result exists because of Barker code of length 13 best noise immunity and each of further LMS adaptive filter algorithms has better convergent ability.

Moreover, we can see figure 2 adaptive filter output signal oscillation waveform shown at the figure 4 that was found during the work where Barker code of length 13, normalized LMS adaptive filter algorithm and -5 dB SNR were taken as oscillation waveforms examples.

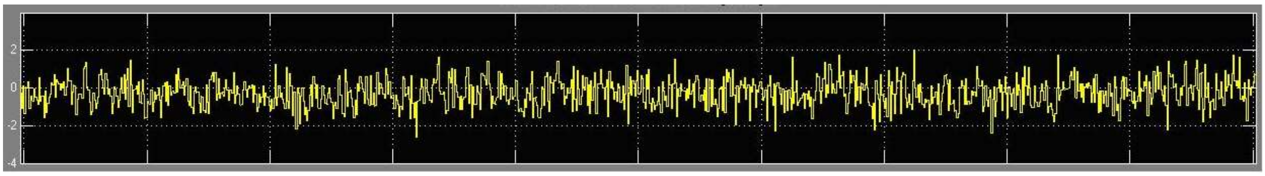

Figure 4 - The output signal of the adaptive filter

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Как технология Big Data помогает нам?

Big Data (Большие Данные) является сравнительно новой технологией, которая в наши дни активно развивается. В данной статье рассматриваются сферы жизни, в которых данная технология нашла свое применение. Показано, что с использованием анализа Big Data увеличивается точность прогнозов и предсказаний, растет качество товаров и услуг, которые предлагаются только заинтересованным пользователям, а также разрабатываются новые методы и технологии для улучшения жизни.

How Big Data helps us?

The term Big Data has come into use recently. According to Google Trends the beginning of active growth of the phrase usage began in mid-2011 illustrated in Fig. 1.

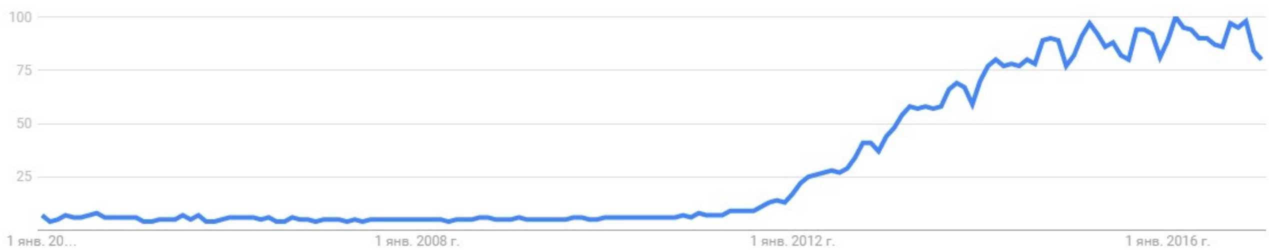

Fig. 1 Interest over time the term Big Data

The term Big Data is being increasingly used almost everywhere. Firstly, let’s understand what actually Big Data is.

Big Data is a phrase used to define a massive volume of both structured and unstructured data so large that it is difficult to process it using traditional database and software techniques. Among the challenges are analysis, capture, data curation, search, sharing, storage, transfer, visualization, querying, updating and information privacy. The term "big data" often simply refers to use of predictive analytics, user behavior analytics, or other certain advanced data analytics methods that extract value from data, and seldom to a particular size of data set. [3]

Thus, Big Data is not any specific data volume or the data itself; this is a method of processing which allows processing information distributing.

Also, the crucial aspect here is that there is not just a lot of information: it's a volume constantly and rapidly growing, at that, data are often not structured and dissimilar.

These data include for example:

• Logs of user behavior on the Internet
• Information on the transactions of all the bank clients
• A text, images and a video
• Various statistics (e.g. reading of wearable gadgets)

In the grand scheme of things, data can be whatever one likes.

From a seemingly completely mindless flow of information one can not only get valuable information, but also predict on the basis pending events or behavior modification. This is exactly what is considered the major feature Big Data, thanks to which they can be applied in all areas of our lives.

Let's take a closer look at what areas of our lives Big Data have already been used in. [4]

Predicting Crime

Law enforcement institutions have found out how to use Big Data. National Security Agency is known to use Big Data tools to prevent terrorists' attacks. Others implement the promising methodology to prevent smaller scale crimes, too.

Since 2011 the Los Angeles police department, the first in the United States, has been putting to use analytical system, developed by the University of California, for forecasting locations and probability of crime commission. The algorithm is what's commonly referred to as predictive policing. The analytical system "learned" of the patterns using all the police reports, those are about 13 million offenses for 80 years and recent crime data. Using only three data points – crime type, crime location and crime date/time – this system provides each law enforcement agency with customized crime predictions for the places and times that crimes are most likely to occur. The system pinpoints small areas, depicted in 500 feet by

500 feet boxes on maps – that are automatically generated for each shift of each day. [6]

Today this system is used in police departments in Los Angeles, Atlanta and Santa Cruz.

Healthcare

The electronic health records are a system that takes information from a number of sources. Here is the information about patient's diagnoses, drugs they take, current health issues, medical procedures administered, test results, clinical notices. Electronic health records of this type are made capable of notifying patients about the need to undergo a new examination. In addition, the electronic health records provide following doctor's orders for supervising patients.

Also Big Data technologies implementation in medicine would allow studying diseases more thoroughly, and selecting treatment methods more efficiently, in every case. Analyzing information allows medical workers predict disease recurrence and take appropriate measures in advance. Diagnosing and treatment would be improved significantly.

Moreover, activity trackers are becoming more commonplace as personal monitoring devices to record steps taken, distances covered, and pulse rates. [1]

With the help of them, even if human health is normal, petabytes of information collected will form a flexible and constantly growing database. Just imagine that all this wealth of information can be "fed" IMB Watson, which is based on a large number of these patients. It will be able to recommend the best treatment for each of us. Neural networks will be able to identify the relationship between the data trackers and tendency to disease, helping others to learn about any illness beforehand.

Social networks

Recent research has shown that "Likes" in social networks help to know a person better than he/she knows oneself. Thus, we can find out if a person smokes or not, what kind of food he likes and how often he travels. Furthermore, we can accurately predict a range of highly sensitive personal attributes including: sexual orientation, ethnicity, religious and political views, personality traits, intelligence and happiness, addictions, family status, age and gender. And also it is possible to reveal a propensity for violence, alcoholism and even suicide, even when the person does not know about it.

According to experts, 68 "Likes" in the social network is enough to determine the color of a person's skin, sexual orientation and political views. Over 70 “Likes” may help to know some information about the person which is only available to familiar friends. Over 150 “Likes” help to know a person better than his/her parents do, and over 300 “Likes” - more than his wife or husband knows about him/her. [2]

All this information can be used to improve numerous products and services. For example, digital systems and devices (such as online stores) could be designed to adjust their work to suit each user’s inferred profile better. Also, the relevance of marketing and product recommendations could be improved by adding psychological dimensions to current user models.

Five years ago, the use of the principles of Big Data has become a trend. Now Big Data is not an abstract concept, but it is an efficient set of technologies. The reason for this is clear. Digital technologies are developing rapidly; the volume of information is growing steadily, at the same time broadening the perspective for Big Data in real projects. Following the IDC Digital Universe forecasts, by 2020, the total volume of data on the planet will be 40 Zettabyte, which is equivalent to 5200 GB for every person on the Earth. [5]

This technology can be already useful in almost all areas of human activity: from medicine and enforcement of public order, to marketing and sales. And who knows what will be the role of Big Data in several years?

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Использование студенческих разработок для улучшения образовательного процесса

В последнее время разрабатываются новые экспериментальные методы повышения качества образования, проводятся различные исследования в этом направлении. Одним из важных направлений является вопрос повышения интереса студентов к образовательному процессу. В статье рассматривается один из экспериментальных методов данного направления, который заключается в непосредственном вовлечение студентов в разработку учебных материалов.

The use of student development to improve the educational process

The question of improving the quality of education is extremely relevant nowadays. Today there are many different methods to achieve it. Various studies have been conducted to develop new experimental methods for improving the quality of education. An important aspect of the research was the issue of increasing students' interest to educational process.

One of the experimental methods suggested making students a part of a working process. This method is a direct involvement of students in the development of teaching materials.

It's not a secret that in a student's community there is a trend when senior students help younger ones. As a rule, the older students simply give a ready-made work to the younger ones. Of course, in most cases such "help" has no benefits. However, an experience shows that there are people who seek to understand the educational materials. They use the work of senior students, analyze it and receive necessary information and knowledge. This approach is often better than actual training materials. This phenomenon can be explained by the fact that these students analyzed given to them work and tried to do better or at least to achieve the same result.

As a part of this work the control group of students that study the course of digital imaging has been given an application. This application has been developed in advance.

Thus, the work has also received practical application as a teaching material for the course of basic digital image processing.

The main objective of the work lies in the fact that students have successfully mastered the basics of computer digital image processing, and are able to apply knowledge in practice.

