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## **Перспективи розвитку професійно спрямованих мовних компетенцій в сучасній науці**

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### ЗМІСТ

<i>Y. Baranovska.</i> John Locke's ethical foundations of a gentleman's education.....	8
<i>M. Biliavska.</i> Changes in female reproductive organs at different periods of age .....	9
<i>T. Bohush.</i> Countable and uncountable sets .....	10
<i>A. Boiko.</i> Anerziehen der Toleranz den Studenten der Hochschulen der Ukraine .....	11
<i>B. Bojko.</i> Extremale Metrik und ihre Anwendung in der Funktionentheorie.....	13
<i>A. Bortnik, V. Sverbinskiy.</i> English and Belorussian youth slang .....	14
<i>A. Chernoverova.</i> PR as a marketing tool .....	16
<i>Y. Danchuck.</i> Geometrical inequalities .....	17
<i>D. Danilchuk.</i> Choosing a modern CMS to create the original site-business cards.....	19
<i>A. Dmytriv, Y. Tymchuk.</i> Environmental education as the element of ecological safety in the state.....	22
<i>I. Dmytruk.</i> The formation of the environment-conscious attitude to nature in primary school learners .....	24
<i>R. Dokmanović.</i> Sports journalism: from "romantic" to tabloid and internet reporting.....	25
<i>O. Dovahopiatyi.</i> Math problems with fractals .....	26
<i>Y. Dudka.</i> Ways not to be considered impolite when communicating across cultures.....	28
<i>E. Gantsa.</i> Features of the use of English modal verbs in translation from Ukrainian language (based on the material of American fiction) .....	29
<i>I. Garbovska.</i> Gender differences in ideal manager perceptions .....	31
<i>O. Gavrulyuk.</i> Mathematics in nature .....	32
<i>Y. Goiko.</i> Vector product and its application .....	34
<i>A. Goloschapova.</i> Why do people see dreams? .....	35
<i>G. Gorbach.</i> "Humanity" concept in the works of confucius .....	36
<i>T. Gorbal.</i> Le home staging – technique prometteuse pour le marché de l'immobilier en Biélorussie.....	37
<i>Y. Grygorus.</i> Rotation around the origin by a specified angle.....	39
<i>K. Honcharenko.</i> Diversity of phytoplankton rate in the pond of Grabarka (Berdychiv) and evaluation of its environmental state (structural and functional parameters).....	41
<i>M. Hontscharuk.</i> Glosse als Textsorte im Stil der Presse und Publizistik .....	42
<i>H. Hordienko.</i> Development and computerization of an English terminology system in the fields of drilling and drilling rigs .....	44
<i>A. Hryshko.</i> Yii as a modern application framework .....	45
<i>A. Hukova.</i> The concept of resistance.....	46

<i>O. Ivanova.</i> Ukrainian and British educational systems.....	48
<i>T. Kaprantschuk.</i> Alkohole als oxygenreiche organische Verbindungen .....	51
<i>T. Kapranchuk.</i> Die oxygenreichen organischen Verbindungen. Alkohole.....	53
<i>A. Kaptsevich.</i> Factors of linguistic stereotyping manifestation.....	54
<i>V. Karnauch.</i> National-spezifische Besonderheiten der Phraseologismen mit den Komponenten "ärger, wut, zorn" .....	56
<i>A. Kazarina.</i> Fairy tale therapy in a system of social pedagogical work with preschoolers .....	58
<i>N. Khandryka.</i> The comparative characteristics of adsorption properties of composites of Fe <sub>3</sub> O <sub>4</sub> , Fe <sub>3</sub> O <sub>4</sub> / SiO <sub>2</sub> (CHM), Fe <sub>3</sub> O <sub>4</sub> / SiO <sub>2</sub> (AM), Fe <sub>3</sub> O <sub>4</sub> / TiO <sub>2</sub> (ChM), Fe <sub>3</sub> O <sub>4</sub> / TiO <sub>2</sub> (AM) AND Fe <sub>3</sub> O <sub>4</sub> / Al <sub>2</sub> O <sub>3</sub> AS to cations La <sup>3+</sup> AND Y <sup>3+</sup> .....	59
<i>J. Khmilevska.</i> Social and educational activities with disabled child's family at school.....	61
<i>K. Khokhlova.</i> Fraternal peoples or who is who .....	62
<i>V. Klymenko.</i> Option of development strategies of food industry enterprises .....	64
<i>Y. Korievikov, K. Lukashevich.</i> The main methods of the translation of engineering terminology .....	65
<i>K. Korniienko.</i> Translation of English and Ukrainian abbreviations and other reductions. Types of abbreviation.....	67
<i>V. Koshkalda.</i> English language teaching at primary school: age peculiarities as the basis for using ICT .....	68
<i>I. Kostenko.</i> Peculiarities of the translation of lexical units, reflecting the modern realia .....	70
<i>O. Krasuzkyj.</i> Das Funktionieren der slawischen Entlehnungen in der deutschen Sprache .....	72
<i>J. Kravchenko.</i> Using visualization techniques in the process of teaching listening comprehension to young learners.....	73
<i>T. Kravets.</i> Use of silica adsorbent in metal cation determination .....	75
<i>V. Kucher.</i> The development of a cross platform by using Qt framework.....	76
<i>A. Lagoutik.</i> Les différents types de demande .....	78
<i>A. Lagoutik.</i> Marketing: différentes spécialités – différents maillons.....	79
<i>D. Makovskiy.</i> Development of crossplatform mobile applications .....	81
<i>S. Malchikov.</i> Differences between American and British dialects .....	83
<i>A. Markish.</i> Finite arithmetics .....	85
<i>K. Markopolska.</i> Succession and perspectives in professional terminology in the system of higher education.....	86
<i>T. Martyniuk.</i> The use of perspective picture at school.....	88
<i>O. Martyniuk.</i> The linguistic framework for teaching writing to young learners.....	89
<i>Y. Maydanovich.</i> Mathematical methods in economics .....	90

<i>L. Medvedyuk.</i> Training of future primary school teachers for the organisation of students group activities .....	91
<i>K. Minkova.</i> Perfect numbers .....	93
<i>Y. Miskova.</i> Graphs and their uses .....	95
<i>V. Mohylnytskiy.</i> Content management system .....	97
<i>J. Morgun.</i> Heinrich Heine. Loreley – ein romantisch-düsteres Werk von Heinrich Heine .....	99
<i>T. Moshon.</i> Application development for time management system for android ....	100
<i>A. Motuzko.</i> Marketing strategies in the activity of small enterprises.....	102
<i>Z. Muhiyeva.</i> Developing empathy in cross-cultural communication .....	103
<i>V. Nehreschenyuk.</i> Computer gambling: leisure or dependence?.....	104
<i>V. Nespai.</i> Land consolidation as a part of the land resources structure optimization .....	106
<i>K. Obukhova.</i> Problems of communicative competence development of master degree students in higher engineering educational institution .....	107
<i>O. Oliinyk.</i> The study of ferroelectrics in the history of physics .....	109
<i>Ch. Orfanidis.</i> Religion now and then, here and there: the adventures of an abstract concept and the universal linguistic challenge of the translated vague.....	110
<i>O. Ostapchuk.</i> Developing young learners' lexical competence according to the principle of learner autonomy.....	111
<i>O. Overchuk.</i> The analysis of creating sites .....	112
<i>I. Palno.</i> Technologies of the development of senior pupils social activity in GEE conditions .....	114
<i>V. Pasenko.</i> Anti-soviet leaflets of our and upa as a form of struggle .....	115
<i>T. Pashkevitch.</i> Pour une ecologie du langage .....	117
<i>T. Pashkevitch.</i> D'où viennent les dérèglements de l'écosystème terrestre? .....	118
<i>C. Patel.</i> Importance of the English language in corporate world .....	120
<i>Ya. Perederii.</i> Marketing strategies in a globalizing markets .....	121
<i>V. Pidpruzhnikov.</i> Linguistic support and internal optimization of websites .....	123
<i>J. Pohrebnik.</i> Schritthaltende Übungen bei der Arbeit mit audiovisuellen Formen im Deutschunterricht in der 8. Klasse.....	125
<i>I. Polischuk.</i> Why should web design be a profession?.....	126
<i>A. Prokopchuk.</i> Some problems of topology.....	127
<i>I. Prysjazhnyuk.</i> Bildung von Motivation und Verhaltensreaktionen.....	129
<i>A. Papisheva.</i> Conformal mappings .....	130
<i>N. Pylypchuk.</i> Ideas of K. D. Ushynskiy about human physical education.....	131
<i>M. Radevych.</i> Need for recognition in adolescence .....	133
<i>M. Radzejowska.</i> Zum Problem des Kollokationsbegriffs in der wissenschaftlichen Literatur .....	134

<i>D. Ranpura.</i> Importance of English communication for engineering students from rural areas and its remedies.....	136
<i>A. Riabchuk.</i> Developing intellectual abilities of primary school pupils through didactic games.....	137
<i>N. Riasenchuk.</i> Psychological peculiarities of «self-image» of narcissistic people .	138
<i>K. Shah.</i> Learner's attitude and its impact on language learning.....	140
<i>T. Shmatyuk.</i> Using of Fibonacci sequence.....	141
<i>A. Shyshko, A. Chernik.</i> Specific features of British spoken etiquette.....	143
<i>I. Siryk.</i> The magical number pi .....	145
<i>T. Skokun.</i> Erziehungsziele und –Prinzipien von Pestalozzi. ....	147
<i>S. Skvortsov.</i> The concept and examples of ring Q-mappings and (p;Q)-mappings.....	149
<i>T. Slusar.</i> Motivation as a factor of teenagers'creative activity .....	150
<i>D. Soga.</i> Technologies and development prospects of virtual reality .....	152
<i>O. Stepanchuk.</i> The history of the hypercomplex number .....	153
<i>I. Stetsenko.</i> The internet of things .....	155
<i>M. Sui.</i> Zhytomyr Russian-language literary associations in the late 20 <sup>th</sup> - beginning of the 21 <sup>st</sup> century.....	156
<i>T. Sysol.</i> Structure of malacological complexes of the Teteriv river in Chudniv district.....	157
<i>A. Talertchik.</i> Le tourisme en Bélarus .....	159
<i>A. Talertchik.</i> L'impact indirect du tourisme: une analyse economique.....	160
<i>I. Talko.</i> Modern trends in innovation management.....	162
<i>D. Tkachuk.</i> Religious beliefs of the Celts.....	163
<i>W. Tkatschuk.</i> Die Besonderheiten des Funktionierens der geflügelten Worte in deutschen Fernsehsendungen .....	164
<i>M. Tomashevskya.</i> Technologies for creating computer graphics and computer animation .....	166
<i>O. Torchilo.</i> Lexical means of expressing the category of negation in English phraseology.....	167
<i>V. Turko, A. Yakubovich.</i> Genre features of English literary fairy tale.....	168
<i>A. Tustanovska.</i> Family social support in Ukraine and abroad: comparative analysis .....	170
<i>Y. Tymchuk.</i> Content-Marketing als Hauptvorteil der Konkurrenzfähigkeit.....	171
<i>V. Tyranovets.</i> Fusionism of algebraic and geometrical methods.....	173
<i>A. Tyshchenko.</i> Improper integrals .....	175
<i>O. Umantsiv.</i> Cognitive function of the metaphor in Peter Ackroyd's novel "London. The Biography" .....	177
<i>I. Vasylyuk.</i> Legends of cossacks. The cossacks-sorcerers.....	178

<i>A. Volynets.</i> Non-verbal means of communication .....	180
<i>A. Vruchynska.</i> The golden ratio – a measure of divine beauty created by nature ...	182
<i>M. Yangulova.</i> Harmony in mathematics .....	184
<i>T. Yarmolenko.</i> Methods of solving the systems of equations.....	185
<i>A. Yemets.</i> Pattern recognition problems and systems.....	187
<i>V. Zhurakivska.</i> Curves of the fourth order and their place in our lives .....	189
<i>A. Zhushma.</i> Meaning content of superstitions and prejudices in British linguoculture .....	190
<i>A. Zinovieva.</i> Environmental education in early childhood.....	192
<i>Y. Zubritska.</i> Recommendations for HTML, CSS and Javascript usage.....	194
<i>A. Zubrytska.</i> To the problem of the formation of lexical competence of primary school children in English lessons through fairy tales .....	195
<i>O. Zubrytska.</i> The formation of professional terminology in English pedagogical sphere.....	196

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## **JOHN LOCKE'S ETHICAL FOUNDATIONS OF A GENTLEMAN'S EDUCATION**

The modern world is undergoing fundamental changes associated with the transition to new economic relations and national revival in all spheres of society. An integral part of national revival is the creation of a new educational system, which is based on familiarization with the basic pedagogical ideas and ways of development of the theory and practice of education in different historical periods in different countries.

An important place in the development of moral education occupies a classic representative of the views of pedagogical ideas, the English philosopher John Locke.

John Locke developed his pedagogical system for the education of useful, effective member of society, who, first of all, had the vital knowledge and then scientific knowledge, a healthy body and spirit.

As a supporter of individual family education Locke put great responsibility on parents and teachers in child care. According to the scientist, it is important to build the right relationships in the family to see the child's individual features. In particular, he calls to treat the child with respect and trust. Smart parents were those who were watching the baby, carefully studying his (her) nature and according to it chose methods of education [1, p. 57-59].

Locke thought that a new type of personality should have traditional moral and humanistic qualities – patriotism, hard work, courage, honesty, good manners, compassion, humanity, gentleness, goodness and love to the others. The formation of all these qualities scientist considered in close relationship with the moral, mental and physical education. In his actions a gentleman should be guided by the moral law, which was founded by God in his soul [2, p. 89].

John Locke developed a problem of individual rights and raised the question of a child's rights. All men are equal by nature, neither adult nor child should not be subordinated to the will or power of the other person. Even a father has no right to manage the life and liberty of his child. In the pedagogical process Locke associates freedom with the negation of violence and coercion in schools, offering a more democratic atmosphere.

Locke's innovation was a complete break with the scholastic schooling, which took place according to the pattern and taming and did not take into account individual characteristics of the pupils.

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## CHANGES IN FEMALE REPRODUCTIVE ORGANS AT DIFFERENT PERIODS OF AGE

Consideration of basic laws of development of structure and histophysiology of organs of the female reproductive system is necessary for understanding the opportunity of pathology at different periods of women's age. It is also important for achievement of reproductive health and for sexual education of youth. Besides this, the knowledge of anatomy particularity and peculiarity of cyclic reconstruction and regulation of internal reproductive organs especially in female reproductive period gives a chance to reproduce the conditions of processes of fertilization, cell division, implantation and normal pre-natal growth of a fetus.

Major age-related changes in genital organs of a person are the advent of menstruation in the juvenile period and menopause in the middle age of a woman. When menstruation occurs rejection of the functional layer of the endometrium (lining of the uterus) takes place, accompanied by bleeding. The period of menopause is connected with the reduction in the work of the gonads, the organs that generate germ cells.

All the information we have received during the work is the base of understanding the disorders of reproductive function within the diseases of different origin. This knowledge is used not only in gynecological practice, but during sexual education of youth.

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## COUNTABLE AND UNCOUNTABLE SETS

The appearance and development of set theory is connected with the research of infinite sets, which were founded by a famous German mathematician Georg Cantor (1845– 1918). The concept of set has a remarkable impact on Mathematics in general, so a lot of scientists worked with sets and included them in many sections of their textbooks. [2]

There is a variety of sets in Mathematics. You can talk about the set of polyhedron faces, points on the line, the set of natural numbers and so on. All sets consist of elements, but there are sets that do not contain any elements (the set of the equation roots), they are called empty sets.

Sets A and B are called equipotent, if they are empty, or there is a bijection between them, that means that each element of the set A corresponds to the one and the only one element of the set B, and vice versa. [1]

The set A that is equipotent to the set N of natural numbers is called countable set, in other words, the countable set A is such a set, where all elements can be numbered by natural numbers 1,2,3, .... [2]

Some examples of countable sets are:

- The set of all integer numbers
- The set of all even positive numbers
- The set of degrees of 2 (2,4, 8,...,  $2^n$ ,...)
- The set  $P = \left\{ 1, \frac{1}{2}, \frac{1}{3}, \dots, \frac{1}{n}, \dots \right\}$
- The set of all rational numbers [1,3]

The main properties of countable sets are:

- Any subset of countable set is either finite or countable set.
- The sum of any finite or countable set of countable sets is also countable set.
- From any infinite set we can allocate finite or countable subset in such a way that the set which is remained will be equivalent to the original one.
- If  $A = (a_1, \dots, a_k, \dots)$  and  $B = (b_1, \dots, b_n)$  are countable sets, then the set of all pairs  $(a_k, b_n)$  ( $k, n = 1,2,3, \dots$ ) is a countable set.
- Any infinite set contains a countable subset. [1]

The fact of the existence of sets that are not countable (uncountable sets), was established by Georg Cantor with the help of his diagonal method, which later became of fundamental importance in various areas of Mathematics.

The set of all real numbers from the interval (0,1) is uncountable set (the proof is based on the diagonal method).

Any set that is equipotent to all real numbers on the interval (0,1) is called a path or set of a continuum power.

The main properties of uncountable sets are:

- The set of all sequences composed of a series of natural numbers, has a continuum power or is an uncountable set.
- Finite or countable combining of countable sets has a continuum power.
- If  $M$  is an uncountable set, and  $A$  is a finite or countable subset of  $M$ , then the set  $M \setminus A$  and the set  $M$  are equipotent.
- Set  $\beta(A)$  of all subsets of a countable set  $A$  has a continuum power. [1,3]

Analyzing the above, we can conclude that the achievements in the study of set theory are quite essential and this is an important contribution to modern Mathematics.

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### ANERZIEHEN DER TOLERANZ DEN STUDENTEN DER HOCHSCHULEN DER UKRAINE

Zu den modernen Aufgaben der ukrainischen Hochschulbildung gehört die Erziehung des Fachmanns, der sich durch Toleranz, Geduld, Voreingenommenheit über Kollegen, Partner, Ereignisse auszeichnet. Ein solcher Spezialist ist fähig sein eigenes Leben und das Leben seines Landes selbständig aufzubauen.

Der Begriff „die Toleranz“ ist so zu definieren: „eine Einstellung, bei der man andere Meinungen o.Ä. respektiert oder duldet“. Die Toleranz ist die Kunst in der Welt verschiedener Menschen und Ideen zu koexistieren, die Fähigkeit Recht und Freiheit zu haben ohne Recht und Freiheit anderer Menschen zu verletzen. Es wäre für jeden Menschen wichtig zu lernen, die Verschiedenheit im Gemeinsamen und das Gemeinsame im Verschiedenen zu finden, den Unterschied wie Nachteil wahrzunehmen [1, c. 137].

Ein toleranter Hochschullehrer sollte den Studenten die Fähigkeit anerkennen, mit den anderen Menschen positiv zusammenzuwirken. Ein solcher Lehrer respektiert Gefühle und Ansichten der anderen, formt das Gerechtigkeitsgefühl, schafft eine ungezwungene und demokratische Atmosphäre im Unterricht, ist bereit zu einem Dialog, Verständnis und Solidarität und ist imstande das Gefühl der Zuneigung zu entwickeln [2, c. 67].