The developed application can serve as an educational manual on the basics of computer digital image processing due to the visibility of the algorithms.[3]

This application has the main basic image processing techniques. These methods are the most simple and demonstrative. It makes them ideal for consideration in the educational process. Implemented functions can be divided into several categories: contrast scaling, changing the histogram, imposition of noise, median filtering, smoothing filters and so on. [1,2]

Contrast zoom is the method of changing the brightness of each pixel linearly $g = fa + b$. (Figure 1). It is also embodied three different kinds of brightness sections that are vanishes, contrast and smoothing. [1, 2]

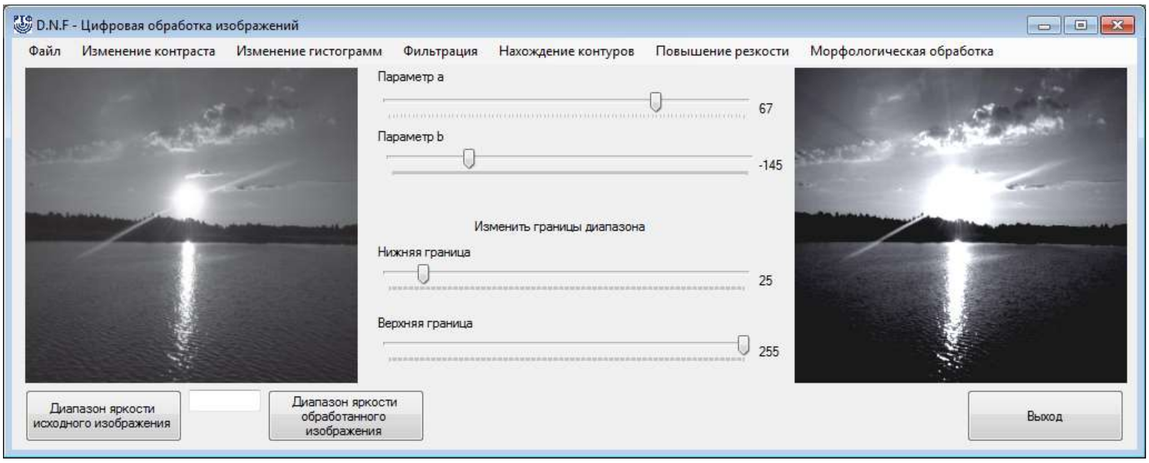

fig. 1 Contrast scaling

Change histograms it is an image transformation by changing the brightness of the pixels in accordance with the laws of different brightness frequency distribution. (Fig.2). [2]

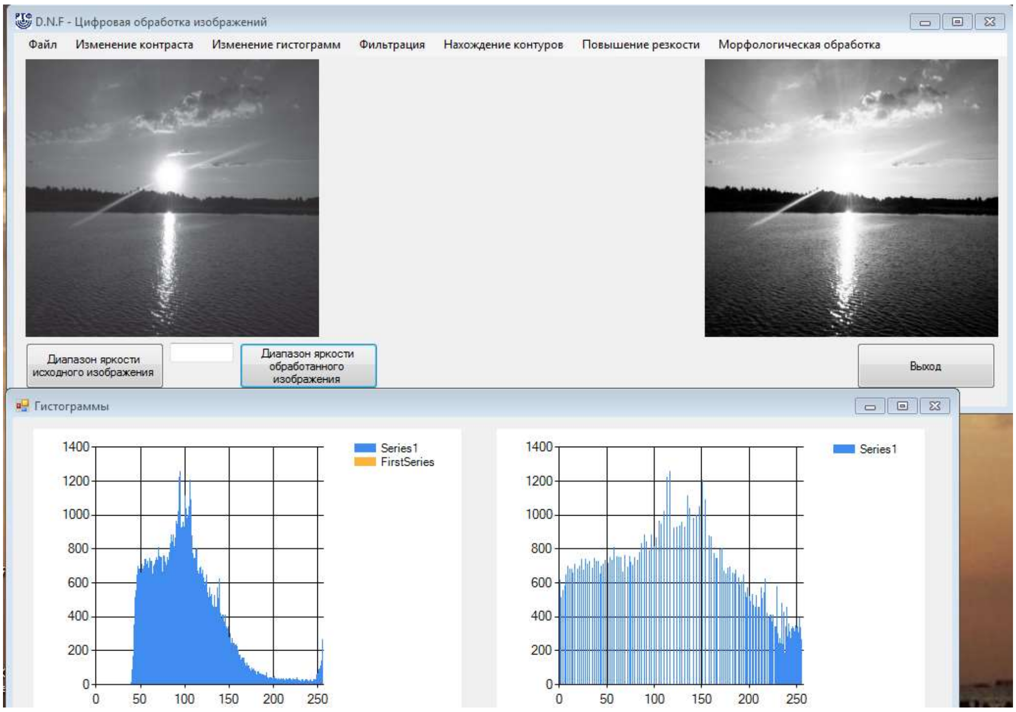

fig. 2. Changing the histogram

Smoothing Spatial Filters are spatial filters that change the pixel value depending on changes in the brightness of the light intensity of its neighboring pixels. (Figure 3) [2, 3]

To eliminate the gaps, as well as in pre-imaging the pattern recognition systems are often used morphological processing and processing with the matrices Laplace.[4]

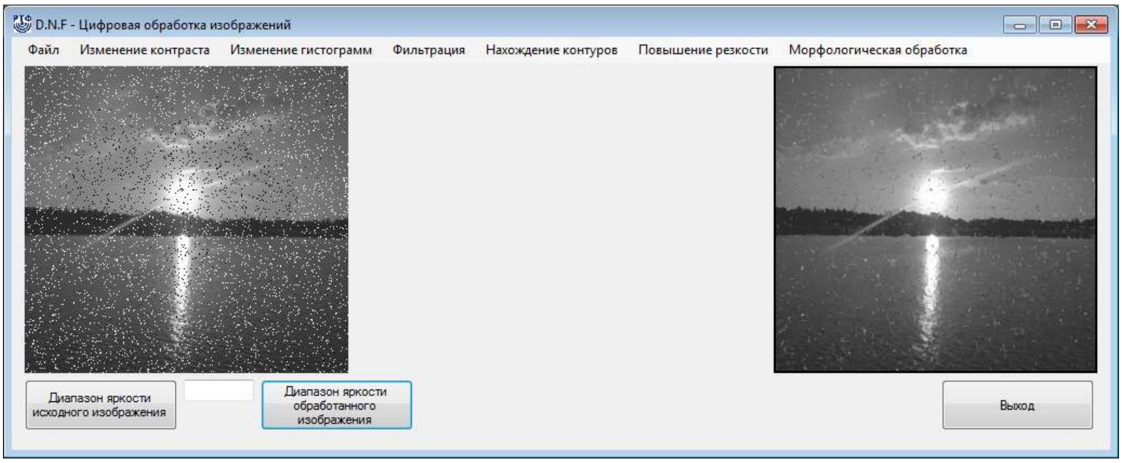

fig. 3.Smoothing spatial filter

Morphological processing is an information extraction method (borders, skeletons, convex hulls) from the original image. (Fig. 4) [1]

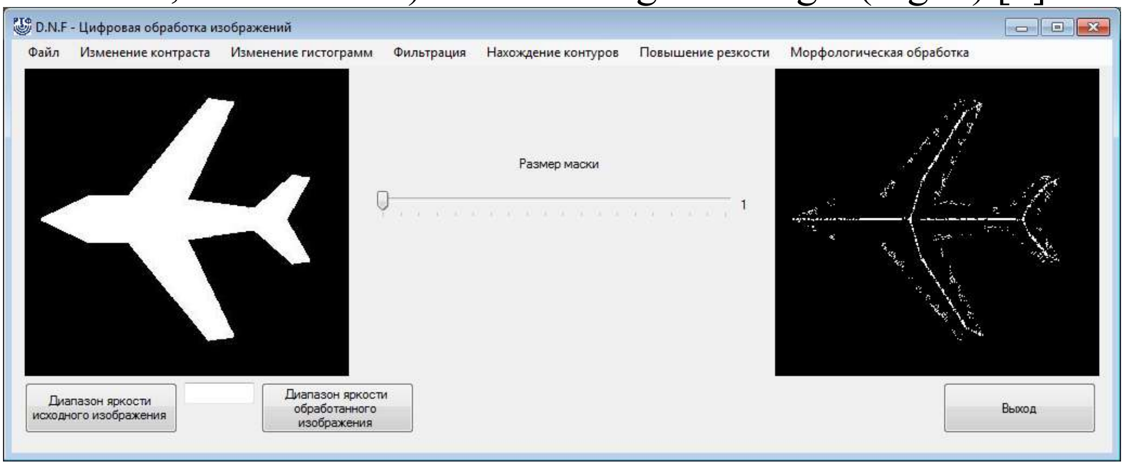

fig. 4 Morphological processing. Skeletonization

Most of the techniques are implemented with interactive input control parameters.

Students were asked to write their own software products, relying on the knowledge of the final result, as well as to improve it, making the optimization of the parameters for standard-quality software products, the volume of spent resources and time operations.

This research will be continued, and the results of the student's works at the end of the semester will be evaluated. The evaluation of student performance statistics will be shown in the discipline in comparison to two previous years.

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Умный дом и его возможности

Данная статья посвящена концепции «умный дом», которая все чаще начинает появляться в наших домах. Функции данной системы разнообразны, начиная от обычного оповещения на телефон, заканчивая системой автоматического контроля подходящего вам микроклимата. Главное достоинство данной концепции заключается в полной автоматизации управления вашего дома.

Smart House and its Possibilities

As you know, in today's world there is a process of automation going on to facilitate human life. This fact also touched our homes. All buildings consist of complex subsystems responsible for certain tasks that appear during the operation of the building. The "smart house" concept was invented to solve the problem of managing these functions and subsystems.

Smart House is a house of a modern type, organized with the help of high-tech devices for the convenience of people living in it [2]. The concept of a "smart house" was formulated by the Intelligent Buildings Institute (IBI) in Washington DC in 1970 and went as follows: “An intelligent building is one which provides a productive and cost-effective environment through optimization of its four basic elements, i.e. structure, systems, services and management and the interrelations between them” [3]. The "Smart House" concept implies a system that recognizes certain situations and reacts to them in the way specified in the program algorithm. "Smart House" is the most advanced concept of human interaction with the living space.

The "smart house" concept includes the following provisions:

1) Sustainability of various systems’ operation in order to reduce utility costs.

2) Increase of the facility’s security level by means of the automatic switching-in of centralized video surveillance system, signalling system, fire sensors and monitoring of the premises.

3) Remote control of the house. This is one of the most important functions of a smart house. Due to it, you can receive notifications while being on vacation, on a business trip, or staying with relatives in another city.

4) Reduction of maintenance staff by means of transferring control functions to the "smart house" management systems.

The term "smart house" is most often understood as a way to combine the following subsystems into a single management system:

1) Video surveillance
2) Communication (telephone line and local area network)
3) Notification System
4) Mechanization (opening / closing of the gate)
5) Video / Audio equipment control
6) Remote monitoring of the systems (via smartphone, PC, etc.)
7) IP-monitoring of the facility – remote control of the systems via the network

The current progress has reached the point that allows to install only those functions of a "smart house" that are really necessary. The modular structure allows to create a system that will not hit you in the wallet, and will fully satisfy you with its functionality.

Technologies of creating a “smart house”

At the moment, there is a huge amount of technologies to create a "smart house" but the most promising and popular ones are the following:

1) BPT, a home automation system with distributed intelligence using a closed data transfer protocol. This system manages lighting control, home automatic equipment, air conditioning, heating, engineering utilities, security alarm, and interphone system [1];

2) LanDrive, a platform that allows to construct distributed bus-bar systems for managing indoor and street lighting, power loads, electrical appliances, as well as such systems as heating, air conditioning, ventilation, burglar alarm, access control, and water leaks [1];

3) C-Bus, a protocol for home automation and automation of buildings, sports facilities, etc. C-Bus is a system with distributed intelligence (without CPU) using the category 5 cable (Cat.5), one segment of which can be up to 1000 m. long. Up to 255 of such segments can be combined into a single system. The C-Bus protocol was created by Clipsal Integrated Systems to be used in the systems of home automation and buildings’ lighting control [1];

4) AMX, a centralized home automation system developed by the company with the same name. Its protocols are closed. Its own data buses were initially used in it. New AMX hardware lines use standard Ethernet protocols, Wi-Fi and Zigbee for transferring data. It has gateways for pairing with other systems (EIB, LON and others) [1];

5) X10, a protocol for managing electrical appliances. The signal is transmitted either through electrical wiring or within a radiofrequency range [1];

Main functions of a "smart house"

Lighting control

Lighting control allows the user to create a range of colors, which would be pleasant for their eyes. The light dimmers let you change the brightness of the lamp when it is switched on. The automatic activation of the external lighting, which depends on the time of day will help reduce the cost of electricity, and will scare off intruders.

Microclimate control

The system maintains a certain type of microclimate in each specific room, thanks to the constant temperature measurement, by means of controlling radiator valves and air conditioners, and turns the ventilation on and off. If you suddenly decide to open the windows for ventilation, the heating system switches off automatically to save energy.

Security

The system records all events that occurred in the house during your absence: attendance control, time of visit, detection and deterrence of suspicious individuals by means of blinding light and audible siren. In case of a sudden housebreaking the system will call security and send a notification to your phone.

Emergencies

In such emergency situations as, for example, gas leakage, the house will notify the owner and contain the accident by stopping the gas supply.

Presence effect

In the absence of the tenants in the house, the "smart house" will ensure a simulation of the traditional lifestyle of the owners, keeping a normal daily routine (including turning on light, TV, or music).

"Smart House" is popular in many countries around the world as it is a complex system of automation of buildings using a variety of functions: systems of heating, lighting, fire protection, security, protection against water, air, and gas leakages. The system works thanks to the abovementioned devices and protocols, such as LanDrive, X10, BPT, C-Bus, and AMX.

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Машинное обучение. Введение в генеративные модели. VAE.

Основная идея, стоящая за генеративными моделями – jпонять, как устроен изучаемый процесс, воспроизводя его. Имея обученную генеративную модель, мы можем создавать вещи с нуля. Сегодня такие модели широко используются для создания картинок, рукописного текста, синтеза речи.

Machine Learning. Introduction to Generative Models. VAE.

Introduction

Machine Learning is a scientific discipline that answers the following question: How computer programs can automatically learn and make intelligent decisions based on data.

In 1946 the first computer system ENIAC was developed. In 1950 Alan Turing proposed a test to measure the ability of a machine to learn. The Turing test is based on the idea that we can only determine if a machine can actually learn if we communicate with it and cannot distinguish it from another human. For today no machine has completed the entire test.

Last decade machine learning received new boost from gathering huge amount of statistical data and scaling up computations, particularly GPU.

Accumulated information describes processes that surround us. One practical problem is to teach a machine the process using information we already have. In order to understand the process we try to create a model reproducing it. This model is named generative. Researches see huge potential and expect to get semantic and interpretable features of natural processes. This article will introduce one of these models.

The main idea behind generative models is “what I cannot create I cannot understand”. Having trained generative model we can create things from scratch. Today popular models are used to generate real looking images, handwriting text, and speech.

Variational Auto encoders

In the tasks of statistical learning getting generative model is the most desirable result and at the same time it is most challenging. Frequently it is excessive. Consider generating natural images as an example of learning generative model task and start from formal objective setting.

It is possible to distinguish between two formulations of the problem to recover joint probability function. They are complete-data and incomplete-data recovering. The second one is more general and of more interest to us. Today the popular algorithm to obtain generative model for incomplete-data case is Variational Auto encoders (VAE) that was introduced by Max Welling and Kingma in 2015. The example of algorithm to deal with complete-data is GAN (Generative Adversarial Networks)

In this article we explain the core principles of the design and learning VAE model. Then we will conclude about strengths and weaknesses of VAE. For the sake of clarity, we make explanation using an example of generating images of handwritten digits. We will use MNIST that is a popular dataset for our experiments.

Let we have some dataset $X = \{x^{(i)}\}_{i=1}^{N}$ consisting of N independent samples of some random variable x. Every x from X is the image of a digit presented by a vector of pixels. Each pixel represented by number, 0 for white and 1 for black. We should note that all x from X are independent and identically distributed. Every sample x from X is placed in correspondence with value of random variable z. The values of variable z we cannot observe. For example, z can encode the digit presented on the image or font characteristics. Likewise z is named latent variable or silent variable.

We consider that the process of painting is arranged as follows:

- We sample z from according prior distribution $p_\theta(z)$. We assume that this distribution comes from parametric family and we know it up to parameter θ.

- Then we sample x according to conditional distribution $p_\theta(x \mid z)$ using z we have chosen on the first step. This distribution also comes from parametric family and we know it up to parameters

$$p_\theta(x,z) = p_\theta(z) \cdot p_\theta(x \mid z)$$

For example, first choose digit from 0-9, italic font and then draw. Our goal is having dataset $X$to find $\theta*$ that maximize the logarithm of likelihood to have a chance to observe X.

$$\theta* = argmax_\theta \sum_i^N log\, p_\theta(x^{(i)})$$

Actually in this formulation we can apply EM algorithm. However it becomes difficult or even impossible when an intractable integral arises during computing posterior probability density function (PDF). This can happen in case of modelling $p_\theta(x \mid z)$ with neural network with nonlinear hidden layer.

$$p_\theta(x) = \int_{z \in Z} p_\theta(z) \cdot p_\theta(x \mid z)\, dz$$

$$p_\theta(z \mid x) = \frac{p_\theta(x \mid z) \cdot p_\theta(z)}{p_\theta(x)}$$

VAE algorithm was invented to solve this difficulty. VAE as well as EM is trying to maximize the lower bound of log likelihood. The core idea of VAE is parametrization trick to solve problem of sampling from $q_\phi(z \mid x)$

If we have random variable z from some distribution $p(z)$, we often

can replace z with differentiable mapping g of another random variable $z = g_\phi(\epsilon)$, where ϵ is random variable with its own distribution. All comes down to choosing g and parameters ϕ. The values of parameters can be found during learning process because we choose g to be differentiable with respect to parameters.

$z = g_\phi(\epsilon)$, where ϵ is random variable

In our case we'd like to apply this trick to approximate posterior

$$z \sim p(z \mid x)$$

$$z = g_\phi(\epsilon, x)$$

The parametrization trick allows us to rewrite an expectation with respect to $q_\phi(z \mid x)$ to make its Monte Carlo estimate differentiable w.r.t ϕ. What eventually allows to perform optimization of lower bound more effectively. We can emphasize the following features of VAE algorithm:

1. Easy to train and get working.
2. Allows to explicitly obtain generative model.
3. Allows to obtain discriminative model.
4. Works with incomplete-data.
5. Allows to put in model hypothesis about prior distribution of latent variables
6. Not always possible to get interpretable representations of model parameters
7. Generative model output is blurred

Nowadays there exist improvements of VAE. One of them is Variational Inference with Inverse Autoregressive Flow was introduced by Durk Kingma and Tim Salimans. The idea is the transformation of a simple distribution over the latent variables into a much more flexible distribution. This allows choosing arbitrary approximate posterior distribution and making parallel computations.

Another one is a combining GAN and VAE [1] model named adversarial auto encoders to get benefits of each of them

Experiments

We trained VAE model using images from MNIST dataset. Figure 1 depicts the manifold of digits the trained model can produce. We optimized model with two dimensional latent space using ADAM - improved method of gradient descent.

To get the picture we transform linear spaced coordinates from unit square to Gaussian space to get samples of variable z. Then for each z we obtain $p_\theta(x \mid z)$ using θ we learned during training. We used mini batches of size 100 and made $1e6$ steps.