Um das Vorhandensein der Toleranz unter den Studenten der Zhytomyr staatlichen Ivan-Franko-Universität festzustellen, wurde eine Umfrage durchgeführt. Auf die Frage „Was ist denn eigentlich die Toleranz“ antworteten die Studenten folgenderweise: 30% - Geduld; 55% - sich höflich und taktvoll zu benehmen; 15% - Verständnis und Geduld. Laut den Ergebnissen könnte man behaupten, dass die Studenten den Sinn des Begriffs „die Toleranz“ nicht formulieren konnten. Auf die Frage „Wie reagieren Sie auf die Kritik?“ antworteten 30% der Befragten – es gefällt uns nicht; 18 % - nehmen oder nicht nehmen wahr, alles hängt entweder von dem Kritiker oder von der Situation ab. Die Ergebnisse dieser Umfrage zeugen davon, dass das Niveau der Formierung der Toleranz der Studenten mangelhaft ist.

Zusammenfassend sei es darauf hingewiesen: die moderne Entwicklungsstufe der Gesellschaft fordert von einem Fachmann nicht nur bestimmte theoretische Kenntnisse, Fähigkeiten und Fertigkeiten, sondern auch das System der demokratischer Werte, unter denen einen wichtigen Platz die Toleranz einnimmt. Eine tolerante Hochschulbildung sei die Voraussetzung der friedlichen Wechselbeziehungen in der Gesellschaft.

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## **EXTREMALE METRIK UND IHRE ANWENDUNG IN DER FUNKTIONENTHEORIE**

Das Ziel des vorgestellten wissenschaftlichen Artikels besteht darin, die extremale Metrik zu bestimmen und ihre Anwendung in der Funktionstheorie zu untersuchen.

Die Objekte der Forschung sind Modulen und extremale Länge.

Der Forschungsgegenstand ist die Verwendung von extremaler Metrik.

Die Ergebnisse der Arbeit sind theoretisch. Ihre Nutzenanwendung lässt sich beim Lösen der extremalen Aufgaben in Geometrie zu finden.

Extremale Metrik wurde in der Methode von extremaler Metrik verwendet, die beim Aufgabenlösen der Theoriefunktionen und der konformen Abbildungen anfangs eingesetzt war, von denen es fernliegt, sich mit den Problemen der Theorie von einwertigen Funktionen zu beschäftigen.

In seiner einfachsten Form hat diese Methode die Möglichkeit, mit Hilfe der Schwarzehe Ungleichung von ihrem ersetzten Bereich bestimmte Länge- und Flächebewertungen geometrisch festzustellen. Die ersten Wissenschaftler, die diese Methode benutzt haben, waren Bohr, der sich mit den Abbildungen – Speichersegmenten beschäftigt war, Gross, der Sterntheorem und andere Ergebnisse bekam, Faber und Courant, die die Korrelation der Grenzen bei konformen Abbildungen erforschten.

Im Jahre 1933 verwendet Röngel diese Methode bei der Lösung und Verallgemeinerung Segos Problem. Björling bringt einige Methodenmodifikationen beim Erlernen von quasianalytischen Funktionen zum Einsatz.

Einige der wichtigsten Ergebnisse in der Entwicklung von extremaler Metrik gehören Teichmüller. Er entdeckte die enge Beziehung dieser Methode mit Differentialgeometrie. Viel wichtiger war Entdeckung von der wichtigen Rolle, die die quadratischen Differentiale ausüben. Diese Entdeckung wurde auf Grötsches Ergebnisse und auf Teichmüllers Werke über quasikonforme Abbildung begründet.

Eine der vielen Anwendungen der extremalen Metrikmethode ist es, die konformen Invarianten zu bestimmen. Das kann man auf der allgemeinsten riemannschen Fläche betrachten.

*Aussage. Sei  $\Gamma$  – eine Schar von lokal gerichteten Kurven auf riemannscher Fläche  $\mathbb{N}$ , für die das Modulproblem gelöst ist und  $m(r) \neq \infty$ . Wenn das Modulproblem als L-Bestimmung verstanden ist, dann sei beliebige Metrik aus  $\mathbb{P}_L$  zulässig genannt. Sei im  $\mathbb{P}_L$  eine Metrik  $\rho^*(z)|dz|$ , für die  $m(r) = A_{\rho^*(\mathbb{N})}$  gültig ist,*

*wird die extremal bezeichnet werden.*

Es lohnt sich zu bemerken, dass extremale Metrik ihre Anwendung in der Funktionstheorie gefunden hat.

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### ENGLISH AND BELORUSSIAN YOUTH SLANG

Slang is said to be an “informal language”, maybe because it’s consistently changing its form and is limited to a certain location or time. Some people love it; some people hate it for its being exclusive.

The Oxford English Dictionary defines slang as “very informal words and expressions that are more common in spoken language, especially used by a particular group of people, for example, children, criminals, soldiers, etc: teen slang, computer slang, army slang, journalistic slang”.

People use slang to be picturesque, arresting, striking and, above all, different from others, to avoid the tedium of “common” words, to demonstrate one’s spiritual independence and daring, to sound “modern” and “up-to-date”.

A modern Belorussian uses numerous “borrowings” from English; America’s influence is very strong too. This influence is the result of the vanished borders and boundaries, including the internal ones. The popular English «borrowings» include: *a model, a printer, a computer, a broker, a dealer, a joker*, and even a sales manager. Many «borrowings» turned into Belorussian slang: *гэ́рла (girl), дры́нк (a drink, beverage)*, etc.

Slang is expressive and metaphorical. It is used mainly in the spoken language. Here is an excellent example of Belorussian slang: “*у них крыша съехала*”, which

means that they have gone crazy. Once this phrase started to “fade” in its vivid “colour”, people came up with new variants: “крыша едет”, “крыша улетела”.

We will try to clear up the main difference of the youth slang from other ones:

- These words serve for the communication of people of the same age.
- The youth slang is concentrated in the world of young people.
- Thanks to the knowledge of such “specific” language they consider themselves members of the so-called community.

For example, American school students use the following word expressions:

*Dave can sometimes act like an airhead! (a stupid person). I really had a ball in Dave’s class (a fun time). I’m really beat because I was playing the computer all night (tired).*

Belorussian students use: *Мне в лом этим заниматься (I’m too lazy). Он совсем крезанутый (crazy). Мой компьютер глючит (an error).*

We can find some specific peculiarities of Belorussian and English slang.

- Many English and Belorussian slang words and expressions can be abbreviated: *IRL* – in real life; *Пож, ПЖСТА* – пожалуйста; *LOL* – laugh out loud; *ЯП* – жаргонизм, который расшифровывается как “ясен пень”, “ясен перец”. В другом варианте – “я плакал”, то есть смеялся до слёз.
- Clipping, removing syllables from words is a common means of creating new words like teach (teacher) “*bro*”(brother); “*физра*”, “*чел*”.
- Belorussian slang has a huge number of English borrowings: *рандом* (*random*), *пати* (*party*), *батл* (*battle*), *ноу-хау* (*know-how*), *лузер* (*loser*).
- Belorussian has adopted many words from the Internet: *юзер* (*user*), *флешка* (*flash drive*), *баг* (*bug*), *логин* (*login*), *спам* (*spam*), *хакер* (*hacker*).
- Belorussian students add Belorussian endings to English words: “*хелпануть*”, “*хилить*”.

The results of various scientific studies were the following: 29% learn slang words from their friends. The Internet, the mass media make 31%, hobbies – 15%, many words come from English – 21 % and the rest come from criminal jargon.

Young people widely use slang in their speech. This phenomenon is very interesting from the linguistic point of view, because it is like a laboratory of the language formation.

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## **PR AS A MARKETING TOOL**

PR is the art and science of achieving harmony with the environment through mutual understanding based on truth and complete informational content.

However, considering the PR as a marketing tool, it is necessary to mark it out as a special tool of marketing communication that facilitates proper contact with the audience.

This topic was developed by such scholars as N.A.Semenov, T.Chumikov, T.Duncan, F. Kotler and others.

It should be noted that the relevance of the selected theme is caused by the rapid development of the PR sphere and increased attention of the audience to its various manifestations.

PR, as a marketing tool plays an important role in fulfilling the following functions:

- assist in the placing of new products on the market;
- assist in the re-positioning;
- formation of interest to the goods of a certain category;
- impact on certain target groups;
- creation of the company image in the eyes of consumers, reflecting favorably on its products;
- a resolution of problematic situations (protection of goods and firms, eliminate unwanted rumors, etc.).

Here are basic PR-solutions in the field of marketing: publications, events, news, speeches, participation in social activities, means of identification. PR interacts with the financial and operational functions and it is applied to all parts of the complex of marketing communications, as all the components of the complex belong to the communication and reputation. As a result of the weakening possibilities of mass advertising managers of companies are increasingly turning to public relations as an effective and low-cost ways to raise awareness, reach local customers and special audience.

As for orientation to the consumer in the production its main task is PR-analysis of consumer behavior in terms of the broad public. Considering the ratio of marketing and PR, we should note duality. On the one hand, it is necessary to explore the place and role of PR in the marketing system, and on the other - the use of marketing tools for the promotion and implementation of specific PR-activities.

To sum up, we can say that PR is one of the most effective methods of attracting public attention to the proposed product.

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### GEOMETRICAL INEQUALITIES

Studying mathematics we often deal with solving of inequalities. One of the most difficult types of inequalities is geometrical.

The topicality of the paper is due to the fact that a theme "Geometrical inequalities" has no large theoretical base, but has the applied character. Solving of tasks in geometrical inequalities needs neither complex mathematical knowledge, nor difficult technique, but it requires creative and logical thinking. Geometrical inequalities deal with non-standard tasks, which are useful because they do not contain a unified solution algorithm, they always need search of new approaches, that stimulate students' cognitive interest.

Therefore geometrical inequalities are the subject of this research.

Let's consider some methods, which can be applied at inequalities proving that are related to the figures on a plane.

- Triangle inequality

It is known that for three arbitrary points of A, B and C inequality is executed (inequality is strict, if a point does not lie between two other points). As a result, the length of the broken line is not more than the distance between its ends. These elementary reasonings often turn to be key ones while proving inequalities for distances [2, p.85].

Example 1.

Task. In the triangle lengths of two sides are equal accordingly 3,14 and 0,67. Find length of the third side, if it is known that it is expressed by an integer.

Solving. If this length equals  $a$ , then  $a < 3,14 + 0,67$  and  $a > 3,14 - 0,67$ . So,  $a = 3$ . [1].

- Vectorial method

Sometimes inequality grounding for distances is comfortable to conduct, using vectors. The vectorial analogue of triangle inequality can be used. Thus:  $|\vec{a} + \vec{b}| \leq |\vec{a}| + |\vec{b}|$ . In a vectorial type triangle inequality can be formulated like this: sum of vectors length does not exceed the sum of their lengths [2, p.87-88].

Example 2.

Task. Two segments of  $AB$  and  $CD$  are given on a plane. Prove that length of the segment, which connects their midpoints, does not exceed half-sum of lengths of  $AC$  and  $BD$  segments.

Solving. The points of  $K$  and  $L$  are the midpoints of  $AB$  and  $CD$  accordingly (Fig. 1).

The vectorial equalities are executed:  $\vec{KL} = \vec{KB} + \vec{BC} + \vec{CL}$  and  $\vec{KL} = \vec{KA} + \vec{AD} + \vec{DL}$ . By adding them, we get equality  $2\vec{KL} = \vec{BC} + \vec{AD}$ , from where passing to vectors lengths, we obtain  $2|\vec{KL}| \leq |\vec{BC}| + |\vec{AD}|$ . This proves the statement set in the task. Sign of equality is possible if  $BC \parallel AD$ , i.e. when the set quadrangle is a trapezoid or parallelogram.

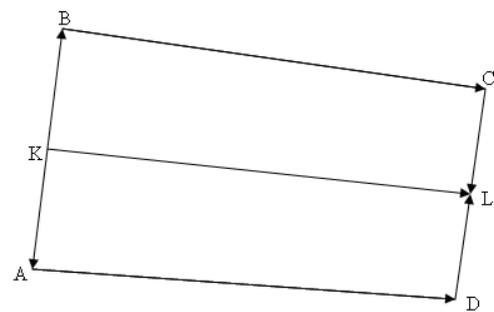


Рис.1

Thus, the paper studies two methods that can be applied at proving of inequalities related to the figures on a plane. The perspective of the further work is studying other methods of inequalities proof.

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## **CHOOSING A MODERN CMS TO CREATE THE ORIGINAL SITE- BUSINESS CARDS**

A central issue in my article is CMS (Content Management System). It is software which helps to organize websites with different levels of difficulty.

The purpose of the article is the selection of the CMS, which enables quickly and easily create of original business card site.

Nowadays a site-card is very popular. It is a small site as usually consists of a web pages and contains basic information about the organization, companies, products, services or contact information.

We have selected few tops, exploring CMS rating according iTrack.ru[1]. The company iTrack (Airtrek) was founded in 2004. It has 10 years of experience, more than 400 projects of their own staff developers.

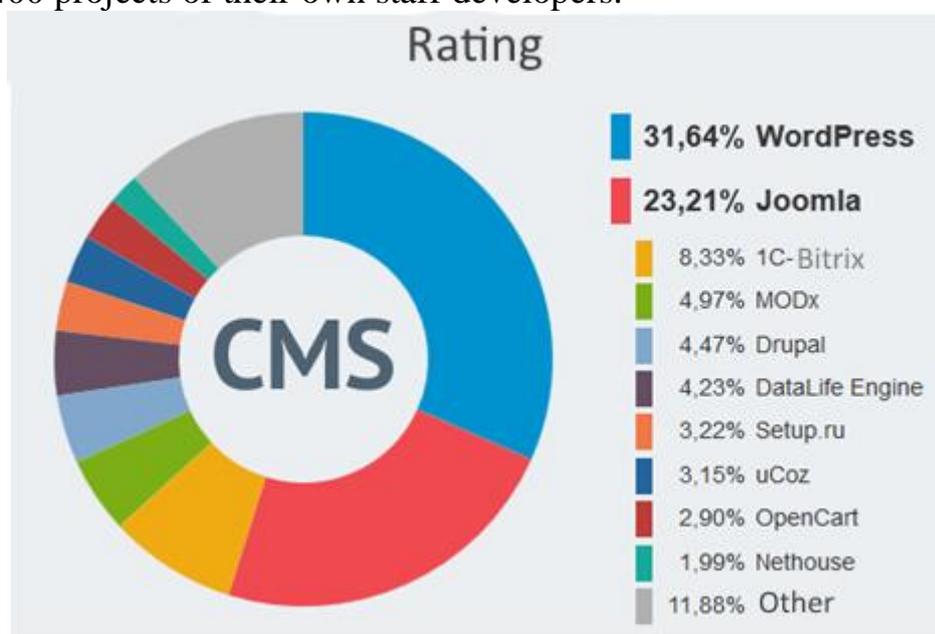


Fig. 1. Rating of SMS according to the site iTrack.ru

This rating was actual in June 2015. It is based on the data of the of installations CMS number on sites. There were polled 4,901,485 domains zone RU, CMS found on 23.7% of domains. WordPress ranks first place in rating – 31.64% and the number of installations – 367 500, and Joomla! takes the place second rated – 23.21% and the number of installations – 269 600. We choose two among of all CMS: Joomla! and Wordpress, which are far ahead of others in the ranking. Consider the various aspects of the CMS development and its using.

WordPress – is the system which's easy to install and use for management content with open source, it is widely used for creating Web sites, including blogs.

But nowadays, the WordPress is used not only for blogs, but also for online shops and regular websites that can be on complexity like as of DataLife Engine. They are written in a programming language – PHP using a database MySQL. License – (GPL) General Public License [2].

Although about Joomla! – is an universal open system for management content. It is used for publishing information on the Internet it is protected by the GPL license. Joomla can be used for creating large and small corporate sites, Internet portals, online stores, community sites and personal pages it is written in PHP. A database MySQL and PostgreSQL are used to store information.

Both CMS allow to create sites-business cards.

Lets compare our CMS according to these characteristics [3]:

- google rezalt, i.e. how many pages that Google finds on words "WordPress" and "Joomla!";
- the number of people who annually visited the official websites of CMS, such as: «wordpress.org» and «joomla.org» according to the site pr-cy.ru.;
- overall rating, it is rating that we take from the site iTrack.ru;
- the number of pages that Google can give for tags, templates and download CMS;
- comparing CMS ranking on site alexa.com;
- the number of sites that link to CMS.

Table 1. Comparison of WordPress and Joomla!

Characteristics	WordPress	Joomla!
rezalt in Google	1 140 mln.	136 mln.
the number of people who annually visited the official websites	51 636 601	9 969 771
overall rating	31,64	23,21
tag cloud	370 t.	172 t
Requests on templates	589 t.	714 t.
Requests on downloads	3 010 t.	863 t.
Alexa Rank	202	1 893
the number of sites that link to CMS	1 958 396	151 561

Google rezalt. We conclude that WordPress for users more than 8 times more interesting than Joomla!.

Pr-cy.ru – a site that provides web analytics services and acts as an independent measuring audience.

In the according of the WordPress and Joomla! official site using the site Alexa.com, we have identified the traffic and the number of sites that link to each of the CMS. Traffic – the site in the context of search engine optimization means the number of visitors. Alexa.com is a site where statistics about traffic to the other sites is collected.

As it can be seen from the data presented in the "table 1", WordPress takes the 1<sup>st</sup> place on all parameters, except the requests for templates.

There are some advantages and disadvantages of WordPress and Joomla!.

The advantages of WordPress include:

- CMS WordPress is free;
- Quick settings;
- Easily prepared for work;
- A large number of plugins and templates, which allow an inexperienced person in PHP and CSS to create a nice blog design and to connect all the necessary functions;
- The developer with a minimum of knowledge of PHP, HTML, CSS is easy to change the template any theme and to customize it for themselves;
- Hosting requirements are minimal.
- The disadvantages are:
- Queries to the database can be very heavy, which impose an increased load on the server;
- The advantages of Joomla! can include:
- The beginners and the professionals can use Joomla!;
- To keep the site on Joomla! doesn't need have any knowledge of Web design;
- Sites from Joomla! are mobile;
- You can change the template and menu structure ;
- You can add a variety of services directly in the site: shop online, chat, microblogging;
- A huge number of plugins;
- Amateur site isn't be distinguished from a professional;
- Constantly updated and regularly released new versions with new features;
- Ability to edit materials using the Visual EditorTinyMCE.
- The drawbacks Of Joomla!:
- The risk of the use of the template or plugin which was stolen . If it detects that you're illegally using its work, it may apply to the hosteru with a complaint;
- The hacker likes the sites on the Joomla!;
- Most plugins don't has Russification;
- The permanent modification of the CMS, the problem of quick update.

After analyzing all of the information, we can conclude that at the moment WordPress is more useful for creating original website. Of Course Joomla! has its benefits, but to use these advantages when implementing site on Joomla!, you must have the initial knowledge of PHP, JavaScript, CSS. However, WordPress does not require such knowledge in the field of Web design.

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## **ENVIRONMENTAL EDUCATION AS THE ELEMENT OF ECOLOGICAL SAFETY IN THE STATE**

Today the issue of environmental education is the most important aspect of ecological safety in the state. Ivano-Frankivsk National Technical University of Oil and Gas (IFNTUOG) is a leading institution in Ukraine, which trains specialists for oil industry. The analysis of the causes of accidents and the circumstances influencing the increase of the negative ecological impact on the environment shows, that except failing to fulfill technological requirements, imperfection of technical equipment and violations of exploitation norms there is the lack of ecological awareness of staff. According to the conception of ecologization in Ukraine it is necessary to popularize the ecological approaches in different areas.

The environmental education at different levels of human development is one of the keys to ecological safety. Students of Institute of Environmental Engineering of the IFNTUOG are exploring and learning the issue of ecological safety including the ecological awareness of future specialists. The questionnaire for IFNTUOG students was formed in order to explore their ecological awareness on the example of utilizing the solid domestic wastes (SDW). The main objective was to investigate the sorting of SDW by students. The questionnaire results showed that only 29% of citizens and 37% of villagers sort SDW. Such statistics may indicate the low level of ecological awareness that shows the passiveness and lack of awareness about the consequences of SDW accumulation. The problematic issue was: the awareness of residents about collection points in settlements where the respondents live. The results of survey are presented in the Fig. 1. The Fig. 2 represents the using packages of polyethylene, paper and tissue.