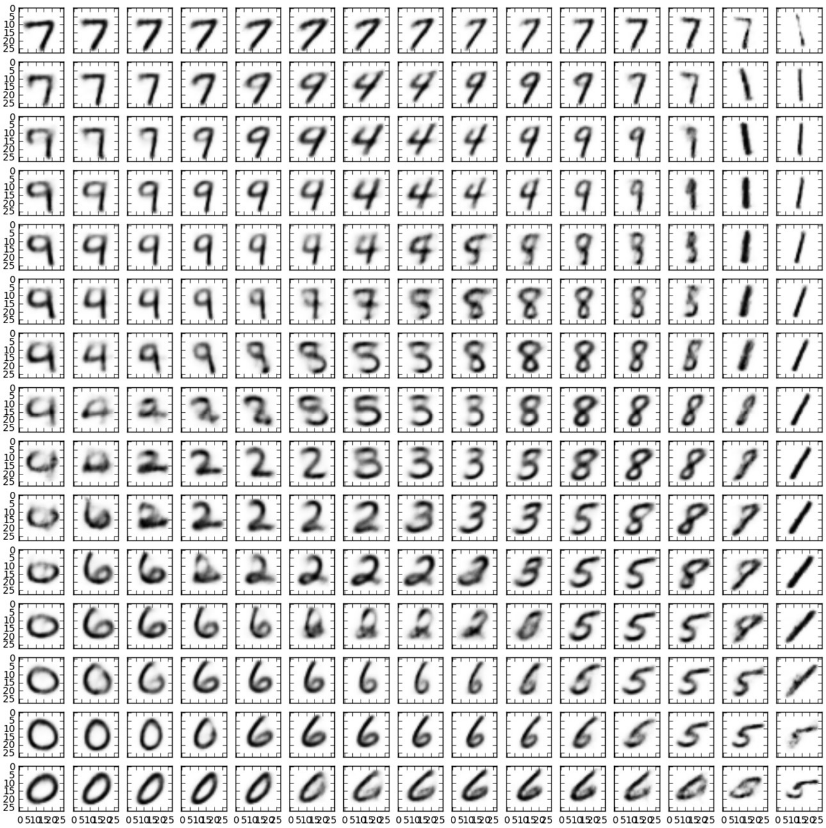

Fig. 1. MNIST manifold

Ideas of practical usage of generative models

One of the most desirable applications of generative models is extracting interpretable and disentangled representation of parameters of model. Using digit generation example we would like to have the parameter representing the value of digit on the picture. Put in other word we would like to have a non-deterministic mapping that takes number from 0 to 9 and produces the image of this number. In general we want to build mappings taking names of objects to draw. Similar we could generate sounds, voice, text and other things created by nature or human.

Today generative models are used for image noise reduction, super-resolutions, recover lost information on images or videos, neural network pretraining.

The accumulated data from various areas of human life are waiting to be processed to reveal new knowledge.

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V. Спорт и здоровьесберегающие технологии

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Анализ результативности в беговых дисциплинах легкоатлетов Свердловской области на чемпионатах России в постсоветский период

Статья посвящена анализу результативности выступлений легкоатлетов Свердловской области в беговых дисциплинах на Чемпионатах России в постсоветский период. На основе анализа динамики выступлений легкоатлетов Свердловской области сделаны выводы об успешности выступлений легкоатлетов Свердловской области.

Analysis of performance in running disciplines of the Sverdlovsk region athletes in the championships of Russia in the post-soviet period

Sports results characterize quantitative and qualitative indicators of competitive activity. The purpose for all athletes in competitive activities is the achievement of high results. High results in sports are records, set by athletes, and winning prizes. The study of dynamics of results helps identify strengths and weaknesses of the system of sports training, and reserves for improving sports performance.

Many works of local and foreign experts are devoted to the analysis of sports achievements in running types of athletics [2]. At the same time, studies of the regional aspect of this problem are fragmented.

The purpose of the study was to identify trends in the dynamics of sports results of athletes from the Sverdlovsk region in the running disciplines in the Championships of Russia in athletics during the period from 1992 to 2016.

The article discusses the running discipline of athletics and examines the results of the athletes of the Sverdlovsk region in the Championships of Russia in the post-Soviet period. The study was conducted in the following directions:

– analysis of the dynamics of the performance of athletes from the Sverdlovsk region in comparison with similar indicators of sportsmen of other regions;

– identification of the most successful years for athletes of the Sverdlovsk region;

– identification of the most productive years for the Sverdlovsk region in the Russian Championships in athletics.

The results of the study. For the first time competitions in athletics in the Sverdlovsk region, including running disciplines, were held in 1920 at the Ural Olympics. By the end of 90-s, a powerful system of high class athletes' preparation was created in the Sverdlovsk region.

At present, the results of Sverdlovsk athletes in running disciplines can be considered high, as Sverdlovsk region is among ten top regions in Russia. These ten are called Super League. In the Championship of Russia in 2016 Sverdlovsk region took the fifth place in the Super League.

Figure 1 shows the dynamics of the number of prizes of athletes from the Sverdlovsk region in comparison with the results of athletes from other regions in running disciplines at the Championships of Russia – from 1992 till 2016.

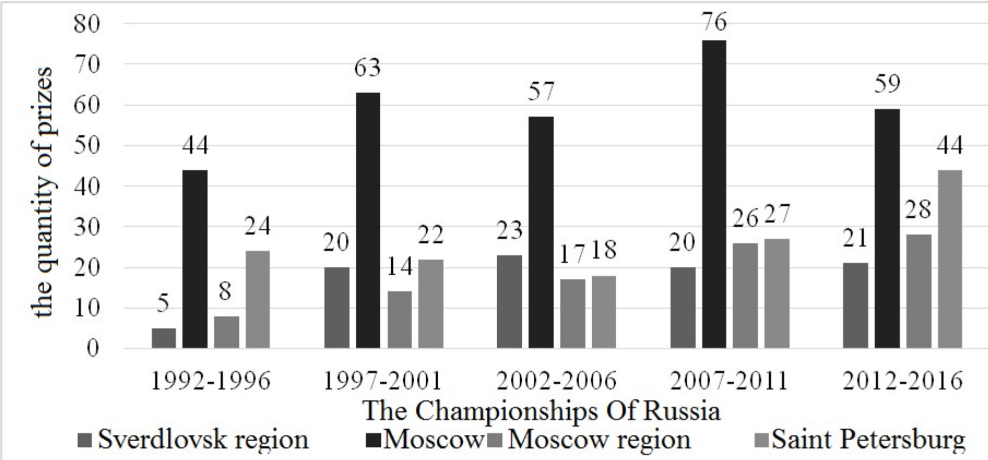

Fig. 1. Dynamics of the quantity of prizes of athletes from the Sverdlovsk region and the leading regions of the Russian Federation in running disciplines in the Championships of Russia 1992-2016.

According to figure 1, we can say that for all the Championships of Russia in running disciplines athletes from Moscow are leading with a big advantage. Speaking about the national team of Sverdlovsk region, we should note the stability of results between 1997 and 2016. In the second five-year reviewed period, Sverdlovsk region showed the third place, losing only to national teams of Moscow and St. Petersburg. In the first five years of the XXI century, Sverdlovsk region showed the best result in the post-Soviet period – took the second place, losing only to the national team of Moscow. The total quantity of prizes in running disciplines in the Championships of Russia in the post-Soviet period Sverdlovsk region ranks fourth (with 89 medals), Moscow ranks first (with 299 medals), Saint Petersburg ranks second (with 135 medals) and the Moscow region – third (with 93 medals).

Table 1 shows the dynamics of the number of prizes won by athletes from different regions of the Russian Federation in running disciplines 100 m, 200 m, 400 m, 800 m, 1,500 m and 5,000 m in the Championships of Russia from 1992 till 2016. [3].

Table 1

Dynamics of the quantity of prizes won by athletes from different regions of the Russian Federation in the Championships of Russia from 1992 to 2016

Years	Athletic disciplines					
	100 m	200 m	400 m	800 m	1,500m	5,000m
Sverdlovsk region						

1992-96	0	0	4	0	0	1
1997-01	2	3	6	7	2	0
2002-06	3	6	7	5	0	2
2007-11	2	4	6	5	1	2
2012-16	0	0	9	8	1	3
Moscow						
1992-96	14	11	3	7	7	2
1997-01	11	6	11	11	14	10
2002-06	13	5	9	8	13	9
2007-11	11	12	9	14	16	14
2012-16	7	12	7	12	13	8
Moscow region						
1992-96	1	2	0	4	1	0
1997-01	3	0	1	7	3	0
2002-06	5	1	1	6	3	1
2007-11	3	4	4	9	2	4
2012-16	2	3	9	6	4	4
Saint Petersburg						
1992-96	6	4	5	1	4	4
1997-01	2	5	8	2	1	4
2002-06	2	2	6	5	2	1
2007-11	3	4	4	6	10	0
2012-16	9	14	3	0	17	1

The total and generalized data on the number of prizes won by the athletes of Sverdlovsk region in the Championships of Russia in the period from 1992 to 2016 are presented in figure 2.

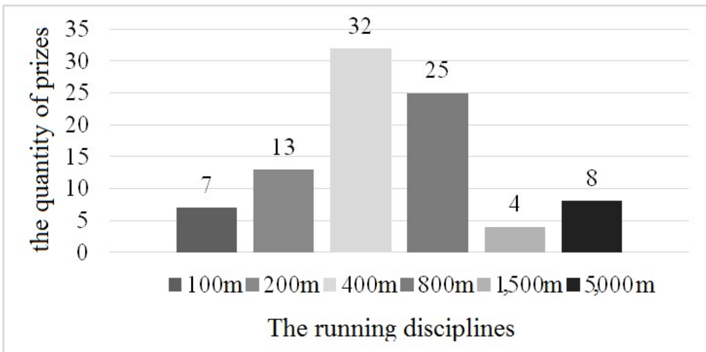

Fig.2. The quantity of prizes won by the athletes of Sverdlovsk in the running disciplines in the Championships of Russia 1992-2016

The data of table 1 and figure 2 show that Sverdlovsk region athletes won the greatest number of Russian Championship medals in the running discipline of 400 m. The winners in this running discipline in different years of the period under review were: Olga Kotlyarova, Andrey Semenov, Dmitry Forshaw, Tatiana Veshkurova, Pavel Trenikhin, Ksenia Ustalova and Alena Mamina [4]. No medal in this running discipline was received only between 1992 and 1996. The average annual medal "harvest" in the discipline of running 400 meters was more than 1 medal, and for each five-year period – more than 6 medals.

As far as 800 m is concerned, over the 25-year period covered in this article, the athletes from the Sverdlovsk region had won one medal annually on average thanks to the contributions of the following athletes: Boris Kaveshnikov, Dmitry Bogdanov, Natalia Rusaleva, Olga Kotlyarova, Maria Savinova, Ivan Nesterov, Catherine Poistogova, Stepan Poistogov and Anastasia Bazdyreva [4].

The worst performance showed by Sverdlovsk sportsmen is in the running discipline of 1500 m – only four medals in 25 years. In the running disciplines of 100 m, 200 m and 5000 m in the period under review, the medals were awarded every 2-4 years. At the distances of 100 m and 200 m, the distinguished sprinter Ivan Teplykh won 6 different medals in the period 2004-2010 [1].

Figure 3 shows the dynamics of the number of prizes of Sverdlovsk athletes in running disciplines at the Russian Championships in athletics in the period from 1992 to 2016.

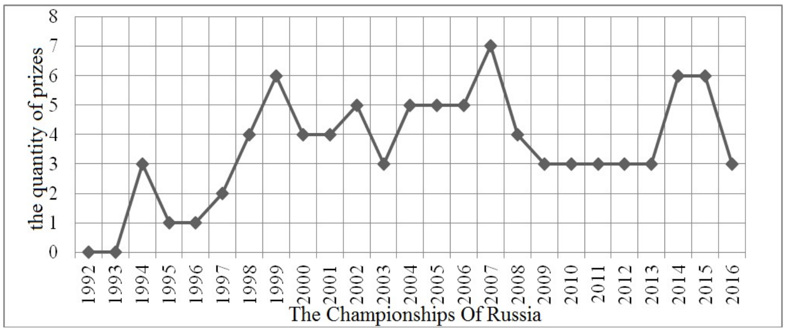

Fig.3. Dynamics of the quantity of prizes of Sverdlovsk athletes in running disciplines at the Russian Championships in athletics in the period from 1992 to 2016

According to figure 3, we can see that the lowest medal rates in running disciplines by Sverdlovsk sportsmen in the Russian Championships were recorded in the period 1992-1998, and the highest – in 2007, 1999, 2014 and 2015.

In general, the analysis of the effectiveness of the performance of the athletes from the Sverdlovsk region in the running disciplines in comparison to athletes of other regions has shown the relative stability of the results. It is found that best results by Sverdlovsk athletes have been achieved in running disciplines 400 m and 800 m. To improve the efficiency in other running disciplines it is necessary to analyze the system and the methodology used in the preparation of athletes of leading regions and compare them with those implemented in the Sverdlovsk region.

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Исследование физических и социальных навыков детей младшего школьного возраста с ДЦП

В статье представлен понятийный аппарат проводимого педагогического эксперимента по формированию вертикализации и обучению ходьбе детей с ДЦП. Представлены и проанализированы результаты констатирующего эксперимента.

The research of physical and social skills of primary school children with cerebral palsy

The main goal of our research is forming vertical position and walking skills in children with cerebral palsy. Cerebral palsy is a non-progressive brain disease; its effects can be corrected.

The life of children with cerebral palsy is associated with many everyday difficulties. Their social adaptation and integration are complicated by the effects of the disease.

The most important posture is standing, which is characterized as the vertical position of the body in space. And the basic way of moving is walking. Walking allows getting knowledge of the world. The skill of preservation of vertical position is the basis of self-service.

Modern facilities and methods of habilitation of children with cerebral palsy are focused on motor skills development. However, specialists rarely pay attention to a social status, emotional sphere and interests of children. The program of physical habilitation is based on the specifics child development as a perspective direction of adaptive physical culture.

The object of research is the process of habilitation of children with cerebral palsy.

The subject of the research is training walking skills in children with cerebral palsy.

We think that we can get better results of habilitation if we apply the following organizational and methodological solutions:

- mostly game form of adaptive physical training;
- group lessons of adaptive physical culture with children with different motor skills levels.

Tasks:

1. To review special scientific and methodical information about habilitation methods of children with cerebral palsy.
2. To work out an individual program of physical habilitation based on a child's sociometric status and his\ her interests.
3. To determine the program.

The experimental base includes 12 children with cerebral palsy in spastic forms. All members of our research are elementary school pupils, aged 7 to 11 years. Children have different forms of cerebral palsy and mental disabilities

For evaluation of the dynamics of motor skills development we use various methods: anthropometry, monitoring the formation of motor skills of children with cerebral palsy by Dubrovina N.A., assessment of the social and personal evolution, the modified scale of spasticity by Ashworth, the step length.

Monitoring the motor skills formation (test by Dubrovina N. A.) showed that children can't take the vertical position and do basic locomotion (fig.1).

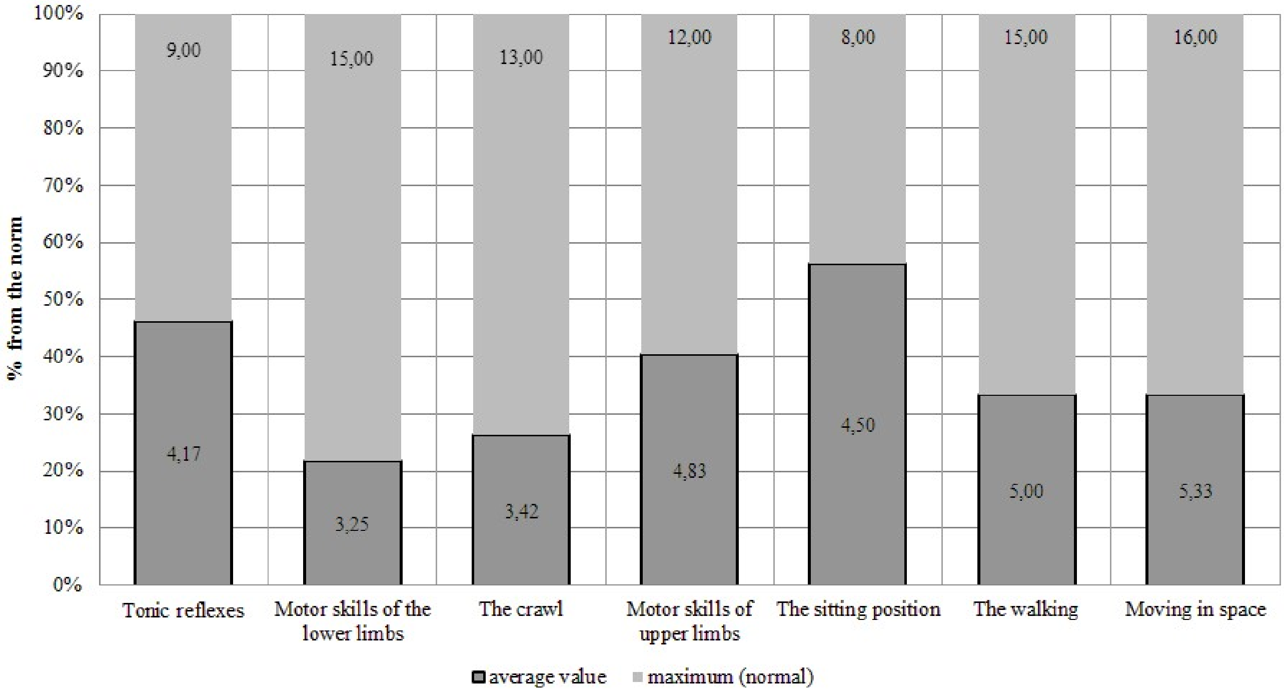

Fig. 1 - The results of monitoring the formation of motor skills

Speaking of motor skills in the lower limbs, the results were in the range from 1 to 8 points (with a maximum of 15). Results in the crawling category were from 1 to 7 points, the sitting position scores were from 1 to 8, and the walking scores were from 1 to 8 points.

The modified spasticity scale by Ashworth showed a high level of spasticity, the average - 3.6 points: “5” – 3 children, “4” – 7 children.

The step length was recorded in the range from 0 to 20 cm, the average value of 7.8 cm.

The particular interest of our research is an assessment of social and personal child evolution.

The high level of formation of social abilities and skills was shown by one child (44 of 51 points). He had got a normal speech and intellectual development.

The average level of social and personal development was recorded with three children. They felt difficulties in organizing the dialogue, awareness of the feelings and sensations.

The remaining 8 children showed low (unsatisfactory) level of formation of social abilities and skills. They revealed a deficit of social skills, which is associated with social isolation due to lack of motor development.

Summing it up, all children were found to have tonic reflexes, which prevented the formation of vertical position and reduced the level of motor development.

The majority of participants showed unsatisfactory level of social and personal development.

The survey provides a basis to divide the children into two groups - control and experimental, ensuring their uniformity and comparability.

However, the data of this part of the research confirmed our hypothesis about the need to use additional facilities of social and personal development in their physical habilitation.

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Организация физкультурной паузы для современных студентов на примере Уральского федерального университета

Статья посвящена организации физкультурной паузы для студентов вуза на примере Уральского Федерального университета. Представлен комплекс упражнений, необходимый для поддержания здорового образа жизни студентов во время обучения. Установлено, что физические упражнения, выполняемые регулярно в течение учебного дня, снимают нервно-мышечное напряжение, повышают иммунитет, работоспособность, улучшают уровень усвоения нового материала, облегчают вхождение в новый коллектив.

How to organize a physical break for students in the Ural Federal University

Nowadays researchers, teachers and sports doctors are concerned about high sickness rate among students. Every day the students of Ural Federal University have 3-4 lectures and more than six hours of self-study staying in a sitting position for a long time. Lack of physical activity reduces metabolism, blood circulation and weakens muscles. [5]

In 2015, Institute of Sociology of the Russian Academy of Sciences conducted research in ten cities of Russia. Scientists concluded that 76% of students lack physical activity; 15-20% young people are overweight. According to the research, 53% of students usually get sick with influenza or acute respiratory disease 3-8 times a year. [4] This was the reason we decided to develop the project to introduce a physical break for the first-year students. They were chosen because they have high mental workload levels every day and are not aware of the benefits of physical activity.

Our general aim is to normalize physical activity of the first-year students of Ural Federal University. We also aim at introducing a physical break and filming a video with exercises. To do this, the project team should develop a set of physical exercises, consult with the teacher of physical education, write media texts for students, film a video with physical exercises and meet with sport organizers to discuss the organization of a physical break.