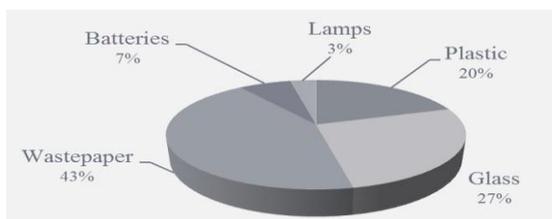


Figure 1– Awareness about collection points

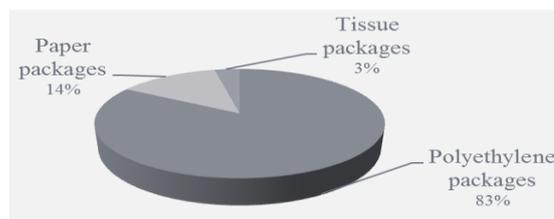


Figure 2 – Using packages of polyethylene, paper and tissue

Based on the results obtained only 14% use paper packages that can be utilized quicker and 3% use tissue packages, that can be used for many times. The rest 83% of students use polyethylene packages, which accumulate and cause great damage to the environment. The main danger of these packages is their longevity: the decay term of polyethylene is over 60 years!

Paper production is a complicated process that causing massive deforestation and negative impact on the environment. It takes two times less energy to recycle paper than for primary production of wood, while the harmful emissions are reduced more than by 70%. Nowadays paper is used for hygienic purposes, napkins, towels, toilet paper and more. Survey of respondents showed that 63% of students use toiletries from of pulp papers and 37% of wood.

The recycling of SDW and their correct utilizing can greatly improve the ecological situation in the state. For preventing the escalation of ecological crisis it's necessary to develop the ecological awareness of all the segments of the population.

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## **THE FORMATION OF THE ENVIRONMENT-CONSCIOUS ATTITUDE TO NATURE IN PRIMARY SCHOOL LEARNERS**

The problem of the formation of the environment-conscious attitude to nature and the improvement of the ecological situation in Ukraine becomes more and more urgent. The rapid development of production and transportation as a result of the scientific and technological progress has led to a large number of pollutants that are released into the natural environment and affect it destructively. Primary school plays a leading role in the formation of environmental culture and consciousness of future citizens.

The concept of "the environment-conscious attitude to nature" was investigated by L. Bozhovitch, A. Zdravomyslov, O. Kononko, O. Samsin and others. The environment-conscious attitude to nature is formed in the process of environmental education and is found in the following features: awareness of the functions of nature in human life, the intrinsic value of nature, the sense of personal involvement in the preservation of natural resources and responsibility for them, active participation in practical environmental protection activities, etc. [2, p.5].

According to the Concept of Environmental Education in Ukraine the formation of ecological culture includes:

- bringing up the understanding of contemporary environmental problems of Ukraine and the global world, awareness of their significance, relevance and universality;
- the revival of the best traditions of Ukrainian people in relationship to environment, bringing up love for the native land;
- the development of personal responsibility for the environment on the local, regional, national and global levels, the ability to predict personal activities and the activities of other people and groups [1, p.32].

It is exactly in the process of direct involvement of learners in practical environmental activities that mastering the environmental regulations and requirement takes place. Involving learners in environmental activities, such as environmental monitoring, competitions, quizzes, games and creative tasks, allows teachers to identify the best educational environmental interests of their learners. The ability to enrich the knowledge about the nature of the native land is formed, in particular, through excursions to the picturesque corners of the region and Ukraine. [1, p.34]. Children learn how to assess the environmental situation, to

anticipate the consequences of their actions and to avoid negative impacts on the nature of the planet. In their turn, teachers should form the environment-conscious attitude towards the nature in the minds of children.

So, nature should be represented in the educational process not as a material environment of human existence only, but as the formed valuable ideal of human life.

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### **SPORTS JOURNALISM: FROM “ROMANTIC” TO TABLOID AND INTERNET REPORTING**

Sports journalism is a form of writing that reports on sporting topics and events. It is an essential element of every news media company. Sports coverage has grown in importance as sport has grown in wealth, power and influence. Sport reporters are expected to know the rules of the game and the rules of journalism, so they can create colorful, dramatic and eventful game stories, vivid profiles, informative features and analyses in any media. Has sports journalism changed its ways and channels of communication?

Despite the fact that sports journalism was established many years ago, sports writers used to be mocked for their work. Now they run the industry that's worth billions – through various methods such as internet, radio and television. Sport journalism in the past was “easier” for sport journalists because there was not so much rivalry, and the speed of processing information was not so crucial. Sport journalists had more time to write texts than they have it today [3]. Everything was more serious, relaxed and professional, so we can call this period “romanticism of sport journalism”. Today's sports reporter does much more than just writes about sports. The job description now includes terms like blogger, videographer, commentator, talk show anchor and Webmaster. Dangerously enough, sport journalism these days is flirting with tabloid journalism – you can read about

“spicy” things from lives of famous athletes on sport portals and in newspapers [1]. People increasingly want more, and there is no difference with news. Many sports fans are no longer satisfied with one source of news: they want the blogs, the tweets, the constant updates, but they also want the longer form documentaries and the crafted narratives.

Nowadays, via a huge array of platforms, they can find out the score, or read a match report, post-match comments, watch video highlights and statistics. We are heavily influenced by digital media and, in particular, the Internet. What difference does it make for sports journalists, sports journalism and the audience? Journalism has changed more in the past five years than it has in the previous 70 years. Whether it is through websites, social networks, blogs, newspapers, live television and radio broadcasting, sports websites, sports television channels or radio stations, fan-based websites, tablet devices or via mobile, the choice of where and when fans access sports news has never been greater [2]. As technology continues to grow and improve with the use of Movie, Photoshop, In Design, and Skype among others, things are evolving socially for journalists as well. Twitter, Facebook and other social media platforms are having a tremendous impact on the sports world for fans, players, teams and sponsors.

Journalists can't continue to be stubborn to these changes in media because they will eventually find themselves out of work. Classic media is a thing of the past and journalists must find a way to continue to stay relevant. However, the future of sports journalism may be digital, but it seems there will long be a need for the printed word. Sports journalism is becoming increasingly complementary – there is still a need for all forms of it on a huge variety of platforms.

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### **MATH PROBLEMS WITH FRACTALS**

When we want to describe man-made objects such as a table, a tennis ball or an Egyptian pyramid, we use Euclidean geometry. But it's impossible to describe such natural objects as mountains, clouds or coastlines using only Euclidean geometry because their shape is much more complicated than a set of simple

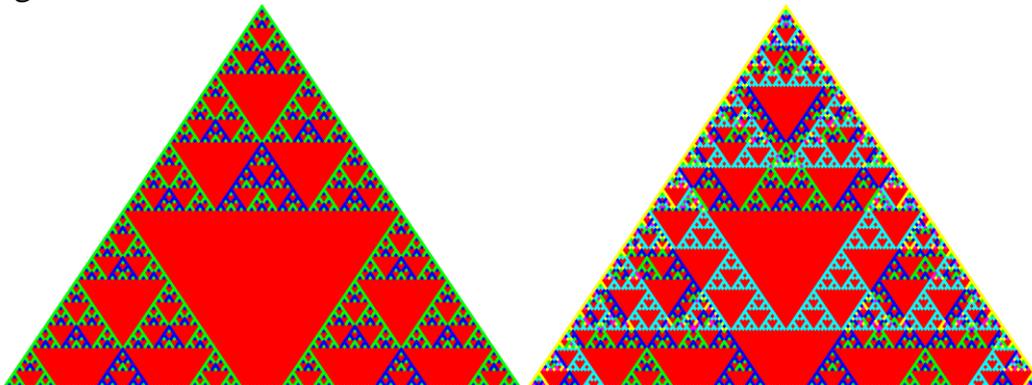
geometric figures. In 1975 the French mathematician Benoit Mandelbrot introduced a new mathematical concept “fractal”, which solved the problem of describing complicated natural objects and significantly changed the vision of modern mathematics. Mandelbrot wrote in his work "The Fractal Geometry of Nature" that we didn't have to ask ourselves why we needed fractals, it would be better to ask why we didn't think of them earlier [3].

Fractal (from Latin *fractus*, “crushed, fractional”) is an irregular self-similar structure, small parts of which are similar to the whole figure [1]. One of the methods of creating fractals is the method of simple replacement, when one element is replaced by several others, and such process can be repeated an infinite number of times. One such replacement step is called an iteration (from Latin *iteratio*, “repeat”) [2].

The examples of natural fractals are a branch of fern, Romanesco broccoli, a coastline, bronchi, brain, some forms of snowflakes, etc. Fractals are used in physics, electrical engineering, medicine, biology, mathematics, astronomy, psychology, economics, art and other sciences. This fact proves that fractals occupy an important place in our lives.

This article focuses on the math problems connected with fractals. We have created a set of math problems, which can be divided into two groups: 1) the problems with a finite number of iterations; 2) the problems with an infinite number of iterations. The example below illustrates the solution of the math problem of the second group containing a geometrical fractal, in particular, the Sierpinski triangle.

*Problem:* Find the area of the Sierpinski triangle obtained from the equilateral triangle with the area 1.



*Solution:* To find the area of the Sierpinski triangle, we need to find the area of all triangles that we've cut out. At first we cut out one triangle, the area of which is  $\frac{1}{4}$  of the whole triangle. With each new stage the number of triangles becomes 3 times more and the area of each triangle becomes 4 times less. According to the formula of the sum of the infinite geometric progression ( $S = \frac{b_1}{1-q}$ ,  $|q| < 1$ , where  $b_1$  is the first term of the geometric progression, and  $q$  is the geometric ratio of the progression;  $b_1 = \frac{1}{4}, q = \frac{3}{4}$ ) we find out that the sum of the areas of all the triangles that were cut out, is equal to 1. Therefore, the area of the Sierpinski triangle is equal to 0.

Math problems with fractals can be used during the lessons of Math and optional courses at schools. In our opinion, solving such problems will familiarize pupils with the world of fractals, increase their interest in Math and contribute to the development of their logical thinking, spatial imagination and creative abilities.

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### WAYS NOT TO BE CONSIDERED IMPOLITE WHEN COMMUNICATING ACROSS CULTURES

Citizens of the West often consider people from the Eastern Europe impolite while speaking English. A study was conducted to find out the reasons. People from all over the world who work or used to work with Eastern Europeans were interviewed about the probable reasons of considering easterners impolite. After long and scrupulous discussions, the conclusion was made.

Using imperative is the first reason. In the western countries, such construction as “Give me please...” will provoke only negative impressions. It can be related to a community, where some features of our behavior were formed. The feeling of living in a huge family that our parents and grandparents used to have in the USSR was one the reasons. Being a generation of independent Ukraine young people grew up with reminiscences of that formation. However, such a way of communication is considered exceptionable in the West and it should be avoided. A comparison of the phrases “Give me please another sheet of paper” and “I would like to have another sheet of paper please?” or “Could I have another sheet of paper please?” proves the latter to sound more polite.

Second. Avoid being too resolute and direct. Even if you are certain about something, make sure to use “seems” or “it looks like” in your expression. According the observations, English native-speakers use “seems” to obvious facts. In an everyday office situation, “My computer is broken” sounds like a direct and a bit hush expression. Consider “My computer seems to be broken” or “It looks like my computer is broken” instead. Obviously, the second variant sounds better and

not too direct. It is understood that a person is sure about it but he sounds more adequate and more polite.

The third point is about one phrase that should be used more often. It is “I was wondering if you might be able to...” The phrase is used in case of asking somebody about something. Of course, one can use the shorter variant “Can you...?” or “Could you...?” However, the first variant is worth the efforts. It sounds more open and still polite. By the way, it is also a nice way to start conversation with a stranger.

Now it comes to the last but not the least point. Honestly, it is one of the most important because it makes sense to talk about it even in Russian or Ukrainian. One-word answers are meant. Imagine, the interlocutor saying “Don’t worry about the broken computer. In a moment, we will send someone to have a look at it. You’ll be able to go on working in a few minutes.” Then such an answer follows “OK, thanks.” It is rather natural and routine but it does not sound like a person is pleased to be taken care of. The better reaction would be to say something like “Sounds good” or “Sounds great”. This way one will sound much friendlier.

To sum it up: try to think west and avoid the native language clichés while communicating with western representatives in order to seem and to sound polite.

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#### **FEATURES OF THE USE OF ENGLISH MODAL VERBS IN TRANSLATION FROM UKRAINIAN LANGUAGE (BASED ON THE MATERIAL OF AMERICAN FICTION)**

In linguistic science modal words and phrases are considered to be one of the most controversial lexical and grammatical categories and attract the attention of

scientists beginning from the second half of the twentieth century. However, modal words have not been explained properly yet because of their diversity, specificity of linguistic expressions and functional features.

The aim of our research is to identify the essence, description and analysis of complex modal words as a particular part of the sentence in English and in consideration of modal verbs as a way of modality implementation.

We found 63 sentences with modal verbs from the story of V.S. Maugham "Marriage of convenience" and R. Richard "Dear Norman" which were the material of our research.

In our research we used 3 methods: complete sample method, quantitative and structural methods.

Modal verbs do not express the action or state, and the attitude of the person denoted by the pronoun or noun in the sentence that has the function of subject to the action or state expressed by an infinitive.

In the quantitative analysis, we found out that the modal sentences of the research material have more sentences with modal verb "can / could". There are 28 units that express strong doubts of negative statements, resolution, mental, physical ability and the ability of the circumstances, which is 44%.

Sentences with modal verb "must" have 8 units that express obligation, necessity, probability or assumption, which is 13%. Also sentences with modal verb "should", expressing obligation, but a little less than "must", advice and disapproval, have 8 units, which is 13%.

Sentences with modal verb "will / would" have 15 units, which is 24%. Among them are verbs that express promise, confidence, assumptions, determination, perseverance, desire and resolution.

Sentences with modal verb "have to" that express obligation or necessity arising from the circumstances, have 3 units, which is 5%.

The least of all are sentences with modal verb "might". In material research we found only 1 unit that expresses possible plans, which is 1.5%.

We found out that the sentences with modal verb "can / could" are the most frequently used. Then we found out that the sentences with the modal verb "will/would" are less frequently used. Less number of sentences contain the modal verbs "must" and "should". They have the same number of sentences. The least of all sentences contain modal verbs "might" and "have to".

From quantitative analysis we can conclude that such modal verbs like "can/could" and "will/would" can be used in the fiction sentences more often than the other ones.

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## **GENDER DIFFERENCES IN IDEAL MANAGER PERCEPTIONS**

Society is a complex system which consists of different spheres of human activity: economic (production), political, social and spiritual.

The sphere of production plays an important role in our society [1]. The basis of this sphere is considered to be a material production. The society wouldn't exist without it. One of the main factors of labor productivity is the interaction (cooperation) of leaders and subordinates. You can face the problem of leaders and subordinates conflict. It may be caused by different factors. However, there is a common problem of subordinates unjustified hopes and expectations concerning the personality of the leader. Everyone imagines the "ideal" leader in his own way.

People of all ages, gender, nationality, marital status will have different perceptions and beliefs [2]. Gender differences are especially important because there are mixed types collectives at the enterprises. It is important to define men and women understanding peculiarities of the "ideal" leader. To identify the components, a leader should be focused on interaction of male and female subordinates as men and women have some differences in the cognitive and behavior spheres [3].

Methods and organization studies. To perform the tasks and hypothesis testing we used such methods as: theoretical analysis of the psychological literature; empirical - associative experiment; methods of mathematical statistics factor analysis.

Experimental basis of research. The study involved 80 people aged 20 to 50 years (20 girls 20-25 years, 45-50 years, 20 women, 20 boys 20-25 years, 45-50 years, 20 men).

The study of a real leader evaluation was conducted in order to compare the results. It gave the opportunities to draw an analogy between an ideal and a real leader evaluation. Gender differences of the leader evaluation were revealed. Nevertheless, not only gender differences but age ones were highlighted in the process of leader evaluation.

The girls' (20-25 years) and women's (45-50 years) perceptions of "ideal" and "real" manager of the organization were associated with personal, moral and emotional characteristics. The young men's (20-25 years) and women's (45-50 years) perceptions of "ideal" and "real" manager of the organization are associated primarily with professional characteristics.

It should be mentioned that age differences play an important role in this aspect. Young people define a real leader not only with negative but also positive characteristics. Adults purely attribute negative qualities to a real leader evaluation. It is important to stress on the fact that there are differences and similarities of characteristics between male and female.

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### MATHEMATICS IN NATURE

The object of the research includes exponential, logarithmic and trigonometric functions. The subject of the research is their application in natural environment and technology. The aim of the research is to show the concept of function in the process of development, the usefulness of studying the functions mentioned and to prove the relationship of mathematical and biological phenomena and processes.

#### **The logarithmic spiral**

The logarithmic spiral is the only type of spiral, which does not change its shape with size increasing. This property explains why the logarithmic spiral is so often found in nature. [Living?] Organisms usually grow, saving the general outline of their shapes. Organisms often grow in all directions. Adult organisms are higher and thicker than small ones. But shells of marine animals can grow only in one direction. Creatures which do not stretch too long have to curl up and each next turn is similar to the previous one. For example, when mollusk Nautilus increases in size, his body curls up into a logarithmic spiral. However, his shell does not change its shape: if we look under the microscope at the centre of the shell, we will see exactly the same spiral that would be obtained if the shell grew up to the size of the galaxy. Outlines shaped by a logarithmic spiral are peculiar to

many mollusks and snails shells, but also to horns of some mammals such as wild sheep. It can be said that the spiral is a mathematical symbol of types of growth correlation. The great German poet Johann Wolfgang von Goethe believed that the logarithmic spiral is a mathematical symbol of life and spiritual development [1].

### **Stars, noise and logarithms**

This subtitle joins things that seem to be unjoinable. Noise and stars are united here because the power of noise and brightness of stars are measured in the same way – on a logarithmic scale. Galaxy which owns the solar system is curled as a logarithmic spiral. Astronomers divide stars in the visible and absolute magnitudes: stars of the first magnitude, second, third and so on. The sequence of the apparent magnitudes perceived visually, is an arithmetic progression. But their natural brightness varies by a different law: the brightness of stars makes a geometric progression with denominator 2.5. It is easy to understand that "magnitude" of a star is a natural logarithm of brightness. In short, estimating the brightness of stars, astronomers operate the table of logarithms, compiled on the basis of 2.5.

The power of noise is evaluated similarly. Harmful affects of industrial noise on the workers health and productivity encourages the development of precise numerical estimate of the power of noise. The unit of the power is "bel" but practically power units are used, equal to its deciles – the so-called "decibels". Consequent power degree 1 bel, 2 bels and so on makes an arithmetic progression. Physical quantities characterizing noise (energy, sound intensity etc.) make a geometric progression with denominator 10. Power expressed in bels equals to decimal logarithm of the corresponding physical quantity [2].

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## **VECTOR PRODUCT AND ITS APPLICATION**

The paper is devoted to the problem of vector product. Vector algebra is a branch of vector calculus studying elementary operations on vectors including linear operations on vectors like vector addition and multiplication of a vector by a number.