We suppose that students will do physical exercises once a day in the middle of the third lecture for about five minutes. Young people will do it in everyday clothes in lecture rooms. The set of physical exercises includes training for the muscles of the back, arms and eyes, and articular gymnastics:

1. Walking with high-knees elevation (30 seconds).
2. Marching and turning shoulders up and down (15 seconds).
3. Marching and turning the head to the right and to the left (8 times to each side).
4. Bending the body to the right and to the left (8 times to each side).
5. Turns of the arms and legs (60 seconds).
6. Back lunges (8 times each leg).
7. Squats (16 times).
8. Shaking hands and arms (20 seconds).
9. Rolling eyes to one side and to the other side (20 seconds).
10. Walking with high-knees elevation (30 seconds).

Marching, turning shoulders, arms and legs improve metabolism and circulation, build muscles, and develop coordination. Exercise four is useful for relaxing the back and backbone because students spend most part of the time in a sitting position. Back lunges and squats build muscles. Legs are the most fixed part of the body during the school day. Exercise eight helps to relax hands, because these parts of the body work during the whole day. Rolling the eyes is an extremely useful exercise because it prevents visual impairments. Exercise ten helps to improve working ability. [5]

We believe that first-year students will watch the video and do physical exercises with proper technique. Rhythmic music will be used in the video to increase the emotional tone of the students. Before the start of the project members of the team will meet with sport organizers. Each of them will receive the video in social networks and spread via the media.

The project team will include fifteen members. They should be professional, communicative and responsible. One of them should have a camera; another student should have a computer with necessary programs to assemble the video. The project manager will organize three internal departments: journalist, sports and technical. Students in sports department will develop a set of exercises for the physical break. Journalist department will prepare media texts. Students of technical department will record and assemble the video with physical exercises. The project team will meet every day to discuss their work.

People in the USSR did gymnastics every day. It was a necessary part of a working day and healthy lifestyle. On the radio, there was a special program, which began at 11 am. At any enterprise, there was a sport coach who developed a set of physical exercises for the workers.

In China, for example, people go out in the street and do physical exercises once a day. They usually take different positions, and then they slowly start to move their hands and feet. The Chinese think that regular physical activity helps understand body rhythms. Tourists say that a physical break in China begins every morning at about 11 am in the streets and parks. [2]

Regular physical exercises help students relax, keep fit between lectures, raise immunity and improve their mood. [5]

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Валеология, как обязательная учебная дисциплина

Предлагаю рассмотреть здоровьесберегающие технологии на примере здоровьесберегающей педагогики, которая лежит в основе валеологии. Валеология принципиально отличается от других наук, изучающих состояние здоровья человека, т. к. в сфере ее интересов находится здоровье и здоровый человек, в то время как у медицины – болезнь и больной человек, а у гигиены – среда обитания и условия жизнедеятельности. Я считаю, что валеологическое образование должно быть всеобщим, оно должно начинаться еще в семье и продолжаться в школе, в профессиональном учебном заведении и всю жизнь. Человек должен всегда иметь возможность получать информацию о состоянии своего здоровья. Кроме того, в наше время, когда уровень знаний об охране здоровья очень низок, здоровье становится вопросом национальной безопасности. Появление кафедры валеологии, по моему мнению, будет большим шагом вперед в формировании нового здорового и грамотного общества.

Valeology as a mandatory academic discipline

In all civilized countries, health (especially children and adolescents) is one of indicators of social progress and a kind of mirror of socio-economic welfare of the country, ensuring proper implementation of human labor, mental and biological functions. Basic ideas of Socrates, ("man know thyself") and Confucius ("man make") should merge in the strategy "People know and make yourself!" - the main task of valeology. The word "valeo" -good health, be healthy, introduced at the end of the XX century Russian scientist, Professor, member of Academy of technological Sciences of Russia Israel Brekhman, he is one of the first we focused on the problem of necessity of developing the foundations of a new science and the term "valeology" came into common use in 1980. The purpose of valeology in practical terms is to develop measures and ways of preserving, strengthening and formation of health, and its subject is individual health reserves of human health and a healthy lifestyle, which is a crucial factor. Below the relationship of various factors, which ensure the health of a modern man, are presented according to (the statistics of the last 10 years, the Federal State statistics Service):

– Genetic factors -20 %
– State of the environment -20 %
– Medical coverage -8 %
– Conditions and way of life -52 %.

In the 1990s valeology as a scientific discipline and as an academic discipline is widely accepted, increasing its popularity. The Ministry of education of Russia, Belarus and Ukraine introduced into the subject "healthy lifestyle" universities and schools programs. There is a lot of literature and books on valeology. Valeology is composed of many achievements of science and on the basis of biology, genetics, physiology, psychology, and many others creates an integrated knowledge of diagnosis, prognosis and health management of a person, but as a kind of "Interscience direction" was later criticized by academia and the Church, it was considered to be an alternative, paramedical science. In 1999 140 scientists (academicians and members of the national scientific academies: RAS, Russian Academy of education, Russian Academy of medical Sciences), public and religious figures signed an open letter to the Minister of education of the Russian Federation, criticizing valeology, which was described as a pseudoscience. As a result, in 2001, the subject "valeology" was excluded from the basic curriculum of educational institutions and the specialty "pedagogical valeology" is excluded from the List of directions of training and specialties of higher pedagogical education. However, theoretical and practical issues of valeology continue to be study in a number of academic institutions of Russia, Ukraine, Belarus, Kazakhstan and the Czech Republic. Since 2004 the journal, which is published since 1996 by the Southern Federal University is included in the list of recommended journals HAC. Teaching valeology on an optional basis has been preserved in some Russian schools, and in several other CIS countries, for example in:

1. Tauride national University name by V. I. Vernadsky
2. MGTU name by N. E. Bauman
3. Ural State pedagogical University
4. Siberian Federal University

5. Udmurt state University

6. Moscow Institute of open education, etc.

For example, the Department of preventive medicine, of the Orenburg State University (a student of which I was) marked its 15th anniversary in 2013. Here, students receive not only theoretical but also practical skills in monitoring of individual health. The themes of the course are extremely diverse and lay the bases of knowledge for prevention of various diseases. Practically all of the basic teaching staff of the Department has basic medical education. The Department established and operates the Museum of human biology, the laboratory of cell technologies, laboratory of prevention, psycho-diagnostics and psychotherapy. OSU entered the Supreme constitutional Council of the International Association of school and University medicine, its experience is replicated in other universities of Russia. Valeology is divided into: medical, age, professional, special, environmental etc., but I propose to dwell on:

1. *Total valeology* - methodology of valeology as a science or field of knowledge. Unfortunately, we have to admit that lack of understanding of only two ministries – education and science and health – does not allow to solve the question of introduction of valeology in the educational process and preparation of a wide by educated professional who could conduct work on formation of health of the family in educational institutions, carry out educational work in society for prevention of diseases. Current sanitary-educational work vie media under the direct control of the health Ministry of Russia, orient the population mainly on treatment rather than prevention of diseases. The emphasis is on pharmacology and self-treatment of man without the knowledge of the doctors. The Federal program "Health" taken in recent years in the country is aimed at improving the provision of healthcare services, providing hospitals with expensive equipment, but the quality of people's health is not improving. The same situation is with the demographic programs, which provide primarily social, material and legal preconditions of birth stimulation, but almost absolutely not emphasized the problem of birth and the birth of a healthy child.

Objective: to develop a program and methodological framework of valeological education and enter valeology as a compulsory discipline within the system of education.

2. *Pedagogical valeology* - examines the issues of training and installation of health and healthy way of life in different age stages of age

development. Education authorities share a guilt for the negative trends in the health of children along with the family and health care system. In recent years, the development of the so-called "new types of schools" (schools, lyceums, private schools), is a pursuit for intellectual development in wane of the health of a pupil. Teachers also need an educational program for mastering them in valeological bases of upbringing and education of children, adolescents and youth, analyzing and correcting his own lifestyle and professional activities, carrying out educational work with parents. Teachers should be given freedom in selection of material, its interpretation, based on characteristics and conditions of schools.

Objective: to prepare and implement a system of fundamentals a teacher professional development into an educational program for teaching of valeology.

3. *Family valeology* - examines the role and place of Family and of each of its members in the formation of health, develops recommendations on ways and means of ensuring the health of each generation and all families in General. It is known that family relationships, psychological climate, customs and traditions in the family can have both positive and negative influence on indicators of children's health. Parent must show a medical activity, where the assistance should come obstetrician-gynecologists, and then pediatricians, educational lectures for parents and children on such topics as: "Proper pregnancy", "Birth of a healthy child", "Prevention of myopia of students", "Childhood neurosis", "the Nutrition of children in school and at home", "Rules of training", etc. It is also necessary to remember the consistency requirements of school, family and community for successful implementation of principles of health education. For example it is difficult to achieve, success in the hygiene of the body in the regime of the day, if a teacher of valeology discussing the problem with pupils but in the family the parents do not day the rules.

Objective: to be worthy of a closing link in the chain

"child – teacher - parent".

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Фитнес технологии и их влияние на состояние здоровья молодежи

Статья посвящена анализу существующих фитнес технологий. Выявлено положительное влияние занятий фитнесом на физическое и психическое здоровье занимающихся, в том числе улучшение их самочувствия.

Fitness technologies and their influence on the state of health of young people

Nowadays the active lifestyle combining a certain philosophy, outlook and the experience of physical activities is gaining popularity in Russia, especially among young people. This lifestyle called “fitness” is focused on the development of all systems of a human body.

If we trace the dynamics of popularity of fitness in Russia we may notice the smooth and steady growth of this type of physical activity and the industry in general. Since 2005, fitness has involved thousands of people in the healthy ranks. Fitness in translation from English literally means "compliance". That is, how capable our body is to meet the expectations we set upon it. Fitness is not just sport and physical exercises. It is not only beautiful muscles, or small amount of subcutaneous fat. And even not so much physical force or endurance, flexibility or coordination, it is the ability of these qualities to serve us in the situations when it is really necessary [3].

The philosophy of fitness teaches us to lead a full-fledged life, to enjoy ourselves and the world around, to go purposefully towards an effective objective. The balanced harmony of the inner world with the outside world is on the first place, it is a paramount task in which fitness allows to realize the uniqueness, identity, to develop the best qualities, both physical and spiritual [1].

Fitness as a Wellness technique allows us to achieve the desired result using force aerobic exercises in combination with individually tailored diet, depending on age and health status.

Physical fitness as it is treated in fitness technologies includes the development of the following abilities of a human body:

- flexibility;
- strength;
- speed;
- coordination;
- reaction;
- muscular endurance;
- readiness of cardiovascular system;
- ratio of muscular and fatty fabrics [1].

Today there is a wide choice of the types of fitness: aerobics; step aerobics; water aerobics; fitness yoga; shaping; wellness; bodyflex; workout; kallanetika; crossfit; Pilates; stretching; bodybuilding; powerlifting.

Sports activities, generally, and fitness, in particular, promote the production of protein of BDNF and endorphins that is the reason of our perfect health. When the person begins to train, the brain perceives it as a stress. As pressure from loadings increases, the brain thinks that the body struggles with the enemy. To protect itself and the brain from stress, the body begins to produce protein of BDNF (a neurotrophic factor of a brain). This protein possesses protective activity and also stimulates the development of neurons and works as a reset button. That is why, after training we experience greater clarity of thoughts, and, finally, feel happy. At the same time, endorphins also participate in the fight against stress. Their main objective is to minimize discomfort from exercises, to block the feeling of pain and even to wake up the sense of euphoria. Regular fitness training not only increases life expectancy, but also helps to feel younger [1].

Fitness helps to avoid destructive influence of many diseases connected with age. Many of the problems arising with age are not connected with diseases, but with being out of shape. The study of 10,224 men and 3,120 women conducted at Research Institute of Aerobics in Dallas within 8 years has shown that death rate was the highest in the group of the least trained people and low in the group of the most trained people [1].

Sedentary lifestyle negatively affects the physical condition of the people. The indicator of the effective volume of the lungs decreases by 1% per year after the age of 25.

The trained heart needs to make fewer beats per minute to accomplish the same task. Programs for health improvement including various fitness technologies can reduce heart rate resistance by approximately 5-15 beats per minute, and this factor makes you healthier. The human body undergoes the process of recovery quicker, the heart rate and breath will return to normal values quicker, therefore, the energy amount will increase. When the human body is completely healthy, the body cells use oxygen more effectively, it means that the person possesses a large amount of energy and recovers quicker after a physical activity [2].

Different Fitness Programs help prevent arthritis, the loss of flexibility due to the lack of use of the connective tissue – everybody knows that because of sedentary way of life, the ligaments, joint bags, and tendons lose their elasticity.

Excess weight in modern society remains the main reason for people to attend fitness programs more often. If people are overweight and are not engaged in physical activities, their metabolism is slowed down. The basic level of metabolism (metabolic rate) is slowed down with age, approximately 2-3% every 10 years after the age of 20. The work experience and personal observations have shown that going in for fitness, as a rule, demonstrates not only positive change of indicators of the health, but also the improvement of the perception of the world.

Thus, the concept of fitness combines years of experience, embodied in specially designed programs of fitness activities to maintain and enhance human health, training and lifestyle which ensures good health and a positive outlook on the world

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Здоровьесберегающие образовательные технологии в условиях реализации ФГОС

Статья посвящена проблеме использования здоровьесберегающих образовательных технологий в условиях реализации ФГОС. В статье рассматриваются понятие и содержание здоровьесберегающих технологий применительно к образовательному процессу в образовательных учреждениях в целях создания физиологически благоприятных условий для учебной и иной творческой деятельности учащихся. Показана роль здоровьесберегающих образовательных технологий в жизни человека.

Также обосновано дальнейшие развитие здоровьесберегающих образовательных технологий и их возможное влияние на общество.

Health-saving educational technologies in the conditions of FSES implementation

The article is devoted to the problem of the usage of health-saving technologies in the conditions of FSES implementation. The concept and the content of health-saving technologies with reference to a context of educational process in educational institutions with the view of creation of physiologically welcoming environment of educational and other creative students' activities are considered in the article. The role of health-saving technologies in human life are shown.

Health of the nation is considered to be the main value for any country. The Russian education system should be a powerful source for the development of a healthy nation, but, unfortunately, according to the Russian researchers Danko [5], Goncharenko [3], Grineva [4], Кruk [8], Petrova [9], Sekach [10], Semke [11] and others, students' health is very poor [12]. The primary task of modern science and the system of education is the perfection of existing health-saving technologies and the development of new ones. We use the term "health-saving education technologies" to mean a complex of different forms and types of activities that are focused on the health maintenance and its enhancement [2].

According to the Psychological Institute of the Russian Academy of Education data, to create a health-saving educational environment, a teacher should have a high proficiency level to be able to implement the educational process on the basis of the following principles: individualization, demonstrativeness, balance, all-round development of a personality, considering individual and age characteristics of students, bonds between theory and practice, consistency, etc. [6].

In order to improve the situation some researchers suggest taking different pedagogical, psychological, health-improving measures. One of the ways to maintain students' performance in the workplace is a physical activity break, in particular, breath work, relaxation, eye jogging. The aim of the physical activity break is relaxation of different muscles and eyesight. There are requirements to have a guaranteed result. First of all, it is necessary to organize a physical activity break every 15-20 minutes.

Secondly, its duration should be approximately 5 minutes to keep learners' concentration in educational process [1].

It is also necessary to organize a lesson according to the dynamics of students' attention by taking into consideration the task-performance time and changing task types [7]. One of the main factors in maintaining students' interest in educational is the amount and the quality of the questions they ask, which is also one of the indicators of their psychophysical health [5].

Health-saving technologies comprise the following components: axiological, cognitive, operational, reflexive, epistemological, organizational.

The axiological component manifests itself in understanding axiological attitude towards professional activities, focused on promoting and forming health-saving educational environment.

The cognitive component involves professional competences in terms of creating health-saving educational environment.

The operational component deals with the acquisition of the necessary resource materials to manage the health-saving educational environment at a higher education institution.

The reflexive component defines how students perceive themselves as competent professionals.

The epistemological component provides the assessment of competences in the field of health-saving educational environment formation.

The organizational component estimates the competences in the sphere of health-saving educational environment.

In conclusion, it is worth mentioning that a teacher can contribute greatly to the implementation of recreational health-saving technologies and evaluation of their efficiency. The basic means of physical rehabilitation are breath work, relaxation, gymnastics, etc. These activities contribute to the creating the culture of healthy living and conditions for the development of a healthy nation. All these means should be actively implemented in the health-saving educational environment of an educational institution. Health-saving educational technologies are a requirement for every teacher to implement due to their key impact on further students' health and key roles in the development of modern society.

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Медико-биологическое функциональное тестирование спортсменов и управление тренировочным процессом

В статье приводится интерпретация и систематизация функциональных показателей организма спортсмена в нагрузочном тестировании с газоанализом. Приводятся решения функциональных проблем организма при неудовлетворительных результатах тестирования.

Medico-biological functional testing of athletes and control of the training process

Topicality

In the recent years, modern sport has undergone significant changes which have dramatically influenced the organization and content of athletes’ training.

Increase in the number of competitions and high intensity of the sport combat significantly increased the requirements for the integrated preparedness and stability of the results of athletes in the conditions of frequent and critical starts. Most sports have taken an all-season character, which suggests a reduced duration of the preparatory period of basic training [1].

To optimize the physical preparation of athletes in the modern conditions, it is necessary to have an integrated, comprehensive and objective assessment of their physical state. The organization of the staged control of physical preparedness based on such assessments should include data reflecting various aspects of preparedness. One of such methods of functional control of athletes is the maximal load exercise testing with analysis of the inhaled and exhaled air. Achievements of the instrumentation for sports activities enable to diagnose the condition of many systems of the human body in the load exercise test involving gas analysis, the main challenge for the coach and athlete being the interpretation of numerous data obtained.

Problem: How to systematise the exercise training data with the gas analysis and correct the training process based on the test results?

Aim of the study: Interpretation of functional indices of the athlete in the load exercise testing for correction of the training process.

Methods and organization of the study

The study was conducted in the laboratory of "Recovery technology and selection in sport" of Ural Federal University. In the present study, to determine the functional state of the organism and its main systems providing physical performance, the maximal (pre-failure) test was used - pedalling on a Schiller bicycle ergometer (AG, Switzerland) with continuously rising exercise load (the RAMP protocol). The athlete started testing from zero power maintaining the frequency of 80 rpm. After a minute of unloaded pedalling, the pedalling power automatically increased smoothly and continuously by 0.75 watts per second until the athlete failed to maintain the desired pedalling rate of 80 rpm. During the entire testing procedure, the heart rate (HR) was automatically recorded by a Garmin wireless sensor of HR registration.

To analyse the composition of the exhaled and inhaled air, the metabolic gas analyser Fitmate PRO (Cosmed, *Italia) was used.*

During the test and the recovery period, the instruments automatically recorded the following parameters: load power, W; HR, beats/min; the amount of inhaled air, l/min, and respiratory rate, inhalations/min; oxygen consumption level, ml/min/kg.

In the study, about three hundred athletes of different skills at the age of 8 to 58 years were tested. They represented such sports as football, ice hockey, Russian hockey, basketball, volleyball, cross country skiing, biathlon, swimming, triathlon, rowing, athletics and cycling.

Results of the study and discussion

We paid the main attention to the following indices:

● Maximal (limit) power, W – the power of failure to perform the physical work – an indicator of the power preparedness of the leg muscles. The test ended in two cases: the athlete could not maintain the desired frequency of 80 rpm, or the athlete refused to continue the workout;

● Heart rate at a load of 40 W, beats/min;

● Heart rate of the refusal of work, beats/min;

● Speed of the recovery of the heart rate (HR) after loading;

● Volume of air inhaled by the athlete, l/min, and respiratory rate;

● Maximal oxygen consumption (VO2max) ml/min/kg.