The concept of vector is one of the fundamental concepts of modern mathematics. For the first time the concept of a directional vector segment has been used in mechanics to describe the physical vector quantities: velocity, acceleration, force, moment of force and so on. The clarity and simplicity of geometrical operations on vectors as directed line segments contributed to the universal acceptance and application of concept of vector in the branches of physics like kinematics, statics, dynamics of point, dynamics of system, potential theory, hydrodynamics. The concept has become one of the basic concepts of vector algebra, vector analysis, field theory, tensor analysis and so on.

Vector product is bilinear, antisymmetric operation on vectors in three dimensions. Unlike the scalar product of vectors of Euclidean space, the result of vector product is a vector, not a scalar. The concept of the vector product is purely spatial. It is quite different from the concept of product numbers, but retains some common features.

The use of the vector product in geometry enables to calculate the area of a polygon, the sine of the angle between vectors, to clarify the facts of collinearity of vectors and points, to find the vector orthogonal to the given ones.

The vector product of vectors is a productive concept considering the studying and solving the following problems of analytical geometry:

- distance from point to line in three dimensions;
- common two perpendicular skew lines;
- the square of a triangle given by coordinates vertices;
- transition from general line equations in space to the canonical equations;
- distance between the skew lines;
- the derivation of the surface equation that passes through a given point and parallel to the two skew lines etc.

The problem of vector product will be studied while solving advanced problems in geometry and physics.

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## WHY DO PEOPLE SEE DREAMS?

All people have dreams. This is a normal biological phenomenon. There is a science that studies dreams – oneirology. This discipline combines the features of neuroscience, psychology, and even literature, but the main question does not give an answer – why people see dreams? Many scientists studied dreams. It is believed that dreams are primarily a reflection of human desires in his real life.

Catching up on the study of the child's mind, the scientists pointed out, that children have dreams in which they see the fulfillment of their desires or terrible nightmares. Freud's studies [1] led him to the conclusion that all mental problems are reduced to sexual innuendo. Dreams, of course, Freud saw in the same direction. At the same time, he formulated two hypotheses that are connected with our theme.

First, Freud speculated that dreams are the way in which the mind acts out the repressed, forgotten or simply inaccessible desires. So, he believed that in dreams we see what we want to do or get in our everyday life.

Secondly, Freud proposed to consider dream images not in their literal sense, but in the form of metaphors, analogies, signs and symbols. That is, the dream of a boat floating on the water is not the dream about a boat, water or a journey, but about something that these images suggest symbolically. The task of interpretation just boils down to in order to pave the path from the literal to the symbolic and to understand what particular repressed desire hidden behind the vague and uncertain images of dreams (Freud's interpretation of dreams about the boat is obvious, so we will not focus our attention on it).

In dreams Jung [2] looked for the manifestation of the universal psychic instincts. During his life, Jung analyzed at least 80,000 dreams and built a new, more holistic approach to the interpretation of dreams. Unfortunately, for some reason he did not draw up their findings in a separate monograph, so to get an idea

of his method, you need to turn over many other of his works, which are often found practical examples of dream analysis with extensive explanations of what and why.

The principal difference between Jung's approach is very careful with regard to their content. If Freud immediately leads the patient off to free association, leaving the original story and the dream images without special attention, Jung, on the contrary, recalls that it should not be far to depart from the original image, because the whole value lies precisely in their symbolic meaning.

The most difficult part in Jung's dream interpretation is that the researcher requires deep and wide knowledge of mythology and "symbolic philosophy". Jung believed that without this it would be impossible to distinguish the subjects of dreams generated by everyday life context from those that emerged from the depths of the collective unconscious, and as such are much more important.

In fact, Jung's theory says that every person can be traced in his soul a reflection of all major mythological stories known to mankind, because the myths are not an empty tale, they are a symbolic image of deep psychological processes that take place in every person. That is why, throughout the world and in many different cultures, these stories are repeated over and over again.

Our opinion about it is that a dream is some reaction to a stressful situation or a detailed reflection of what our brain had previously seen or heard.

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#### **"HUMANITY" CONCEPT IN THE WORKS OF CONFUCIUS**

"A personality, endowed with humanity, has five qualities: politeness, generosity, honesty, diligence, kindness. Someone, who is polite, avoids insults. Someone, who is generous, attracts people. Someone, who is honest, will win trust of the others. Someone, who is diligent, will succeed. Someone, who is kind, will be able to use people in his work" (Confucius).

In the XXI century during the technical progress a degradation of moral principles has taken place. People devalue honesty, justice, friendship, love and humanity. In present the ownership of private property is valued, which dimensions far exceed vital human needs.

But nowadays, during the reform and modernization of the Ukrainian secondary school, great attention is paid to teaching children a sense of humanity, love to other people, the attitude of respect to the dignity and human mind.

Being troubled by disorder in society, Confucius focused on educating people in a spirit of respect to others and society. In his social ethics person is not a person "for himself" but for society.

Humanity (zhen) is a basic requirement to a human being. The good in every human being can be realized by four benefits: humanity (zhen), truthfulness (i), courtesy (li), knowledge (chzhi). Good is understood as order (li), which goes some way (dao) [3].

To the question "What is zhen?" the teacher replied: "Do not do to a man what you don't want for yourself. And then the hatred in the country and in the family will disappear" [1].

Confucius's commandments had a great impact on family relationships and the content of educational standards in China. According to Confucius, education of a highly moral personality can only take place in the family, because it has always been regarded as the main pillar of society in China [2].

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## LE HOME STAGING – TECHNIQUE PROMETTEUSE POUR LE MARCHÉ DE L'IMMOBILIER EN BIÉLORUSSIE

Dû à la situation actuelle dans le marché de l'immobilier en Biélorussie quand la quantité d'appartements proposés à vendre dépasse largement celle d'appartements demandés, les vendeurs se posent de questions comment y réussir.

Certaines caractéristiques de biens ne peuvent pas être changées : la localisation, l'ancienneté de la propriété bâtie. Pour attirer des acheteurs les propriétaires ne peuvent qu'abaisser les prix et chercher à mieux présenter leurs biens. La présentation commence dans les annonces de vente publiées sur des sites internet qui travaillent pour le marché de l'immobilier biélorusse. Et déjà à cette étape il s'avère que le manque d'attention à la forme des annonces souvent n'aboutit à rien dans la vente.

L'étape qui peut être déterminante pour l'achat de l'immobilier est celle de visites des biens. Selon l'expérience d'agents immobiliers aux Etats Unis comme en Europe et, surtout ce dernier temps, en Russie, une visite de biens par l'acheteur doit être bien préparée par le vendeur. Ce qui n'est pas le cas dans la pratique des ventes de l'immobilier en Biélorussie. Aujourd'hui, les agents qui travaillent dans l'immobilier étranger conseillent les particuliers de procéder à la mise en scène dans leurs maisons ou appartements orientée aux acheteurs afin de favoriser une meilleure impression des biens proposés et leur mise en valeur à moindre coût. Cette pratique devient de plus en plus rependue sous la dénomination d'un terme anglais « home staging » qui signifie littéralement « mise en scène de la maison ». Au fait, le home staging c'est un savoir-faire de rendre l'immobilier plus attractif afin de le vendre rapidement et au maximum de prix. Et tout cela – par des moyens abordables [1]. Donc, réussir au home staging signifie la maîtrise des aspects de la perception psychologique de l'espace au niveau de la forme, volume, couleur, odeur et son. Le home staging consiste à favoriser le «coup de cœur» et à induire l'acheteur en tentation d'acquérir le bien proposé.

Contrairement au design le rôle duquel est de mettre en relief l'individualité des propriétaires, le home staging cherche à créer un espace universel, dépersonnalisé au maximum, qui correspond aux regards des acheteurs typiques. Une visite des biens du passé récent avait pour but montrer l'appartement proposé tel quel était. L'acheteur devait faire des efforts pour se projeter dans l'espace à vendre, s'abstraire de l'entourage personnel des propriétaires. Et c'est tout l'opposé de la situation actuelle. Aujourd'hui si le vendeur veut réussir, il est obligé de créer toutes les conditions possibles qui n'empêchent pas la perception mais aident l'acheteur à imaginer les biens proposés comme les siens. Un procédé efficace pour y réussir c'est le home staging [2]. Les règles générales du home staging sont comme suit.

Il faut dépersonnaliser l'appartement proposé. Stéphane Plaza, agent immobilier et présentateur de la chaine M6 qui diffuse l'émission «Maison à la vendre» à la télé française souligne: «Chez vous ce n'est pas chez eux». Des photos personnelles, des objets des activités personnelles – leur présence est déconseillée lors des visites.

Il faut désencombrer et bien éclairer les pièces pour démontrer leur espace.

Il est nécessaire d'essayer de présenter les pièces de l'appartement décorées selon les dernières tendances: un local prêt à habiter, sans travaux plairait à plusieurs acheteurs.

L'appartement ne doit pas avoir de problèmes techniques : les lampes, les portes et les fenêtres avec leurs fermetures doivent fonctionner. Sinon l'acheteur

aura l'impression de mauvais entretien des biens proposés et, par conséquence, des travaux éventuels [3].

Il est important de bien organiser le cours de la visite commençant par l'arrivée d'acheteurs: s'ils trouvent l'adresse facilement, quelle impression peut produire l'entrée à l'immeuble. Les premières impressions souvent sont très importantes pour une décision finale.

À l'étranger l'art du home staging comme un ensemble de techniques permettant de mettre dans les meilleures conditions un bien immobilier destiné à la vente ou à la location est devenu un métier du marketing avec des résultats prouvés. Dans notre pays ce savoir faire serait très utile mais aujourd'hui il reste pratiquement inconnu.

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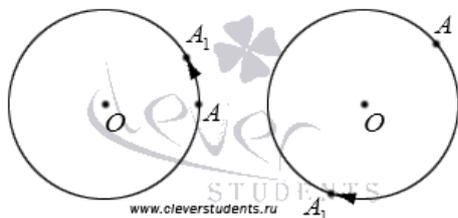
### ROTATION AROUND THE ORIGIN BY A SPECIFIED ANGLE

Mankind deals with the use of rotation (or rotation) constantly, most often this phenomenon can be observed in nature, for example, the movement of the sun and planets, the rotation of a wheel about its axis, the movement of molecules and so on. In mathematics the word "rotation" like the word "movement" has two meanings. Firstly, motion is used to indicate a continuous movement process, and secondly, and more often, in mathematics motion is used to indicate an isometric transformation with start and end positions. Accordingly, the word "rotation" can also be applied both to a continuous process and to an isometric transformation. In the latter case the term "turn" is most often used [1].

Let's introduce the notion of turning points around the point. First, we should define the center of rotation: *the point about which the rotation occurs is called the*

center of rotation. As a result of rotation of point  $A$  relative to the centre of rotation  $O$  point  $A_1$  is obtained (which in the case of a certain number of full rotations can be the same as  $A$ ); at that point  $A_1$  lies on the circle centred at  $O$  with radius  $OA$ . That is, as a result of rotation around the center of rotation  $O$ , point  $A$  comes to point  $A_1$  which lies on the circle centred at  $O$  with radius  $OA$ . It is considered that point  $O$  while turning round itself comes to itself.

Fig. 1 illustrates rotation of point  $A$  around the point  $O$ , shifting of point  $A$  to point  $A_1$  is shown with arrows.



From the definition of turning point it is clear that there are infinitely many variants of rotation of point  $A$  around point  $O$ . Indeed, any point on the circle with centre at  $O$ , radius  $OA$  can be viewed as point  $A_1$ , resulting from

rotation of point  $A$ . Therefore, in order to distinguish one turn from another, the concept of the angle of rotation can be introduced [1].

The concept of a turning point can be easily expanded to rotate any shape around a point on an angle (it is this turn that both the point about which the rotation is carried out, and the figure which is rotated, lie in the same subspace).

Under the rotation of a figure we understand the rotation of all point of this shape around a given point at a given angle. If at turning figure  $F$  is displayed on itself, we can say that this figure has a rotating symmetry.

Figure  $F$  has a rotating symmetry of order  $n$  relative to centre  $O$ , if at the turn around the corner of angle  $\frac{360^\circ}{n}$  this figure is displayed on itself. Point  $O$  is called the centre of symmetry of  $n$ -th order of figure  $F$ . If the angle of rotation equals to a straight angle, that is when a rotary symmetry of the second order is observed, such a turn is a central symmetry [3].

The rotation centred at  $O$  about the angle  $\alpha$  ( $0^\circ \leq \alpha \leq 180^\circ$ ) in a given direction is called the display of a plane on itself, in which point  $O$  appears about itself and any other point  $A$  appears at point  $A_1$  so that:

- distance  $|OA|$  and  $|OA_1|$  level;
- angle  $AOA_1$  has a value  $\alpha$  and is deferred from half line  $OA$  in a given direction.

Point  $O$  is then called the *centre of rotation*, and angle  $\alpha$  is called *the angle of rotation*[2].

Therefore, mathematically, rotation is the motion of a rigid body, which, unlike transference, maintains one or more fixed points.

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## **DIVERSITY OF PHYTOPLANKTON RATE IN THE POND OF GRABARKA (BERDYCHIV) AND EVALUATION OF ITS ENVIRONMENTAL STATE (STRUCTURAL AND FUNCTIONAL PARAMETERS)**

The lakes of anthropogenic origin are storage reservoirs and ponds, artificially created on rivers, and also old mined-out quarries and salt mines, filled with water, etc. [1].

The study of phytoplankton diversity in men-made water reservoirs are of undeniable theoretical and practical significance for the development of principles of application of men-made aquatic ecosystems bioproducts' potential and for biological indication issues.

**The purpose of the paper** was to determine the features of algal communities in the pond of Grabarka (Berdychiv) and to evaluate the ecological state of this water body as to the biodiversity of phytoplankton.

42 algological tests of phytoplankton served as **the material of the paper**. The stating of the taxonomic composition of algae was conducted referring to the latest floral reports [2-4].

The processing of the body of data was held in Microsoft Excel 2007 program.

During the study of plankton in the pond of Grabarka 84 species of algae representing 9 departments were found.

For the first time a detailed study of the species composition and quantitative development of planktonic algae in the pond of Grabarka was conducted. The taxonomic structure of the pond phytoplankton was analyzed, as well as the frequency of algal species. The peculiarities of quantitative development of phytoplankton and its dominant sector are determined, the analysis of seasonal dynamics of planktonic algae in the studied reservoir is made. The quality of water in the given pond is determined, and ecological status of the pond is estimated according to the presence of certain indicator species of water environment factor, and also according to the ratio of primary phytoplankton production and the degradation of organic matter.

The data obtained from our research is a significant addition as to the study of algal flora of men-made water bodies of Central Polissya.

The data obtained can be widely used in conducting environmental monitoring and predicting changes in water quality which result from human activity.

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## GLOSSE ALS TEXTSORTE IM STIL DER PRESSE UND PUBLIZISTIK

Die Erforschung der Spezifik von der Massenkommunikation und ihrer Realisierungsform – der Glosse ist heute ein aktuelles Problem, das genauere Untersuchung verlangt. Glosse als Textsorte wird auf folgende Weise bestimmt: „Ein knapper polemischer Kommentar in der Presse zu aktuellen Ereignissen oder Problemen“ [2, S. 654]. Es wird auch hervorgehoben, dass sie auf schlechten unfreiwillig komischen oder entlarvenden Sprachgebrauch abzielt. Glossen, die ihre Adressaten zum Lachen reizen wollen, bedürfen den blitzenden Einfall.

Im modernen Journalismus bezeichnet man oft als Glosse einen kurzen Meinungsbeitrag, der einen polemischen, satirischen oder feuilletonistischen Charakter hat. Journalistische Glossen werden verfasst sowohl zu lustigen als auch zu ernsten Themen, zu den allstaatlichen oder zu den lokalen Ereignissen. Dabei spricht man oft in der wissenschaftliche Literatur über die Lokalglosse, auch Lokalspitze oder Spitze genannt. Für beide, für die Glosse in der überregionalen Presse wie für die Lokalglosse, gilt gleichermaßen, dass ihre überzeugende oder unterhaltende Wirkung von der formal und inhaltlich leichten Eleganz des Textes abhängt, zu der eine verblüffende Überschrift, Wortspiele, Wissens- und Bildungshäppchen, ein überraschender Schlussgang und – vor allem – Komik beitragen. Häufig angewandte Stilmittel sind daher Ironie und Übertreibung (Hyperbel).

Der bekannte Publizistik-Wissenschaftler Emil Dovifat nannte die Glosse als die kürzeste und daher die schwerste journalistische Stilform.

Der moderne ukrainische Stilforscher W. Pawlik betrachtet Ereignisse in der Politik und Kultur als Gegenstand der Kommunikation in der Textsorte „Glosse“ [1, S. 4]. Die Texte der Glosse setzen sich mit den Problemen der Außen- und Innenpolitik, der globalen und Gesellschaftspolitik sowie mit den Fragen der Kunst, des Sports und der Massenmedien auseinander. Der Wissenschaftler weist auch darauf hin, dass diese Textsorte als kompliziert gilt und einen hohen Grad des Professionalismus sowie der Kompetenz vom Adressanten auf allen Gebieten voraussetzt. Was den Adressaten dieser Texte anbetrifft, erwähnt der Autor, dass sie sich auf gebildetes, überdurchschnittliches Publikum orientieren [1, S. 5]. Es bedeutet, dass der Leser zum Textverständnis manchmal auch spezielle Kenntnisse benötigt.

Der Wissenschaftler W. Pawlik weist die Glosse eine Dreikomponentenstruktur auf und setzt sich aus der Einleitung, dem Hauptteil und Schluss zusammen [1, S. 4]. In der Einleitung wird eine gewählte Thematik eingeführt. Das Thema wird mit einem aktuellen Ereignis bzw. einem Bericht verbunden. Im Hauptteil wird diese Tatsache kommentiert und bewertet, indem der Leser die Grundinformationen bekommt, die für das komplexe Verständnis unentbehrlich sind. Jeder Teil des Textes wird durch die subjektiven Meinungen und Kommentare des Textreproduzenten attraktiver und interessanter gemacht. In der klassischen Variante enthält der abschließende Teil der Glosse den Kern des Textes, das heißt die Pointe, die in der geistreichen Form den überraschenden Gesichtspunkt des Geäußerten verkörpert. Es bedeutet, dass am Ende der ganze Text eine völlig andere, nämlich tiefere Bedeutung gewinnen kann, als es am Anfang überhaupt zum Vorschein gekommen ist. Die Glosse zielt, durch keine Autorenzeile gekennzeichnet, die Spalte in der Titelseite – und schafft es immer wieder, die Illusionen und die Mühsal des täglichen Nachrichtengeschehens in Form einer blitzenden Pointe zu karikieren.

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## **DEVELOPMENT AND COMPUTERIZATION OF AN ENGLISH TERMINOLOGY SYSTEM IN THE FIELDS OF DRILLING AND DRILLING RIGS**

The goal of the research is to develop an English terminology system which is going to be used in drilling, to define an algorithm of the base formation and the lexicographic description of terms, which allows us to show their ratio with other terms and concepts within this terminology system.

Terms which form drilling terminology system are an object of current research. Subject of the analysis is represented by logical and semantic relations between terminology system components.

The purpose and task define the choice of main research methods that include cognitive linguistics methods, method of component analysis of terms meaning, analysis of terms definitions within the terminological linguistic dictionaries (an analytical method), as well as descriptive and comparative methods and empirical sources systematization in the drilling field.

Term is a word or a phrase which can be compared with a particular concept of a certain field of science, technique, arts, social and political life. It is connected with other similar language units, forming a special system – terminology. Thus, terminology is a set of terms – words or phrases – that express some specific concept in a certain field of science, technique or art, as well as a set of all terms in any language.