According to the results of testing the functional state of the athletes, we were able to determine the following deviations (see Table 1):

Table 1. Indices of the functional testing of the athletes by the gas analyser

Index	Adult sport norm	Non-satisfactory test results
Maximal power of failure, W	>350	Refuse to perform the test at low power
HR of the refuse to continue the test, beats/min	180-195	HR of the refuse of work much less than 180 beats/min
		HR of the refuse of work higher than 200 beats/min
HR at a load of low intensity	<100	High HR at aerobic load
Volume of air inhaled by the athlete per min of intensive work, l/min	120-180	Small volume of air
Speed of recovery of HR, 2 min after testing, beats/min	120 and less	After 3 min HR became less than 120 beats/min
Level of VO_{2max}, ml/min/kg	60-75 and higher	Low level of VO_{2max}

If after the testing the athlete has one of the problems listed in the table, we recommend the following corrections to be made in the training process.

1. Low maximal power of failure. The athlete stops working without revealing the abilities of power supply because of the mismatch of the suggested high load power to abilities of the locomotion system. Forced leg work should be included in the training process.

2. If the maximal HR of failure is less than 180 beats/min then the limiting factor of physical performance is the muscle system, the strength of muscles should be increased. A failure at HR in the range of 180 to 200 indicates a balanced development of the cardiovascular system and the muscles. If the refusal to work occurred on the pulse of more than 200, we can conclude that the heart is underdeveloped with respect to the level of muscle development. In the preparatory period one should focus on outdoor aerobic exercises, such as prolonged walking, jogging, skiing and swimming.

3. High HR during aerobic exercise. This suggests that the athlete has a small stroke volume of the heart. Work on slow muscle fibre hypertrophy should be included in the training process [3].

4. The amount of air inhaled by the athlete characterizes the throughput of the pulmonary system. The volume of one inhalation is a function of the work produced. In a state of rest, about 0.5 litres of air go into the lungs. For 12-year-old children footballers the volume of one breath-in is less than 1 litre, while that for adult rowers can reach up to 4 litres. The reduced amount of inhaled air is observed in processes associated with a decreased strength of respiratory muscles and respiratory rate. To increase the strength of respiratory muscles, resistant breathing should be used (exhale into water, inflating balloons), exercises with opening the chest to the beat of inhalation and its contraction to the beat of exhalation.

5. Low level of VO2max. VO2max is an integrated indicator of the athlete endurance. The reason for the low oxygen consumption is both an underdeveloped cardiovascular system and low power preparedness. Besides that, the respiratory system often limits the physical performance of the athlete. Therefore solution of the above problems, identified by the maximal exercise stress testing, will help improve the physical preparedness of the athlete [2].

We were able to analyse and systematize the results of testing the functional parameters of the athlete during load exercise testing. A comprehensive assessment for optimization of the physical preparation of athletes was obtained. As a result of our research, we managed to establish a number of problems of the functional state of the athlete and make appropriate recommendations for changing the training process, depending on the indices of the functional testing the athlete.

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VI. Социальные проблемы современного общества

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Когнитивное улучшение: новый этический вызов

В статье представлен актуальный краткий обзор позиций ряда европейских исследователей, имеющих отношение к использованию современных нейротехнологий, способствующих улучшению когнитивных способностей человека. В частности, представлены

следующие направления исследований в области нейроэтики: мелиоризм, социальная справедливость, проблемы эволюции человека как вида и человеческого общества в целом.

L'amélioration cognitive: un nouveau défi éthique

«La Revue française d'éthique appliquée» est une publication universitaire francophone. Sa vocation est de contribuer à la valorisation, à la diffusion de la réflexion et de la recherche en éthique appliquée. Les trois articles de la rubrique «Regards croisés» donnent un regard synthétique des experts européens (belge, suisse et français) sur la question qui nous intéresse – amélioration cognitive, ou neuro-amélioration, ou encore anthropotechnie.

Pour P. Bonte, il y a deux types de cultures:

– une culture qui impose le maintien du statu quo naturel, une société bio-préservatrice qui désapprouve et interdit le dopage et où l'avantage social est donc à ceux dont les capacités sont élevées, aux « gagnants de la loterie naturelle, porteurs de superiorités innées ou héréditaires («aristocratie naturelle et véritable » de Thomas Jefferson et de John Adams, « lucky sperm club» méritocratique de M. Young);

– et une culture qui permet l'amélioration, y compris le neuro-dopage (au nom de la soi-disante «égalité des chances»). Après les débats sur le dopage athlétique [4] le tour est venu pour le dopage cognitif. Tous cherchent à améliorer certaines capacités cognitives comme le sommeil, l'attention, la concentration, la créativité ou la mémoire. De nos jours, les comportements dopants ont pris une ampleur significative chez les étudiants, chercheurs, soldats, médecins, pilotes et chauffeurs, musiciens et comédiens, etc.

Cependant, en decembre 2013, après la plupart des conseils occidentaux en bioéthique, le Comité consultatif national d'éthique français (CCNE) a publié son avis no122 sur les techniques d'amélioration cognitive. Dans cet avis qui propose un tour d'horizon de tous les aspects du problème, le CCNE défend le point de vue selon lequel le recours des étudiants à la neuro-amélioration «met à mal l'égalité des chances et de réussite». [2]

De sa part, P. Bonte soutient le point de vue du CCNE, «au nom d'un peu plus d'égalité des chances corporelle ainsi que culturelle, au nom d'une estime de soi et des autres, et au nom d'une moindre coercition concernant l'usage des techniques d'amélioration» [2] et s'oppose au laisser-aller dans l'accès aux neuro-méliorateurs. Ces préoccupations sont tout à fait acceptables.

En ce qui concerne B. Baertschi [1], il admet, lui aussi, l'usage des aides («un Botox moral»), mais le but est tout autre: s'il s'agit d'améliorer l'être humain, c'est pour lui donner un visage plus humain, et non pour aller au-delà de l'humain, comme le voudrait le transhumanisme. Il s'agit donc du méliorisme à visage humain. Mais pour être morale, l'amélioration ne doit pas s'acquérir sans un effort soutenu: «Un médicament qui induit une absence de peur ne produit pas le courage». Le Botox ne supprime pas l'effort, il le rend simplement plus efficace.

Par contre, l'approche éthique de neuro-stimulation effectuée par J.Goffette est tout à fait différente. Au lieu de parler de l'amélioration des capacités cognitives qui contient, pour lui, un jugement de valeur (l'idée de meilleur), il s'intéresse plutôt à «human enhancement» (augmentation des performances), qu'il appelle «anthropotechnie»: l'anthropotechnie peut être définie comme «l'art ou la technique de transformation extra-médicale de l'être humain par intervention sur son corps». [3] Il analyse des situations réelles de l'usage anthropotechnique des psychostimulants et ses multiples dimensions, et non les problèmes classiques tels que l'opposition «naturel/artificiel», l'inègalité des chances tant après qu'avant la consommation, l'opposition «progrès/tradition» etc.

Les propositions éthiques qu'il formule sont plutôt d'ordre pragmatique, excepté peut-être celle-ci : «Il parait nécessaire d'établir, à côté de l'éthique médicale, une éthique de l'anthropotechnie. La première a pour valeurs essentielles la vie et le souci de maintenir la personne au plus près de son autonomie normale. La seconde aurait pour valeurs – mais cela doit être discuté – le développement de l'autonomie au-delà de l'état ordinaire de la personne, en agissant avec prudence. La reconnaissance de ces valeurs pour l'anthropotechnie conduirait à interdire tout usage aliénant et à autoriser, voire à prendre en charge, ce qui pourrait augmenter l'autonomie sur le moyen et le long terme». [3]

Ainsi, on voit l'intérêt toujours croissant pour l'éthique des neurosciences de la part des chercheurs d'orientation scientifique differente (philosophe, historien, philosophe de la science). Pour conclure, disons que l'éthique appliquée est toujours au coeur des investigations les plus actuelles.

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Социальные проблемы современного общества

Одной из важнейших проблем современного общества, является влияние социальных сетей, интегрированных в жизнь людей, на их мысли, поступки, здоровье. Перечисляются, как положительные, так и отрицательные стороны этого процесса. Выражается надежда на решение перечисленных проблем.

The social problems of modern society

The social problems are those which affect not only one individual but the whole mankind. If people leave these problems unsettled, it may lead to serious consequences in the future. There are many organisations that fight social global problems, but this battle has lasted for a long time and it will take much time for the solution of all of them.

One of the most important problems related to the social is social networking sites. In recent years social media has become deeply integrated in our everyday lives. The concept of social media itself includes: live journals, chats, forums, blogs, dating sites and, of course, social networking sites. Essentially, they all are platforms for people's remote communication, i.e. exchange of different types of information: text messages, music, photo and video content. The most popular with the young people are social networking sites, such as Instagram, Vkontakte and so on. On the one hand, a social network is a very convenient tool for a quick message exchange, searching for old friends and making new acquaintances, keeping important information and discussing pressing issues in groups, right in the comfort of one's home. On the other hand, psychologists and psychiatrists of the world ring alarm bells: social networking addiction too often becomes the cause of serious mental and nervous disorders, such as depression, social isolation, autism, and even suicide attempts of teenagers and young people. I think, social networking sites can be both useful and dangerous depending on who and how uses them. I want to try to analyze their advantages and disadvantages.

First and foremost, social networking sites are very convenient for those who need to keep in touch with people living in different cities or different countries.

Social networks can become a great solution for people with disabilities or those who for some reason have to stay at home all the time.

Many people today learn news from social networking sites. Sometimes social networking sites help to find really precious and useful information.

This was one side. There is another one, which is not so bright. For a great number of children and teenagers social networks today have almost completely substituted real life. It inevitably causes mental disorders, influences their health and spirits, and prevents their normal socialization.

Another major problem associated with social networking sites is leakage of information. Even if you think that your personal page is protected with a safe password, you are mistaken, because good hackers can break it.

Apart from useful content, any social network contains tons of useless, hazardous and dangerous information, which is easily accessible to children.

I think that social networking sites could be rather useful if all the people used them for their intended purpose – for communicating, searching for friends and sharing information with them.

Other of the most important problems related to the social is incurable diseases and epidemics.

But well, that science does not stand still and new innovation methods to solve this very important problem.

We live in the 21st century and humanity has made a great progress in technology, so I think that we will soon get rid of them.

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