The first step in the research is to create a terminology system of narrow industrial drilling branch, based on the cognitive analysis methods. It makes possible to define MINING INDUSTRY as a domain. Term "DRILLING" is the leading concept, which covers such terminological clusters as DRILLING RIGS, DRILLING RIG COMPONENTS, AUXILIARY DRILLING EQUIPMENT, REPAIR EQUIPMENT, DRILLING PROCESSES, STAFF and DOCUMENTATION.

The second step of the research offers analysis of the problems and translation methods of English scientific and technical terms into the Ukrainian language. While translating the focused terms with a dictionary, one should consider the context and field of science and technique of the translated text.

The third step provides creation of an English-Ukrainian MULTITERM database, based on the selected terms entering to each above-mentioned cluster. This is going to be used in the automatic translation system SDL TRADOS 2014.

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## YII AS A MODERN APPLICATION FRAMEWORK

Informational technologies are constantly developing. Every year there appear new features and technologies. Web is being developed especially rapidly. It is there that terabytes of information are saved to be processed and given to the user. Many efforts are focused on convenience and speed of development of information solutions to these established frameworks.

Yii is a high performance, component-based PHP framework for rapidly developing modern Web applications. The name Yii (pronounced Yee or [ji:]) means "simple and evolutionary" in Chinese. It can also be considered as an acronym for Yes It Is![1]

Yii is a generic Web programming framework, meaning that it can be used for development of all kinds of Web applications using PHP. Because of its component-based architecture and sophisticated caching support, it is especially suitable for development of large-scale applications such as portals, forums, content management systems (CMS), e-commerce projects, RESTful Web services, and so on[1].

Being familiar with other frameworks, one can compare them with Yii:

- Like most PHP frameworks, Yii implements the MVC (Model-View-Controller) architectural pattern and promotes code organization based on that pattern;
- Yii follows the philosophy that code should be written in a simple though elegant way. Yii will never try to over-design things mainly for the purpose of strictly following some design pattern;

- Yii is a full-stack framework including many proven and ready-to-use features: query builders and ActiveRecord for both relational and NoSQL databases; RESTful API development support; multi-tier caching support etc;
- Yii is extremely extensible. One can customize or replace nearly every piece of the core's code. One can also take advantage of Yii's solid extension architecture to use or develop redistributable extensions;
- High performance is always a primary goal of Yii.

Yii is not a one-man show, it is backed up by a strong core developer team, as well as a large community of professionals constantly contributing to Yii's development. The Yii developer team keeps a close eye on the latest Web development trends and on the best practices and features found in other frameworks and projects. The most relevant best practices and features found elsewhere are regularly incorporated into the core framework and exposed via simple and elegant interfaces.

Yii 2.0 requires PHP 5.4.0 or above. You can find more detailed requirements for individual features by running the requirement checker included in every Yii release.

So, it can be said that Yii performs an extensive list of appointments. It helps to shorten the development time of bringing the huge code base.

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### **THE CONCEPT OF RESISTANCE**

The concept of resistance is very important, as it is widely used in all modern measurement devices. German physicist G. Ohm experimentally established the following law: the current in a uniform conductor is directly proportional to the voltage at the ends of the conductor:  $I = kU$ , where  $k$  is the coefficient of proportionality, called conductivity of the conductor. In practice we often use the

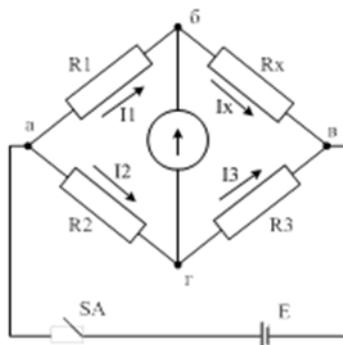
inverse of conductivity value  $R = \frac{1}{k}$ , which G. Ohm called electric resistance of the conductor. Then the formula of Ohm's law is written as:  $I = \frac{U}{R}$  (1).

The resistance of a uniform conductor at not too high currents does not depend on the current, and is determined by the geometric dimensions of the conductor, the chemical nature of the material and its physical state (temperature, pressure). The electrical resistance of metals is conditioned by the scattering of conduction electrons by the structural inhomogeneities and thermal fluctuations in the crystal lattice. In SI conductor resistance is measured in ohms (Ohm) and conductance in Siemens (Sm). The unit of resistance is determined by the formula (1): 1 Ohm is the resistance of the conductor, which at a voltage 1V passes a current force 1A:  $[R] = B/A = 1\text{Ohm}$ . For a uniform conductor:  $R = \rho \frac{l}{S}$ . The magnitude of resistance occurring in practice lie in the range from  $10^{-6}$  to  $10^{+12}$  Ohm.

Electrical measurements of all the resistances are divided into three groups:

- small resistance – 1 Ohm and below;
- average resistance – from 1 to 105 Ohm;
- large resistance – from 105 Ohms and above.

The bridging method is used for measurement of small, average and large resistances, when greater precision of measurement is needed. The most commonly used are the bridges of direct current (Fig. 1). Sets of resistors  $R_1, R_2, R_3$  and the measured resistor  $R_x$ , form the shoulders of the bridge, one diagonal of which contains the power source, the galvanometer.



(Fig.1 1)

The measurement of the resistance bridge is based on the principle of shoulders balancing. Selecting the resistance of the shoulders so that in the circuit of the galvanometer there is no current, we achieve the balance of the bridge. At the equilibrium of the bridge the potentials of points b and g are the same, therefore:

$$I_1 R_1 = I_2 R_2; I_x R_x = I_3 R_3 \quad (1) \text{ and since } I_1 = I_x;$$

$I_2 = I_3$  then  $R_x = R_3 \frac{R_1}{R_2}$  (2). So, the shoulder  $R_3$  is called the shoulder of comparison, and  $R_1$  and  $R_2$  ones are the shoulders of attitude.

Therefore, out further research will be devoted to the measurement of small resistance.

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## **UKRAINIAN AND BRITISH EDUCATIONAL SYSTEMS**

It is impossible to overestimate the importance of education in the modern world. Education has become the leading power of the technological progress and thus of the whole development of the humanity. The United Kingdom has one of the best educational systems in the world. Unfortunately, Ukraine is not so good in this way, but we are on the right road and in the future we will have the same quality of education that is in the United Kingdom.

The task of our investigation is to compare Ukrainian and British educational system. There are many differences between our educational system and the United Kingdom and it's very important to know everything about it if we want to become better in the future.

Education in England is overseen by the United Kingdom's Department for Education and Department for Business, Innovation and Skills. Local government authorities are responsible for implementing policy for public education and state-funded schools at a local level.

The education system is divided into stages based upon age: Early Years Foundation Stage (ages 3–5), primary education (ages 5–11), secondary education (ages 11–18) and higher education (ages 18+).

From the age of 16 there is a two-year period of education known as "sixth form" or "college" which typically leads to A-level qualifications (similar to a high school diploma in some other countries), or a number of alternative qualifications such as BTEC, the International Baccalaureate or the Cambridge Pre-U.

British education helps to develop fully the abilities of individuals, for their own benefit and of society as a whole. Compulsory schooling takes place between the ages of 5 and 16, but some pupils remain at school for 2 years more, to prepare for further higher education. Post-school education is organized flexibly, to provide a wide range of opportunities for academic and vocational education and to continue studying through out life. Administration of state schools is decentralised. The department of education and science is responsible for national education policy, but it doesn't run any schools, it doesn't employ teachers, or prescribe curricular or textbooks. All schools are given a considerable amount of freedom. According to the law only one subject is compulsory. That is religious instruction [1].

Children receive preschool education under the age of 5 in nursery schools or in infant's classes in primary schools.

Most pupils receive free education funded from public funds and the small proportions attend wholly independent schools. Most independent schools are single-sex, but the number of mixed schools is growing.

Education within the maintained schools system usually comprises two stages: primary and secondary education. Primary schools are subdivided into infant schools (ages 5 - 7) and junior schools (ages 7- 11). Infant schools are informal and children are encouraged to read, write and make use of numbers and develop the creative abilities. Primary children do all their work with the same class teacher except for PT and music [3].

The junior stage lasts for four years. Children have set periods of arithmetic, reading, composition, history, geography, nature study and others. At this stage of schooling pupils were often placed in A, B, C and D streams according their abilities. The most able children were put in the A stream, the least able in the D stream. Till recently most junior school children had to take the eleven-plus examination. It usually consisted of an arithmetic paper and an intelligence test.

According to the results of the exam children were sent to Grammar, Technical or Secondary modern schools.

Socalled comprehensive schools began to appear after World War II. They are mixed schools which can provide education for over 1000 pupils. Ideally they provide all the courses given in Grammar, Technical and Secondary modern schools.

By the law all children must receive full-time education between the ages of 5 and 16. Formally each child can remain in school for further 2 or 3 years and continue his studies in the sixth form up to the age of 18 or 19. The course is usually subdivided into the lower 6 and the upper 6. The curriculum is narrowed to 5 subjects of which a pupil can choose 2 or 3.

The main examinations for secondary school pupils are general certificate of education (the GCE) exam and certificate of secondary education (the CSE) exam.

The GSE exam is held at two levels: ordinary level (O level) and advanced level (A level).

Candidates sit for O-level papers at 15 –16 years. GCE level is usually taken at the end on the sixth form. The CSE level exam is taken after 5 years of secondary education by the pupils who are of average abilities for their age.

At most schools the pupils have to wear a school uniform. This usually means a white blouse for girls (perhaps with a tie), with a dark-colored shirt and pullover. There colors may be grey, brown, navy blue, dark green or similar. Boys wear a shirt and the tie, dark trousers and dark colored pullovers.

Pupils of both sexes wear blazers-a kind of jacket – with the school badge on the pocket.

They often have to wear some kind of hat on the way to and from the school – caps for boys and berets or some other kinds of hat for girls. Shoes are usually black or brown and should be sensible – no high heels [2].

The system of higher education in Britain includes universities, colleges of education and advanced courses at various colleges. There are over 90 universities in GB. They are divided into three types: the old universities (Oxford, Cambridge

and Edinburgh Universities), in the 19th century universities, such as London and Manchester universities, and the new universities. Some years ago there were also polytechnics. After graduating from polytechnic a student got a degree, but it was not a university degree. 31 former polytechnics were given university status in 1992.

A university usually consists of colleges. The departments of the colleges are organized into faculties. In the university students have a series of lectures, seminars, tutorials and laboratory classes. Lectures are given to large groups of students while seminars are much smaller than lectures. Lectures and seminars are all one hour in length, laboratory classes last 2 or 3 hours. The academic year divides into 3 terms. First two terms last for 24 weeks; the 3rd term is reserved for classes and examinations and lasts for six weeks. After three years of study a university graduate will leave with the Degree of Bachelor of Arts or Science. Student can continue to take his Master's Degree and then the Doctor's [1].

Ukrainian education has a lot in common with British education, but also there are some differences.

Education in Ukraine is given great attention by the government and a large number of facilities and institutions exist for the purpose of educating the population. The system of education in Ukraine extends right from pre-school to higher education.

The Ukrainian educational system is organized into five levels: preschool, primary, secondary, higher and post graduate education.

The system of secondary education in Ukraine includes primary forms and junior and senior secondary forms. Children usually go to school at the age of 6 or 7. There are some preschool institutions, like nursery schools or kindergartens, but they are not obligatory. Primary forms comprise 1 to 4 forms. Junior secondary forms comprise 5 to 9 forms. After the 9th form children pass state exams. They can enter technical schools of different types. Those who want to enter higher educational institutions should complete 10–11 forms. After 11 form students have to pass UPE exams and if they get good results, they can enter Institutions and Universities. Students can also enter higher educational institutions after graduating from specialized colleges or lyceums. They prepare students in different fields, whether the humanities or the sciences. Some of them are organized under the authorities of higher educational establishments.

The system of higher education is presented by universities, polytechnic institutes or specialized institutes. Universities offer a five-year course of study and usually have from six to twelve departments. Institutes train specialists for industry, agriculture and economy. Most of them have been conferred the status of Academy or University recently. Students are also offered postgraduate education and scientific research work. Nowadays due to the state of our national economy not many young people are engaged in the research work. But still in some fields of science there are outstanding discoveries and research papers.

Some universities and institutes have refresher courses. Recently a great number of private educational establishments have appeared. Some institutions

have fee-paying groups or departments. The students may get education there at the same high level as in the state institutions.

Now we are to compare these two educational systems. The joint between them is that the education in Ukraine and the United Kingdom extends from pre-school to higher education. Also both Ukrainian and British children can get higher education after school in universities or other higher education establishments, but before it they have to pass an exams.

There are a lot of differences between these two educational systems. In Ukraine children start to go to school at age 6 or 7 year, while in Britain the start schooling at age 5. In our country pupils graduate school at age 17, while in Britain at age 18. Also in contradistinction to Ukrainian schools, in British pupils have to wear uniform and I think that it has a good influence on the quality of education. The main peculiarities of British education is that children can choose the subjects, which they I'd like to study and that at junior stage of schooling pupils are often placed in A, B, C and D streams according their abilities. The most able children were put in the A stream, the least able in the D stream [3].

Our Ukrainian system can use some good ideas and practical aiming of British education for better preparing children for their future life.

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### ALKOHOLE ALS OXYGENREICHE ORGANISCHE VERBINDUNGEN

Alkohole sind die oxygenreichen organischen Verbindungen, deren Moleküle eine oder mehrere OH – Hydroxylgruppen enthalten, die an ein Karbonradikal gebunden ist. Die OH-Gruppe nennt man funktionelle Gruppe, weil sie für alle funktionellen Eigenschaften von Alkoholen verantwortlich ist, mit deren Hilfe

Alkohole von Kohlenwasserstoffen sich unterscheiden und ihre physikalischen und chemischen Eigenschaften bestimmen. Gemäß der Anzahl von Hydroxylgruppen in den Alkoholmolekülen sind sie in einatomige (eine Hydroxylgruppe), zweiatomige (zwei Hydroxylgruppen) und usw. unterteilt. Die allgemeine Formel dieser Reihe von Substanzen sieht entweder  $C_nH_{2n-1}(OH)$  oder  $R-OH$  aus. Aufgrund der hohen Polarität der C-O und O-H, und auch der Anwesenheit von unteilbarem Elektronenpaar des Sauerstoffatoms sind Alkohole sehr reaktive Verbindungen [1].

Physikalische Eigenschaften von Alkoholen hängen von der Struktur des Kohlenwasserstoffrestes und der Position von Hydroxylgruppen stark ab. Die ersten Vertreter der homologen Reihe von Alkoholen sind Flüssigkeiten, höhere Alkohole nennt man Feststoffe. Mit der Erhöhung der Molekularmasse nehmen Alkohole ihre Löslichkeit ab. Alle Alkohole sind leichter als Wasser. Mit zunehmender Molekularmasse steigt die Siedtemperatur von Alkoholen ab [2].

Laut der systematischen Nomenklatur werden die Bezeichnungen der Alkohole von den Namen der Kohlenwasserstoffe mit dem Zusatz von Suffix  $-ol$  gebildet; die Zahl zeigt das Karbonatom, bei dem eine Hydroxylgruppe ist. Die Atomnumerierung beginnt man von jenem Ende, zu dem sich näher eine funktionelle Gruppe befindet. Die Isomerie der Alkohole wird durch die Isomerie des Kohlenwasserstoffgerüsts und durch die Lage einer Hydroxyl-Gruppe bedingt [1].

*Die chemischen Eigenschaften von Alkoholen:* Verbrennung; Wechselwirkung von Alkoholen mit den Alkalimetallen und den Halogenwasserstoffen; Dehydration.

*Gewinnungsweisen von Alkoholen:*

1. Hydratisierung von Alkenen.
2. Hydrolyse der Halogenderivate von Alkanen in wäßrigen Alkalien.
3. Wiederherstellung von Aldehyden mit Katalysatoren.
4. Gärung von Kohlenhydraten [3].

*Die Verwendung von Alkoholen.* Alkohole werden als organische Lösungsmittel und als Treibstoff eingesetzt. Sie werden auch für die Herstellung von Butadien verwendet, von dem man einen synthetischen Kautschuk macht. Der wird sowohl in der Pharma- als auch in der Lebensmittelindustrie benutzt [2].

*Einfluss von Alkoholen auf den menschlichen Organismus.* Alkohole wirken auf den Organismus negativ ein. Besonders giftig ist Methylalkohol. Sogar geringe Menge vom Einnahmen zerstört den Sehnerv und verursacht die irreversible Blindheit. 5-10ml Alkohol fügt eine schwere Vergiftung des Organismus zu, und 30 ml können zum Tode führen. Unter dem Einfluss von Spirituosen werden Aufmerksamkeit geschwächt, Reaktion gehemmt, Bewegungskorrelation gestört.

Zusammenfassend könnte man sagen, dass Alkohole die oxygenreichen organischen Verbindungen sind, die sowohl einen negativen Einfluss auf den menschlichen Körper haben, als auch von großer wirtschaftlicher Bedeutung sind.

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## DIE OXYGENREICHEN ORGANISCHEN VERBINDUNGEN. ALKOHOLE

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So, Alkohole sind die oxygenreichen organischen Verbindungen, die sich negativ auf den menschlichen Körper beeinflussen, sondern auch von großer wirtschaftlicher Bedeutung haben. In der Welt sind der wichtigsten Alkohole Methyl, Ethyl, Propyl, Isopropyl alkoholen.

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## FACTORS OF LINGUISTIC STEREOTYPING MANIFESTATION

There are many differences among people: race, ethnicity, nationality, gender; religion; social status; economic class; age; ability and sexual orientation. And every country has its own culture. Every culture has many different stereotypes about other cultures. A stereotype is a statement that simplifies human and social

realities. It is a single quality that is said to belong to every member of a group. Stereotypes are based on incomplete or faulty information. They can lead to serious misunderstandings.

Stereotypes are simplified and/or standardized conceptions or images with specific meaning, often held in common by members of a group. A stereotype can be a conventional and oversimplified conception, opinion, or image. Stereotypes can range from those that are vaguely inaccurate and negative to those that are more than a little bit true and may even shed positive light upon the group of individuals. They are typical generalizations based on minimal or limited knowledge about a group to which the person doing the stereotyping does not belong. Persons may be grouped based on race, ethnicity, religion, sexual orientation, or any number of other categories [3, p. 225].

Stereotypes can be based on: historical factors, simplification, exaggeration, presentation of cultural attributes as being 'natural', racism, sexism, homophobia and other forms of discrimination, association of persons with other groups, physical disorders.

Stereotypes are not only part of the culture and identity of those groups who are stereotyped, but they are also part of the culture of those who recognize and utilize them for interpreting certain groups. The effects of stereotyping can fluctuate, but for the most part they are negative, and not always apparent until long periods of time have passed. Stereotyping painfully reminds those being judged how society views them [4, p. 101].

Stereotyping it's the act of portraying a particular character (or group) with a formulaic, conforming, exaggerated, and oversimplified representation, usually offensive and distorted [3, p. 259].

The social and psychological functions of stereotyping: 1) intergroup differentiation: in-group favoritism (in most cases), external-group (ex-group) favoritism; 2) maintain a positive group identity.

The main aim of stereotyping is maintaining the identification of individuals and groups; excuse the possible negative attitudes towards other groups, and so forth [4, p. 68].

Speaking about stereotyping, it remains an important concept of lingvo-semiotics.

Lingvo-semiotics is a branch of semiotics which treats any natural language as a semiotic system, describing it in terms of general semiotics. The main aim of lingvo-semiotics is to identify the nature of language as a sign system [1, c. 194].

Leontovich noted that on the communicative level stereotyping occurs on the basis of: 1. accents; 2. the manner of pronunciation and setting accents: the features of intonation; the tempo of speech; manner of speaking loudly or softly; choice of vocabulary; clichéd phrases; syntactic features; speech strategies; communicative distance [2, c. 78].

It is not always easy to dissolve stereotypes - images and stereotypes - situation as a stereotype is a special view of the situation and subject.

Leontovich identifies the following stereotypes: race; ethnic; geography; gender; social; policy; professional.

Stereotypes are not only part of the culture and identity of those groups who are stereotyped, but they are also part of the culture of those who recognize and utilize them for interpreting certain groups.

Therefore, false impression about different cultures often put a stop to understanding each other adequately. It creates serious barriers in international relations that may result in alienation. Knowing these stereotypes will help us to avoid conflicts among nations all over the world and understand each other better.

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### NATIONAL-SPEZIFISCHE BESONDERHEITEN DER PHRASEOLOGISMEN MIT DEN KOMPONENTEN „ÄRGER, WUT, ZORN“

Die Phraseologismen, d. h. feste Verbindungen von zwei oder mehr Wörtern bilden einen kleinen, aber wichtigen Teil unseres Wortschatzes, der in den letzten dreißig Jahren zunehmendes wissenschaftliches Interesse in Sprach- und Literaturwissenschaft gefunden hat, davor schon in Sprichwortforschung, Volkskunde und Ethnologie. In vorliegendem Beitrag werden die Phraseologismen aus dem Bereich der Emotionen betrachtet.

Das Ziel dieser Arbeit ist, Phraseologismen vorzulegen, die auf eine Art und Weise mit den Emotionen (aus dem semantischen Feld – „ANGST“) zusammenhängen.

Es wurde bestimmt, dass der Begriff Emotion aus dem lateinischen *ex* „heraus“ und *motio* „Bewegung, Erregung“ kommt. Menschen können fühlen, empfinden und auch leiden oder lieben. Die Objekte oder die Situationen werden entweder bewusst oder auch unbewusst wahrgenommen und die Erscheinungen können dann weiter interpretiert werden. „*Emotionen steuern maßgeblich unsere Denk- und*

*Handlungsprozesse, determinieren die Interpretation und Evaluation von Mitmenschen oder Situationen, erleichtern, erschweren oder hemmen unsere Lernprozesse und haben auf unsere Erinnerungsprozesse einen erheblichen Einfluss[3, s. 4] “.*

Aufgrund der Analyse des Dudeninhalts haben wir solche Phraseologismen, die Emotionen Ärger, Wut und Zorn bezeichnen, gefunden: *schwarz / grün und gelb / grün und blau vor Ärger werden* – sich maßlos ärgern; *schäumen vor Wut* – sehr wütend sein; *kochen vor Wut* – sehr wütend sein; *mit jmdm. auf dem Kriegsfuß stehen* – mit jmdm. im Streit liegen; *jmdm. auf die Nerven fallen / gehen* – jmdm. lästig werden; *wie die schwarze Hand* – sich wild und wütend verhalten; *jmdm. ein Dorn im Auge sein* – jmdm. ein Ärgernis, unerträglich sein; *mit Schaum vor dem Mund* – sichtlich wütend; *ganz krank vor Ärger sein* – sehr wütend sein; *seinem Ärger Luft machen*; *sich den Ärger von der Leber reden / schimpfen* – seinen Ärger ausdrücken, schimpfen; *eine Wut im Bauch / Balg haben* – jmd. hat rasende Wut; *eine Stinkwut auf jmdn. haben* – zornig auf jmdn. sein; *vor Wut schnauben / schäumen / platzen* – sehr wütend sein; *überlaufene Galle* – zornige Laune gegenüber jmdn. mit Gefühlen der Bosheit; *Gift und Galle speien / spucken* – voller Wut sein; *an die Decke gehen* – wütend werden; *auf die Palme gehen / klettern* – zornig werden; *in die Luft gehen* – sehr wütend sein und aus diesem Grund auch sehr heftig darauf reagieren; *in die Höhe fahren / gehen* – zornig werden; *sich die Krätze / die Schwindsucht / die Pest an den Hals ärgern* – zornig werden.

Aus der Sicht der landeskundigen Information ist die Herkunft des Phraseologismus interessant: *mit jmdm. auf dem Kriegsfuß stehen* – „das Heer auf Kriegsfuß setzen“ bedeutete, es in Kriegsbereitschaft zu versetzen. Das Wort entstand vermutlich während der napoleonischen Kriege als Gegensatz zu „Friedensfuß“ [2, s. 217-218].

*Zusammenfassung.* Die Phraseologismen der Sachgruppe „ANGST“ beziehen sich meistens auf Körperteile und Farbenbezeichnungen. Solche Körperteile sind am häufigsten mit "Auge" oder "Herz" vertreten. In den Phraseologismen erscheinen auch Kopf, Hand, Hals oder Bauch als Bestandkomponenten. Die schwarze, grüne oder blaue Farbe spielt hier auch eine große Rolle. Diese Farben verbindet man besonders mit dem Zorn und der Wut.

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## **FAIRY TALE THERAPY IN A SYSTEM OF SOCIAL PEDAGOGICAL WORK WITH PRESCHOOLERS**

The development of an educated, creative personality with a high level of culture, spirituality, distinctive character, which can actualize his creativity, is one of the urgent assignments of educational system in our country. The foundation of personality and moral values are formed exactly in a pre-school age. Emotionally-sensitive perception of the world is characteristic for children under school age, and important information is learnt better through bright characters. That's why such method of psychotherapy as fairy tale therapy is considered to be most successful and effective while working with emotional and behavioral breaches of preschoolers.

Psychotherapy with fairy tales gives an opportunity for children to overcome their own fears and uneasiness, and also to correct the negative features of character. Fairy tale therapy is one of the most actual methods of work with children, because this method enriches children emotionally, gives them an opportunity to understand the world better, and at the same time to find one's place in it [2, c. 75].

V. O. Sukhomlynskyi said that without a fairy tale, alive and bright, that takes hold of children's consciousness and feelings, it is impossible to imagine children's thought and tongue as a certain degree of human's thought and tongue. Fairy tale, game and fantasy are a creative source of children's thoughts, noble feelings and aspirations.

Professor T. Zynkevich-Evstyhneeva determines the fairy tale therapy as a means of giving knowledge about the human spiritual way of the soul and social realization. This educational system answers the human spiritual nature.

Fairy tale therapy is the oldest classical psychological-pedagogical method of influence on personality [4, c. 103]. It is an effective way of children's behavior correction. Children like fairy tales very much. In a fairy tale form it is easier to see and understand one's defects and problems. To describe a fairy-tale children look for real world analogies, and, using them, create images that reflect their feelings.

Children of 3-4 years of age like to make toys, stick figures, pets as the characters of their fairy tales. Children of the age of 4-6 use the characters of fairies and princesses. Children of the age of 6-7 imagine characters that look like them. Each preschool studies should be finished with the discussion: "What did the fairy tale teach us to do?" [1, c. 51].

Fairy tale therapy inspires children's creativity, stimulates originality of game-playing image's reflection; develops speech activity during communication with each other, with toys and fairy tale characters; forms in children spatiotemporal orientations in the world around; develops the simplest outcome of empathy (joy, sadness etc.); trains attention, skills to operate by a signal, gross and fine motor skills; forms expressiveness of dialogic speech; teaches to correlate actions with words; teaches to find the way out of extreme situations; develops imagination [3, c. 19].

The fairy tale is exactly the way of communication between an adult and a child that is mostly understandable for a child. Fairy tale therapy gives the most effective result in developing and correction work with children. Using fairy tale therapy for children's development psychological pedagogics and parents make a great contribution into children's happy future.

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### THE COMPARATIVE CHARACTERISTICS OF ADSORPTION PROPERTIES OF COMPOSITES OF Fe<sub>3</sub>O<sub>4</sub>, Fe<sub>3</sub>O<sub>4</sub> / SiO<sub>2</sub> (ChM), Fe<sub>3</sub>O<sub>4</sub> / SiO<sub>2</sub> (AM), Fe<sub>3</sub>O<sub>4</sub> / TiO<sub>2</sub> (ChM), Fe<sub>3</sub>O<sub>4</sub> / TiO<sub>2</sub> (AM) AND Fe<sub>3</sub>O<sub>4</sub> / Al<sub>2</sub>O<sub>3</sub> AS TO CATIONS La<sup>3+</sup> AND Y<sup>3+</sup>

The issue of effective, cheap and available materials that would be characterized by high rates of organic and inorganic substances extraction from solutions of different nature including cations of rare earth metals remains topical today. The question of impact of these elements on living organisms arises logically. It is known that rare earth metals are often included as an impurity of the

most important for minerals – phosphates and apatites [2]. Adsorption methods are of great importance for solving these tasks [3].

The aim of our research is to study the adsorption properties of magnetosensitive nanocomposites based on highly dispersive  $\text{Fe}_3\text{O}_4$ , modified  $\text{SiO}_2$ ,  $\text{TiO}_2$ ,  $\text{Al}_2\text{O}_3$  as to cations  $\text{La}^{3+}$  and  $\text{Y}^{3+}$ .

Advanced nanotechnologies require highly purity substances. To extract such substances is possible by means of adsorption, to evolve certain substances in their particles of mixture.

Current researches in chemistry and physics show great prospects of magnetic nanomaterials application. One of the applications of magnetic composites is obtaining adsorption barriers for cations of metals. The advantage of such adsorbents, unlike non-magnetic, is that due to high sorption capacity available, they can control magnetic field. Their use greatly simplifies the general adsorption process because the phase of separation of the spent sorbent can be replaced by magnetic separation. Among the minerals that provide magnetic properties to synthesized materials, an important place belongs to magnetite.

We investigated the adsorption activity of nanocomposites  $\text{Fe}_3\text{O}_4$ ,  $\text{Fe}_3\text{O}_4 / \text{SiO}_2$  (ChM),  $\text{Fe}_3\text{O}_4 / \text{SiO}_2$  (AM),  $\text{Fe}_3\text{O}_4 / \text{TiO}_2$  (ChM),  $\text{Fe}_3\text{O}_4 / \text{TiO}_2$  (AM) and  $\text{Fe}_3\text{O}_4 / \text{Al}_2\text{O}_3$  as to cations  $\text{La}^{3+}$  and  $\text{Y}^{3+}$  from aqueous solutions.

As the result isotherm equilibrium sorption of  $\text{La}^{3+}$  and  $\text{Y}^{3+}$  on these surfaces was obtained. The processes of kinetics and pH dependence were investigated.

High adsorption activity of unmodified surfaces of magnetite  $\text{Fe}_3\text{O}_4 / \text{TiO}_2$  (AM) as to  $\text{La}^{3+}$  and  $\text{Y}^{3+}$  was available.

The processes of desorption of cations from aqueous solutions and 0.1n solution of HCl were investigated.

It is found out that the acidity of the solutions increases desorption of cations mentioned.

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## **SOCIAL AND EDUCATIONAL ACTIVITIES WITH DISABLED CHILD'S FAMILY AT SCHOOL**

In general we can say that social pedagogue plays a very important role in the life of a child with disabilities and their families. To select the appropriate method of working with families nurturing a disabled child, you must know about such problem as psychological climate in this family. It depends on the moral and psychological resources of parents and relatives, their interpersonal relations and also the material living conditions of families that governs education, training, medical and social rehabilitation [4, p. 67].

There are 3 types of parental reactions to the appearance of the disabled children: with hyperactive reaction when parents strenuously treat the child; with passive reaction related to misunderstanding problems; with an average position of rational, consistent execution of instructions, doctors and psychologists' advice. The social pedagogue should rely on the position of the 3rd type family in his work [2, p. 80].

The main thing is to teach children motive and social skills in order she/he can independently gain an education and work. All social work is focused on the child and does not take into account the family. Family participation in medical and social work is crucial, along with specialized treatment [3].

Social pedagogue also performs the mediation function in establishing contacts and ties of families and specialists. For this, he makes contacts with various social institutions and organizations. It leads to some experts, organizations and parents recognizing the right of a child with special needs to full vitality and equality of rights. Therefore, one of the most important tasks of the social pedagogue is to acquaint students with special needs and their parents with their rights in an accessible, active and demonstrative form [5].

Social pedagogue offers educational assistance. Social pedagogue also gives information concerning the stages of child's rehabilitation and perspectives with support of documentary facts, photos and video reports on the possibility of establishing temporary disability and related to it benefits [1, p. 23].

So, the main goal of social and educational activities in the work with the family of the child with special needs is to help families to cope with the difficult task of education. It is important to foster its optimal solution, despite the existing objective risk factors. It is necessary to influence on the family in order to mobilize its capabilities to meet the challenges of the rehabilitation process.

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## FRATERNAL PEOPLES OR WHO IS WHO

The present-day socio-political situation in Ukraine makes us think about its historical background and how this situation will develop in the future. First of all, the Ukrainian society is concerned about the "friendly" Eastern neighbor and the reaction of the other countries to the situation in the Donbas. This abstracts is an attempt to examine the theoretical background of the development of such relations and communication of the two bordering countries.

Of course, one should not neglect the undeniable facts of relative similarity of the development, language, cultural traditions and preferences of the two nations. They may seem to be identical, but we should not forget about their ethnic uniqueness.

Research that most clearly reflects this difference from the psycholinguistic point of view was conducted under the leadership of D. I. Terekhova and aimed at identifying problems of intercultural comparison of linguistic consciousness to reflect ethnospecific images of the world. The results of the research of the

associative words of the Ukrainian respondents showed that the most frequent reaction in the associative field of the Ukrainian language is the reaction «український». The research showed that our people is concentrated on the importance of their ethnic identity, self-determination and self-realization. In the responses of the Russians, the word «русский» took the third place in frequency, which indicates a slightly lower degree of importance of the above mentioned concept to the Russian people.

Though, the most frequent reaction in the associative field of the Russian language is «толпа», that is, to a certain extent disorganized, unmanaged crowd of people. The research also shows that the perception of this stimulus is accompanied with the associative field «масса».

Before the annexation of the Crimea the overwhelming majority of the Ukrainians' attitude to Russia was always good, the point of view of the Russians depended on the crises of the inter-state relations of the two countries.

Now Russia is in the tenth place among the likes of the Ukrainians, and only from 16% to 34%, showed their positive attitude to the neighbouring country. It should be noted that several years ago it was about 90%.

Answering a survey questions about a number of countries, speaking about their attitude to Russia only 3% of respondents answered “very good” and 13% “good”. 21% of the Ukrainians showed neutral and 59% bad attitude. For a year and a half , from September 2013 till May 2015, the positive attitude of the Ukrainians to Russia decreased significantly: from 80% to 30%. [1] The joint work with Russian colleagues showed some very interesting trends of the last decade, the attitude of the Ukrainians to Russia has always been and remains better than that of the Russians to Ukraine.

For the first time negative attitude to Russia has surpassed positive one in autumn 2014 after the Ilovaisk tragedy. The above mentioned studies show that the opinion of the Ukrainians is more steady, and becomes worse only in extraordinary situations, like the conflict in the Donbas. Though with the fading of the intensity of fighting in the summer of 2015 the attitude to Russia has somewhat improved. The opinion of the Russians about the Ukrainians seems to be more changeable.

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## **OPTION OF DEVELOPMENT STRATEGIES OF FOOD INDUSTRY ENTERPRISES**

Food industry enterprises are mainly specialized in the production of foodstuffs and fodder for cattle-breeding.

In Rivne region out of 84 operating enterprises the biggest ones are private joint stock company «Dubnomilk», Community with limited responsibility «Company», «Zeus», Company specialized in meat and sausage production, Community with limited responsibility «Radivylivmilk» and «Nyva» specialized in sugar production, joint stock company «Rivne Flour».

The main fault in the work of food enterprises is the fact that they don't have local constructions of preliminary purification and throw out aggressive flows down in the municipal purification structures which don't provide their qualitative purification.

The part of food industry enterprises in the region takes only 20-22 per cent of the industrial production realization.

It's quite possible to improve the operation of these enterprises by the method of working out strategies of their sustained development.

The process of working out the strategy of the enterprise sustained development can be realized after the following stages: realization of SWOT-analyses of their own strong and weak sides, inward resources and threats of further development; determination of priority directions of the enterprise activity (it includes working out strategic vision and decisions concerning the mission); realization of alternative strategic aims, direction and tasks of the enterprise activity; realization of estimation of many alternative versions of development strategies; making more precise the contents of the strategy and realization of key-indicators option to estimate the efficiency of the implemented operation [1].

It's worth pointing out that when choosing the strategic aim of the enterprise to achieve the state of sustained development it gets possible only under the reduction of technogene uploading on the environment, elimination of the effects of environmental pollution and application of ecologically favourable technologies.

Out of possible alternative strategies of sustained development of food industry enterprises the most important are the following: planned before strategy based on the accurate intentions, having been formulated and enounced by the authorities of the enterprise; enterprising strategy, where intentions and purposes exist as personal vision of the only leader, due to this the enterprise adapts to new

opportunities. The activity of the enterprise is under control of the leader and is protected in its own surrounding; imposed strategy, when outward surrounding dictates certain actions directly or mediatedly, creating limits of option for the enterprise. These strategies are spontaneous but under certain peculiarities of the development of the country's economics they can be thought over and co-ordinated beforehand; prospective strategy, under which the perspective is determined inside the enterprise, using SWOT-analyses made by the collective body. This strategy includes not only chosen position but the way to achieve success.

Simultaneously the authorities provide chances for other subsections to formulate and realize their own strategy. Strategies concerning the processes are planned in most cases before but as for their contents they are thought over improvisation. Thus, food industry enterprises, depending on the state of economics, social and ecological spheres of activity should choose such strategies of development which can give them competitive advantages.

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### **THE MAIN METHODS OF THE TRANSLATION OF ENGINEERING TERMINOLOGY**

The main specific feature of the language of scientific literature, from a lexical point of view, is the use of terminology.

The term – the name of a special object or concept – is the word of a special language, serving to professional communication, which is linked to the notion belonging to a certain field of science and technology, and, in fact, should define the boundary of this concept in accordance with its etymology.

Terminology system, i.e. the terminology of a particular science is created by man in the process of cognition. An indispensable condition for the existence of any term is its uniqueness. Therefore, the ideal term is monosemantic. However, the terminology is not isolated from the common-literary language and all the language processes are reflected in it.

The relationship of terms and the common language is reflected in the fact that often the terms are words of common language, but reinterpreted having changed the meaning so deeply that it is often transferred to another part of speech. As a result there are some difficulties in translating the terms. The problem of terms translation and the compilation of specific dictionaries remains relevant over the last decades.

One of the main tasks of a translator is to transfer the full contents of the original. The limit of translation equivalence is the most possible (linguistic) degree of the preservation of the original content in the translation. [1, p.51]

For proper understanding and translation of terms it is necessary to know the morphological structure, semantic features of terms that distinguish them from common words, the main types of terms word-combinations, their structural features and specificity of their use.

The terms according to their structure can be divided into groups: simple – *circuit* (цепь); complex – *clock-work* (часовой механизм); the terms-collocations – *circuit breaker* (выключатель, автомат).

For the terms translation the following methods of translation are used:

1. with the help of Russian words and expressions, literally reproducing English words and expressions: *single-row engine*– однорядный двигатель;
2. with the help of genitive case: *direct current system* – система постоянного тока;
3. with the help of prepositions: *data processing equipment* – оборудование для обработки данных;
4. with the help of explanatory words: *high aluminium cement* – цемент с большим содержанием глинозема;
5. by changing the order of components of the attribute group: *automobile repair plant construction project* – проект строительства авторемонтного завода.

The term should not be understood as an isolated unit. The term is a word, which is fixed to a certain meaning, but which may change its content depending on the industry in which it is used in this case. [2, p. 8]

In conclusion, it should be noted that the terminology is subject to the general trends in the development of common-literary language and, at the same time, it has a certain independence of development. In order to correctly identify the meaning of the term, it is necessary to know the area of science and technology in which it is used.

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## **TRANSLATION OF ENGLISH AND UKRAINIAN ABBREVIATIONS AND OTHER REDUCTIONS. TYPES OF ABBREVIATION.**

There are a large number of various abbreviations and reductions in English language, in addition to this, being both separate words and phrases, all the abbreviations can be reduced. As they function independently, they can be fixed in lexicographic sources and after all they quite often become better known, than their sources. Therefore, they can be considered to be scientific and technical language lexical units.

In spite of the fact, though, the devoted to abbreviation problems in the modern languages remain in many relations a riddle in the linguistic sense, as it is necessary to consider specific point of view. Such fundamental problems as problem of the word structure and its value, morpheme problem, etc. are very important.

The purpose of this work is to define the greatest number of reductions in the English and Ukrainian languages. Despite rather various but fragmentary researches' existence, devoted to abbreviation problems in some modern languages, anyway the reduced lexical units are kind of linguistic jigsaw all the way they are, as they have to be considered from a specific point of view. The problem complication is in opinions' contrariety, let alone contradictory approach to the reduced lexical units.

The translation of reductions and abbreviation has always been a hot topic to study, but lately the researches have been paying particular attention to abbreviations. Being selected as a method of continuous selection examples, which we took from "Phenomenon of Musical and Computer Technologies as New Educational Creative Environment" work, became the method of this work.

An abbreviation is a shortened word or phrase form. It consists of a group of letters taken from the word or phrase. We use them in names of different establishments, organizations, states or positions, which are common for business and newspaper speech genres.

While abbreviations and reductions types defining from the work, that we have chosen, we found out there are a great number of abbreviations and reductions belonging to alphabetic type in English language, as we have defined 14 pieces. The compound type is less frequent in abbreviation and as a result we got only 9 pieces, however the sound type goes harder and we got only 4 pieces. The most infrequent type is an initial type, where we could define only 2 pieces.

Totally, we have found 28 English abbreviations according to the chosen text.

As for the Ukrainian abbreviations we've found out that the following abbreviation types have the same amount of abbreviation units: the initial type, the

compound type and the mixed type. The greatest abbreviations number belongs to alphabetic type, where got 9 pieces. The last sound type has the least number of abbreviations – only 1 piece.

Thus we conclude abbreviations and reductions are used in Ukrainian and English languages pretty often. What's more there're lots of types containing the same number of language units.

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### ENGLISH LANGUAGE TEACHING AT PRIMARY SCHOOL: AGE PECULIARITIES AS THE BASIS FOR USING ICT

Using information and communication technologies (ICT) in education is a very topical issue nowadays. There are some interesting and important theoretical researches devoted to the impact of ICT in studying different subjects and to various aspects of using ICT. Such researchers as L.Baylo, N.Soroko, D.Rozshdestvenska, S. Roman, S.Deys, O.Kolominova, O. Kryvonos and others highlight some aspects of fostering educational process by involvement of IC methods. It should be underlined that most of the contemporary investigations in teaching English are connected with the problems of ICT related mainly to secondary and high school. Unfortunately, the same problem at primary school was not widely discussed in the methodological and scientific literature. This article aims to highlight age peculiarities of primary school students and to determine the feasibility of using ICT at primary school.

Children at primary school still have such features of older pre-schoolers as unstable attention and insufficient self-control, their ability to manage freely their own behaviour is weakly expressed. Mental development of primary school children (age 6-11) and the formation of their personality are socially and biologically predetermined. One of the substantial peculiarities of such development is the formation of purposefulness, improvement of psychical processes (perception, attention, memory, thinking, etc.). There is a transition from

playing to learning activities as basic during this period. This is an important step in shaping a child's attitude towards learning activities as responsible, socially significant work. Learning activity gradually becomes predominant in the formation of junior students' personality. It predetermines transformation in child's psychics. Junior schoolchildren acquire new knowledge, abilities and skills with great interest. Cognitive processes develop qualitatively and quantitatively during the study. Quantitative changes consist in the increase of the speed of perception process and of the amount of the perceived objects, expanding the scope of their memorizing. Qualitative changes contain the increase of cognitive performance.

Perception of primary school children becomes an arbitrary, deliberate and categorical process, characterized by instability and disorganization. An important role belongs to images, influence of the emotional impressions and affective experiences in perception and memorizing of new information. Providing bright and understandable visual images in the educational process contribute to more effective learning.

Logical memory, which is crucial in the pursuit of knowledge, is formed under the influence of education. Verbatim memorization and reproduction inherent in this age, have a positive value. They are an important factor in the development of arbitrary memory, vocabulary and child's speech culture accumulation. Self-control, abilities to notice and to correct errors in reproducible material are developed in the process of verbatim memorization. For example, for the school children of the second form, memorizing of the specific material increases in 28%, abstract – in 68%, emotional – in 35% [1]. During this period, students often resort to special mnemonic memory technics. Interesting, concrete and bright material is memorized faultlessly. Children of this age tend to copy, or imitate actions. That is why usage of ICT gives them an opportunity to memorize better simple authentic speech samples and new vocabulary.

In the primary school age, involuntary attention dominates. The level of concentration is low. Students are interested in all new, bright and extraordinary. They react to the strong irritants, for example, interesting and unusual accessible illustrations, audio and video materials that may be well produced through a computer.

Thinking of the primary school children transfers from emotionally-vivid to abstractly-logical. Children are thinking with shapes, colours, sounds, feelings. Their mind is brought up among visual images. Language learning at primary school should be inseparable from imagination, game and creative work.

One more important feature of this age period is an active development of speech and rapid growth of passive vocabulary – amount of words that child understands. The rate of enriching children's speech is uneven; there are phases of acceleration and deceleration in it. There are also some individual differences both in the rate of enriching vocabulary and in the breadth of its use.

The processes of inhibition at primary school students often predominate over the processes of excitement. That peculiarity creates an important physiological pre-condition for the formation of such volitional internals, as independence, self-control, restraint of undesirable behaviour.

There is further development of personality internals not only in intellectual but

also in emotional, volitional spheres, in communicating with adults and peers. The sources of primary school students' emotion are learning and playing activities. Formation of feelings is assisted by reading books, authentic material perception (cartoons, audio, video), intellectual games, computer programmes and so on.

A considerable place in a lesson at primary school it is given to the actions with objects. It is important that lessons contained the elements of the game. Modern ICT suggests various kinds of games that can help children learn the curriculum considerably easier and more successfully.

The analysis of psychological peculiarities of primary school students serves as the theoretical basis for a selection and organization of both the content and the process of foreign language teaching. As we see, at elementary school it is important to interest kids in learning a foreign language, to cause positive attitude toward an object, to explain necessity and meaningfulness of a foreign language as a unique means of intercultural communication. The use of ICT contributes to a better perception and assimilation of educational material by children, increase of cognitive interest, development of their creative abilities, making material more curious and dynamic.

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### **PECULIARITIES OF THE TRANSLATION OF LEXICAL UNITS, REFLECTING THE MODERN REALIA**

A language is a living organism that undergoes a constant development. Vocabulary, or lexicon, is in the state of continuous change. The progress in science and technology touches upon new spheres of life. As a result, new words appear in a language. They are called neologisms. Neologisms are divided into the following types: 1) language neologisms; 2) lexical neologisms; 3) semantic neologisms; 4) individually-stylistic neologisms:

- language neologisms are created mainly to denote a new object, or a concept;

- lexical neologisms can be formed according to the available models in a language or borrowed from other languages;

- semantic neologisms add new meanings to existing words;
- individually-stylistic neologisms are created by writers, poets to add more imagery to literary texts.

While translating neologisms it is necessary to know the ways of their formation, to be able to analyze the structure of a word or a phrase [2, p.33].

New words are formed in different ways:

1. giving a new meaning to the existing word: *egg* – яйцо, авиабомба;
2. the creation of new words by joining prefixes and suffixes: *luck, good luck, lucky* – удачный, *unlucky* – неудачный [1, p.35];
3. composition: *televiwer* – телезритель;
4. the repetition of words: *ad* – *advertisement*;
5. conversion is the transition of a word into other parts of speech: *ship* – *to ship* – грузить, производить посадку.

There is a number of ways to translate new words and expressions that reflect modern realia:

1. Transcription or transliteration. These are the methods that don't require translation, as the translation is replaced by an act of borrowing sound (transcription) or graphic (transliteration) forms of words with the meaning. For example, сканер – *scanner*.

2. Tracing. This is a literal translation, when the whole word is created by simply adding the equivalent to its components. For example, *interbank* – *inter* (меж-) + *bank* (банковский) = межбанковский.

3. Descriptive method. It involves transferring the meaning of an English word by means of the explanation. For example: *market* – *maker*, the dictionary explains as “a person whose business is buying shares, securities, bonds, etc. and selling them at a marginal profit” [3, p.240], and can be translated as “человек, покупающий акции и ценные бумаги и продающий их с предельной прибылью.”

4. Method of substitution. It is the translation when an existing word is used as an equivalent to a neologism, not a pure neologism, but has a similar meaning to the original word. For example: *order interval* – цикл заказа (the interval between consecutive orders).

The choice of a method of transmitting new words depends on many factors, such as the translator's experience, his abilities, intelligence, the situation during the translation and the author's style. However, first of all it is necessary to strive to the translation of neologisms to meet norms and rules of the target language.

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## **DAS FUNKTIONIEREN DER SLAWISCHEN ENTLEHNUNGEN IN DER DEUTSCHEN SPRACHE**

Alle Völker stehen in wirtschaftlichen, politischen und kulturellen Beziehungen zueinander, was zu einer ständigen Beeinflussung der Sprache führt. Es gibt kein Land, das sich völlig abgesondert von den anderen entwickelt hätte. Die Bereicherung des deutschen Wortschatzes durch die Entlehnungen ist mit historischen Tatsachen und mit der Geschichte des deutschen Volkes verbunden.

Die bekannte deutsche Sprachforscherin Thea Schippan schrieb: „Im Laufe ihrer Entwicklung ist die deutsche Sprache durch andere Sprachen bereichert und verändert wurde...“ [2, S. 27]. Der Wortschatz jeder Sprache ist lebendig und entwickelt sich ununterbrochen.

Von den vielen Aspekten, die eine moderne Forschung zu diesem Fragenkomplex voraussetzt, ist aus der synchronen Sicht vor allem das Problem zu untersuchen, wie bedeutend der Beitrag des entlehnten Sprachgutes im lexikalisch-semantic System ist und wie die entlehnte Lexik und Phraseologie in der sprachlichen Kommunikation fungiert.

Der deutsche Sprachraum liegt zwischen dem romanischen und slawischen Sprachraum und berührt auch andere Ländergrenzen [1, S. 21.]. Lehnwörter sind Zeichen von Kontakten zwischen verschiedenen Völkern mit unterschiedlichen Sprachen. Sie sind Anzeichen für einen interkulturellen Austausch.

Die slawischen Sprachen bilden neben den romanischen und den germanischen Sprachen den dritten großen Hauptzweig der indoeuropäischen (indogermanischen) Sprachfamilie.

Gegen Ende der Völkerwanderungszeit kamen die Vorfahren der heutigen Slowenen, die Alpenslawen, mit einer (türksprachigen) awarischen Oberschicht ins Land. Awarische Relikte sind z. B. slow. *kazaz (kosez)* „Edling“ (daher heißen die *Edling* genannten Kärntner Ortschaften im Slowenischen *Kazaze, Kajzeze*) und *ban*, ein Fürstentitel, der als mittellateinisch *banus* und in den Ortsnamen *Faning* (slow. *Baniče*), *Pfannsdorf* (slow. *Banja ves, vas*) und *Fohnsdorf* weiterlebt. Ein häufiges in Ortsnamen vorkommendes slowenisches Gattungswort ist z. B. *gora* „Berg“.

Schon aufgrund der großen räumlichen Entfernung war die Reisetätigkeit von slawischen Gebieten nach Deutschland und umgekehrt jahrhundertlang nicht besonders intensiv. Selbst die Tatsache, dass bereits im elften Jahrhundert Eupraxia, eine Schwester des Kiewer Großfürsten Wladimir Monomach, unter dem Namen Adelheid als Gemahlin Heinrichs IV. deutsche Kaiserin war, hatte auf diese Situation praktisch keinen Einfluss.

Eine gewisse Belebung des deutsch-russischen Austauschs trat erst im 14. und 15. Jahrhundert ein, in der Blütezeit der Hanse, als die deutschen Hansestädte eine feste Niederlassung in der russischen Stadt Nowgorod unterhielten. Die Zahl der aus den slawischen Sprachen in die deutsche Standardsprache übernommenen Lehnwörter ist bekanntlich nicht eben groß. Immerhin lassen sich eine Reihe sogenannter „Fementlehnungen“ nennen, zumeist aus dem Polnischen und Russischen, teils auch aus dem Tschechischen, die sich wie etwa *Grenze, Halunke, Hamster, Nerz, Peitsche, Preiselbeere, Schmetterling, Trabant, Zeisig* oder *Zobel* heute fest eingebürgert haben und gelegentlich sehr hohen Alters sind.

Die Ergebnisse der Sprachenkontakte sind, soweit in den heutigen Mundarten erhalten geblieben, intensiv untersucht worden, besonders im ostmitteldeutschen, auch im bairisch-österreichischen Raum.

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### USING VISUALIZATION TECHNIQUES IN THE PROCESS OF TEACHING LISTENING COMPREHENSION TO YOUNG LEARNERS

Listening is one of the four skills to be developed in the English language classroom. It is not a passive process, it's a hard work that involves hearing, memory, logical thinking, etc. The problem of teaching listening comprehension attracted the attention of a number of researchers (O. B. Bigych, S. V. Gaponova, L. S. Panova, S. V. Tezikova, etc.). Yet, teachers look for new ways of the optimization of the process of teaching listening comprehension, for instance, enriching it through the senses. Using various means of visual support - ranging from traditional pictures to imagery – is particularly conducive to listening and learning in a foreign language, because it stimulates creativity, imagination, provides higher levels of information processing and understanding, helps to keep content of what has been heard in long-term memory [1, p. 20]. Among the most effective visualization techniques for the young learners' language

classroom can we highlight the following: the association of words with non-verbal and verbal imagery, inner speech (internal imaging), the full mental reaction (Total Mental Response), and mental "painting" [3, p. 9].

The association of words with non-verbal images involves the use of drawings, movements, sounds and key text words for listening. For associating words with verbal images teachers can use recordings of words in which each letter is underlined. The next step is the removal of the letters so that there is only a dotted line, which reminds the students about specific letters. Internal pronunciation of words occurs when students are prompted to hear a particular word in inner speech, then recite it in a whisper and, finally, say it aloud. This technique enables learners to process what is heard by internal hearing and to create a stable auditory image of words [2, p. 136].

Total Mental Response involves movement and provides students time to process content heard through mental images. Pupils listen to the text which describes the various steps, and mime them in the process of listening. Mental "drawing" takes place through questioning the students about what in the text is not mentioned, but the responses associated with those mental images that students created during listening [3, c. 10].

The sample activity presented below aims at learners' independent use of the acquired knowledge on the topic "Summer Holidays".

**Instruction:** Pair up and mime the actions in the pictures. Use them for a video greeting card and send it to your friends, greeting them on the occasion of summer holidays.

**Visual Support:** individual cards to the topic "Summer Holidays".



**Procedure:** The teacher suggests that the learners perform the actions in the pictures, make a video postcard using the mobile phones and send it to their friends.

**Visualisation Technique:** Total Mental Response.

**Way of control:** control on the part of the teacher and peer control.

Thus, at any stage of teaching listening comprehension activities that employ visualization techniques perform educational and developing functions, as this increases the cognitive motivation of junior schoolchildren, contributes to the dissemination of verbal and social behavior patterns of other nations.

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## USE OF SILICA ADSORBENT IN METAL CATION DETERMINATION

Nowadays, the role of adsorbents in various fields of practical activity is known everywhere. In this regard, the issue remains relevant to the study of existing and new adsorbents development.

The topicality of the research lies in the fact that there is a large percentage of theoretical knowledge of metals general characteristics and silica adsorbents methods in schools' and universities' chemistry courses. The subject of the research is the use of silica adsorbents in the determination of metal cations in solution. Knowledge of adsorbents gives not only an idea of their use, but also significantly expands the students' outlook. The aim is to analyse the use of silica adsorbents in the determination of metal cations in solution. Objectives:

- identify the nature of the term "adsorbent";
- show the dependence of sorption properties of silica adsorbents on metal cations of pH;
- analyzed studies on sorption capacity of silica with grafted complex groups to ions Zn (II), Hg (II), Fe (III), Cu (II), Cd (II) and Pb (II).

Despite the abundance of literature, there is also a shortage of teaching materials aimed at studying of adsorbents in the determination of metal cations in solution [1].

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## **THE DEVELOPMENT OF A CROSS PLATFORM BY USING QT FRAMEWORK**

In our modern world, people get new challenges that require available and effective solutions at a current stage of informatization of all spheres of life. The development of information and communication technologies causes the spreading of such operating systems as Android, Linux, MacOS. As a result of such tendency, we face a problem of the repeated program rewriting for different OS among the developers. So there is a need to find the solution of this problem. The task is to write a program, which will be able to run on the most common platforms. Present day tools give such capabilities for writing the cross-platform applications, which are called Qt.

Qt is a cross-platform toolkit for developing application software with the C++ language. It includes all general classes, which may be needed in the development of software, starting from GUI libraries to OpenGL or databases modules. Also, there are Ruby, Pascal, Python, Php, Ada editions [1].

Havard Nord and Eirik Chambe-Eng started the Qt development in 1991. The project has got such name because of the beautiful Q letter in a font of Havard Emacs, and T because of the “toolkit” word [2]. The company was registered on the 4<sup>th</sup> of March, 1994. Originally it was called «Quasar Technologies», then «Troll Tech», and «Trolltech». Now it is «Qt Software» after the purchase of the company by Nokia [3]. Today the Qt library is used by such companies as AMD, Valve, AutoDesk, Siemens, Kitware, Lucasfilm etc. At library is formed a basis for such projects as a voice application over IP Skype, network world map Google Earth, a image processing application Adobe Photoshop Album, Workspace Desktop KDE, which comprises many of Linux distributions[4].

Qt project is open-sourced. It has public Git-repository [5]. It allows monitoring the development, and proposes its corrections and improvements.

Among other libraries the Qt feature is a meta-object compiler – pre-processing system source code. The Meta-Object Compiler (moc) is the program that handles Qt's C++ extensions. The moc tool reads a C++ header file. If it finds one or more class declarations that contain the Q\_OBJECT macro, it produces a C++ source

file containing the meta-object code for those classes. Among other things, meta-object code is required for the signals and slots mechanism, the run-time type information, and the dynamic property system.

It is the most comfortable to use Qt Creator for creating the programs with Qt libraries using, which can use Microsoft VC++ or GCC as compilers and GDB as a debugger. There is a support of working both classic C++ language program and using QML (Qt Meta-Object Language) for designing windows. For comfortable creating of graphical interfaces Qt Creator is also completed by QTDesigner tool, which allows creating dialogue windows and forms in WYSIWY (What You See Is What You Get) mode by using mouse.[1] It allows abstracting the development of graphic elements on high level.

So, the main Qt advantages as a tool for creating software are:

- The great set of tools, which can be easily expanded, hundreds of libraries, which are divided into modules for convenience, can be complemented and emulated.
- Signals and slots of mechanism, which provides great flexibility in programming, with a high level of abstraction.
- Documentation – each class has full documentation, which includes a description of all the methods, functions and examples. Moreover, it has comfortable class classification and search for user.
- High working speed and good optimisation by using C++ as a main programming language.

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## **LES DIFFÉRENTS TYPES DE DEMANDE**

La demande peut se caractériser de plusieurs façons:

***Demande négative:*** Les clients potentiels ne sont pas attirés par le produit, mais cherchent au contraire à l'éviter. Le rôle du marketing est alors d'identifier les sources de résistance et de tenter d'inverser la tendance. C'est un marketing de conversion. Cela a été par exemple la situation de Nescafé lors de son lancement aux Etats Unis dans les années 60: le produit était perçu comme étant cher et de mauvaise qualité, pour les femmes peu soucieuses de leur confort familial. Il fallu alors plusieurs années à Nescafé pour démontrer aux consommateurs américains les avantages du produit et notamment son coté pratique dans une société de plus en plus dynamique avec de plus en plus de femmes actives [1, p.72].

***Demande absente, latente ou naissante:*** La clientèle est indifférente au produit et n'éprouve aucun intérêt à son égard. Le marketing doit alors démontrer les avantages procurés par le produit en fonction des besoins et des centres d'intérêts des individus. C'est un marketing de stimulation. Par exemple: les entreprises proposant des véhicules fonctionnant au GPL (General Public Licens) ou des voitures électriques mettent en avant les avantages de ses nouveaux carburants par rapport à l'essence ou au diesel, pour stimuler leur demande.

***Demande saisonnière / irrégulière:*** Certains produits sont consommés de façon irrégulière sur une période donnée (dans l'année, dans la journée). Le marketing doit amener les acheteurs à étaler leurs achats, par exemple à l'aide de promotions ou d'offres spéciales. C'est un synchronmarketing qui cherche à réguler les ventes. Par exemple: les voyagistes mettent en place des opérations promotionnelles sur les voyages aux périodes creuses, de Novembre à Mai, en dehors des vacances scolaires.

***Demande existante ou déclinante:*** Les clients s'intéressent de moins en moins au produit. Le marketing doit alors imaginer les moyens de relancer la demande. C'est un remarketing. Certains produits sont en effet victimes de l'arrivée d'une nouvelle technologie, comme ce fut le cas par exemple pour les disques vinyle.

***Demande soutenue:*** La demande est régulière et suffisante. Le marketing doit permettre de maintenir cette demande à son niveau actuel. C'est un marketing d'entretien. On peut citer l'exemple de la demande de briquets, ou l'Eurostar.

***Demande excessive:*** La demande est parfois trop élevée par rapport à la capacité de l'entreprise à y répondre. Le marketing doit réguler, diminuer cette demande. C'est un démarketing. Par exemple: bison futé décourage les départs en vacances quand les sociétés d'autoroute ne peuvent plus faire face à la demande.

***Demande indésirable:*** Certains produits sont jugés néfastes. Le marketing doit décourager leur consommation. C'est un contremarketing, que l'on pratique par

exemple pour décourager la consommation de drogue, d'alcool ou de tabac. On peut aussi utiliser cette approche pour décourager le comportement indésirable de certains propriétaires de chiens sur les trottoirs parisiens [2, p.134]!

Les approches et les objectifs du marketing varient en fonction de l'environnement de marché et plus particulièrement de la demande.

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### MARKETING: DIFFÉRENTES SPÉCIALITÉS – DIFFÉRENTS MAILLONS

Le passage d'une spécialité à une autre, du marketing stratégique au marketing direct, permet la mise au point des multiples éléments nécessaire à la commercialisation réussie du savoir faire de l'entreprise. Chaque spécialité marketing est un "maillon" composant une chaîne marketing qui s'intègre dans la chaîne de vente de l'entreprise.

#### ***Marketing stratégique***

Deux missions clefs appartiennent à cette spécialité:

le diagnostic stratégique; la réflexion stratégique: la recherche des besoins et attentes client de demain – mesurer, évaluer, détecter, prévoir et anticiper.

La recherche des besoins de demain, la réflexion stratégique, passe par un exercice intellectuel utilisant la théorie systémique. Cette théorie permet de modéliser des systèmes interférant entre eux. Cette approche est exposée simplement dans réflexion stratégique.

Le diagnostic stratégique relève du marketing stratégique et aussi d'autres éléments dans la direction d'entreprise: contrôle de gestion, directeur des ressources humaines (DRH) etc... [1, p.54].

#### ***Marketing produit***

Le marketing stratégique définit des axes de développement, des produits à concevoir etc...

Le marketing produit aide au passage de la théorie à la pratique:

Positionnement, schémas perceptuels, marketing mix, segmentation, ciblage, les 4 P (Produit, Prix, Place, Promotion) etc...

Ces différentes étapes, outils permettent d'affiner efficacement le produit et d'en faciliter fortement la vente par l'équipe commerciale.

### ***Marketing Relationnel***

Centré sur le client et sur sa fidélisation via l'établissement d'une relation entre le vendeur et le client, le marketing relationnel exploite le marketing direct (MD) mais il va bien au delà. On désire obtenir puis renforcer la fidélité de chaque client sur le moyen / long terme contrairement au MD orienté vers chiffre à très court terme. Les nouvelles technologies, Internet – communication nomade (lecteur MP3 ou 4, 3G, 4G ...), accélère cette approche marketing.

Toute affirmation marketing doit être étayée par une démonstration et corroborée par des mesures. On limite ainsi les risques de travailler sur une information mal fondée avec toutes les conséquences négatives [2, p. 44].

Tout travail d'un marketeur doit être mesurable par rapport à un objectif mesurable, quantifiable. Typiquement l'augmentation des ventes de tel produit, amélioration des marges etc.

Le marketeur en charge d'améliorer le trafic de prospects ciblés n'a pas à être rémunéré sur les ventes. Sa mission est de faire venir des prospects puis d'en inciter un maximum à se "déclarer". Il n'a pas à être rémunéré exclusivement sur l'augmentation des ventes. En effet, la transformation d'un prospect en client relève d'un autre marketeur. En brouillant les bonus et mesures face aux réels objectifs de chacun, on risque de perdre les bons marketeurs ou de démotiver.

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## **DEVELOPMENT OF CROSSPLATFORM MOBILE APPLICATIONS**

**Formulation of the problem.** Today it is difficult to surprise the present day user by a smartphone, tablet, or computer. These devices have become the part of our lives. They continue to influence on popular culture. Moreover, their development has involved several leading competing companies.

From the developer's point of view such diversity is rather an obstacle, because almost each of all known platforms, has it own set of software (SDK), which is generally not compatible with other platforms. Thus, the developing of each platform separately is an expensive and difficult task.

Developers who accept to create applications for Android, IOS and Windows, must know such programming languages as Java, Objective-C (or Swift), and C#. In this case, the problem will involve other problems as much as 3 which require their development and support. The implementation of the web technologies usage is not the best choice at the moment. The application should run on different platforms, not only in experimental conditions, but also for the most common mobile devices [1].

**Analysis of current research.** The popularity of mobile devices is increasing every year. In 86% of smartphones that were sold in the second quarter of 2014 the operating system Android. Thus during 2014 has sold more than 1 billion Android-devices. On the other hand, about 40% of US corporate segment, use mobile devices running IOS. Meanwhile, Microsoft is actively engaged in the development and release of Windows 10 Mobile.

With such diversity and distribution of mobile cross-platform question is in itself. This spectrum is mostly notable for Xamarin, – Framework (comprehensive library) for cross-platform development for mobile applications using C# [2].

Xamarin team is primarily trying to satisfy all the needs and wishes of the developers (currently there are about 1.5 million), meaning that it depends on them, how many will develop applications using Xamarin. This we can judge based on an excellent document on the official site and on the number of amendments (most of them free) that you can download and install in your application. For beginners who use Xamarin, format search assistance formumah is quite unusual – a developer mainly will get answers to their questions on forums dedicated to topics NET, C #, Objective-C (or Swift) for IOS, and Java with Android -SDK.

We tried to identify the main benefits of Xamarin, which are the frame of the problem:

- The development for IOS, Android and MAC using C # and .Net Framework.
- The features programming language C #, including LINQ, lambda expressions, Generic and async.
- The ability to develop in Visual Studio. Also present native development environment, – Xamarin Studio.
- The using Native UI (User Interface) in applications for each platform.
- The performance.
- The full access to the API chosen platform.
- The free version that contains sufficient functionality for full development.
- The support for Google Glass

We believe that Xamarin should be used when the application must be implemented for at least 2x major platforms, – Android and IOS. But devices which are under their control are different, ranging from hardware, ending the logic of the operating system and licensing in general. Therefore it is necessary to resort to some technical aspects which can be associated with the direct cross-platform implementation.

First of all, Xamarin framework consists of several parts:

- Xamarin.IOS – class library for C #, which gives developers access to the IOS SDK
- Xamarin.Android – class library for C #, which similarly provides developer access to the Android SDK
- Compilers for iOS and Android
- Xamarin Studio – Development environment;
- Plug-in for Visual Studio (working for the release of free Community Edition) [3].

Also, in addition to features of development, it should be indicated that difficulties and key issues that may arise in the cross-platform development:

- Emulators typically have limited functionality, in the case of Android rather slow. Therefore it is necessary to have devices that work on IOS and Android.
- With Android running a number of different devices, which do not resemble each other.
- We can not say that the project, which was built for Android and possibly save compiled binary file for IOS, – will have to rewrite the UI, and use xCode. But this is not a big problem, because the logic and structure of the code is not affected.
- On average, could use all about 60% of the codes for different platforms are common.

Thus, the theme cross-platform, especially in mobile applications relevant. We highlight the possibility of implementing using Xamarin enables speedy solution of the problem with the least expenditure of resources without reducing performance.

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## DIFFERENCES BETWEEN AMERICAN AND BRITISH DIALECTS

The English language has many varieties of dialects. The most important are American and British dialects. They have a lot of differences in the levels of pronunciation, vocabulary, grammar, spelling, and so on. The main reason for this is the vast distance between each country.

The common grammatical differences can be grouped under three levels: differences with the verb, with noun and pronoun, and differences with the preposition. The differences in verb show that American and British have different usage of verb. In both British and American English, the verbs *to have* and *to get* are among the most frequent, especially in speech. The American usage over *gotten* is changing, so is British usage over *have got*.

In a number of American dialects the pronoun *I* occurs when *me* would be in British English. For example: “*Between you and I.*” (AmE); “*Won’t he permit you and I to swim?*” (AmE); “*Between you and me.*” (BrE); “*Won’t he permit you and me to swim?*” (BrE).

The American and British varieties have some differences with prepositions. For example: to call (to ring) someone on his telephone number (BrE) / to call (to ring) smb. at his telephone number (AmE); opposite to (BrE) / opposite of (AmE), *on the weekend* (AmE) / *at the weekend* (BrE); *on a team* (AmE) / *in a team* (BrE); *please write me soon* (AmE) / *please write to me soon.* (BrE). *The new air service begins January 1* (AmE); *The new air service begins on January 1* (BrE); *I start my vacation Friday* (AmE); *I start my holidays on Friday* (BrE).

In addition, there is a difference in the article, for example: *He’s in hospital* (BrE); *He’s in the hospital* (AmE).

Probably the major differences between British and American English lie in the choice of vocabulary. For example: *Mean*: (AmE – angry, bad humored, BrE – not generous, tight fisted); a *lift to the first floor* in England, but *an elevator* in America; *five gallons of petrol* in London, *gas* in America. *Biscuit* - dinner

*roll*(AmE), *cookie*(BrE); *brew* – *beer*(AmE), *tea*(BrE); *bureau* – *chest of drawers*(AmE), *writing table/desk*(BrE); *casket* – *coffin*(AmE), *jewelry box*(BrE); *first floor* – *ground floor*(AmE), *second” floor*(BrE); *to hire* – *to employ*(AmE), *to rent*(BrE).

American and British English have differences in spelling. American English has the more economical and phonetic spelling. Unnecessary letters are left out and words are spelled how they sound. An obvious example is the omission in AmE of the letter *u* in words such as *color*, *neighbor*, *honor* (AmE) etc. Compare also the AmE words *traveling*, *jewelry* and *program* with their BrE counterparts *travelling*, *jewellery* and *programme*.

Also the deletion of the second constant letter in many words with double consonant. For example “*traveller*–*traveler*, *waggon*–*wagon*” also the replacement of *–re* by *–er* in words of French origin. For example “*theatre*–*theater*, *centre*–*center*”.

When a British word ends with “-se”, the American equivalent usually has a “-ze” ending:

AmE– “-ze”: *Analyze*, *Criticize*, *Memorize*; BrE – “-se”: *Analyse*, *Criticise*, *Memorise*; AmE – “-og”: *Analog*, *Catalog*, *Dialog*; BrE – “-ogue”: *Analogue*, *Catalogue*, *Dialogue*; AmE – “-e”: *Encyclopedia*, *Maneuver*, *Medieval*; BrE – “-ae” or “-oe”: *Encyclopaedia*, *Manoeuvre*, *Mediaeval*.

Here are the major differences in pronunciation:

1. *Before a voiceless fricative and occasionally [n], British [a] American [æ], e.g., calf, patch, pass, aunt;*
2. *The British [r] is usually pronounced with a flat tongue and hence we have the r- less dialect. The American [r] is usually a retroflex;*
3. *The British [o] is often an American [a], e.g., cot, dog, hot.*
4. *The intervocalic British [t] is usually American [d], e.g., letter, water.*

There are several words that are pronounced differently in American and British English: *dance* = [dæns](AmE), *dance* = [da:ns](BrE); *arm (noun)*: *arm* = [a:rm](AmE), *arm* = [a:m](BrE).

In spite of the American and British differences, they don't cause big problems.

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## FINITE ARITHMETICS

We used to do operations in simple arithmetics, but some tasks are really impossible or very difficult, compared to other arithmetics. Therefore, we should be able to use other arithmetics and do operations.

Finite arithmetics was introduced by using residue classes, which are based on theory of congruences. It was founded by famous German mathematician Carl Friedrich Gauss (1777-1855). He described this theory in his book "*Disquisitiones Arithmeticae*" (1801).

During centuries a lot of mathematicians were involved into studying this problem, but the largest contribution to the theory of numbers and congruences was made by French mathematician Pierre de Fermat (1601-1665), Petersburg academician Leonhard Euler (1707-1783), English mathematician Edward Waring (1736-1798) and French mathematicians Adrien-Marie Legendre (1752-1833) and Joseph-Louis Lagrange (1736-1813). [1, p. 7-8]

We do arithmetic operations automatically, without thinking about how we do them. But these steps require great efforts when we apply them to other arithmetics or number systems.

Modular arithmetic (finite arithmetics) is a system of arithmetic for integers (whole numbers), where numbers "wrap around" upon reaching a certain value – the modulus.

The simplest example of modular arithmetic is in the 12-hour clock, in which the day is divided into two 12-hour periods. If the time is 11:00 now, then 3 hours later it will be 2:00. Usual addition would suggest that the later time should be  $11 + 3 = 14$ , but this is not the right answer because clock time "wraps around" every 12 hours; in 12-hour time, there is no "14 o'clock". Likewise, if the clock starts at 12:00 (noon) and 20 hours elapse, then the time will be 8:00 the next day, rather than 32:00. Because the hour number starts over after it reaches 12, this is an arithmetic *modulo* 12.

The properties of finite arithmetics match the properties of residue classes. All the formulas with multiplication, addition and any number of brackets are performed for finite arithmetics that greatly simplifies calculations. To add or multiply two numbers in modular arithmetic, we should add or multiply them in the usual sense of arithmetic and take the remainder of the module division.

Finite arithmetics has several advantages, for example, it doesn't have fractions and negative numbers [2, p. 29].

Depending on the module we distinguish arithmetics with simple module, which has properties different from the properties of other arithmetics. For example, in arithmetics with simple module we may enter the imaginary unit.

Finite arithmetics can be applied to:

- the theorem proving;
- the definition of the division remainder;
- the proof of the multiplicity;
- the definition of the last digit number;
- the verification of actions that were made in simple arithmetics;
- solving quadratic equations;
- solving Diophantine equations;
- solving other problems that are unsolved in simple arithmetics.

In conclusion modular arithmetic is a very important chapter of algebra that can help solve a lot of mathematical problems.

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### SUCCESSION AND PERSPECTIVES IN PROFESSIONAL TERMINOLOGY IN THE SYSTEM OF HIGHER EDUCATION

There is reformation in the modern educational system of high schools and establishments of higher education that leads to revision of the content of individual disciplines and in consequence to the consideration of their concept-terminological apparatus.

Consequently, the **aim of the scientific research** is to describe the succession and perspectives in professional terminology in the system of higher education.

One of the main tasks of the future specialists is the reformation of their language competence starting from the secondary school. Dealing with the terminology in the system of professional training of philological and non-philological specialities takes an important place. Nevertheless, a skillful

proficiency in a proper branch of terminology is one of the main indicators of professional proficiency of the personality.

Many scientists (Vashulenko M., Karaman S., Matsko L., Shelehov G., Palamar L., Pentylyk M., Skurativsky L., Ogar E., Artykutsy N., Kostrytsya N., Misnyk N., Shlyahov V and etc.) pay attention to the problem of language competence formation and terminology. The result of it is a publication of textbooks and manuals that focus on working with the terminology [3].

**Term** (lat. *Terminus* – limit, end) – a word or word combination used to describe the concept of a particular branch or a human activity [4].

Terminology – 1) the branch of linguistics that studies terms; 2) complex of terms of a particular language or particular branch [4].

One of the leading places of didactics belongs to the principle of succession. It provides close connection between two levels of education: secondary and high. The formation process of students' terminological skills is included as well. The realization of principle of succession and perspectives in the formation of terminological skills and knowledge of the senior school pupils and students would be effective on condition of their regular and purposeful work with dictionaries, use of translation and editing professionally oriented texts of different styles and genres, writing different kinds of dictations and renderings (connected with their speciality) [2].

One of the main problems is the formation of professional language competence. The communicative activity approach demands a teacher to use the activities on lectures that could allow students to develop the ability to form their opinions and to apply professional terms with consciousness and complete understanding. In this aspect students' professional and terminological competence has the significant importance. The module "Scientific communication" which is included in the course "The Ukrainian language" gives future specialists clues on how to be familiar with different linguistic situations and select linguistic means (especially professional vocabulary) consciously [1].

Therefore it is essential to set up motivational connections between a term and a denoted concept for students and pupils who use a term in oral and written forms. Consequently, pupils' systematic learning of terminology elements of a specific branch of science provides the formation of basic knowledge of terminological vocabulary according to the didactic principles which are aimed at the solution of specific tasks while mastering a subject. It provides the development and generalization of high professional and terminological competence that will assist in successful and professional personality development.

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## **THE USE OF PERSPECTIVE PICTURE AT SCHOOL**

The ability of orientation in space plays an important role in our life. It is a necessary requirement of social existence; it is a form of reflection of the surrounding world, an adequate cognition and transformation of reality.

The aim of this work is to study the development of spatial thinking at the lessons of geometry in secondary school using a perspective image.

All objects surrounding us have a peculiar individual shape, colour and size.

Colour and shape change if they are looked at from different angles and distance.

In order to depict objects on a piece of paper keeping their true image, people use central planning. An image which is made this way is called a perspective [2].

Using perspectives at the lessons of Fine Art and Geometry you can build objects of environment, a landscape, flat and three-dimensional geometric figures, keeping their realistic image.

A cube is one of the most important and frequently used figures at Geometry lessons. The picture of a cube forms our vision of a perspective and it is an important source of knowledge and skills of drawing. In order to build a cube in a proper way it is necessary to keep its three-dimensionality. Its base is built considering a prospective reduction and aspect, then, almost mechanically, all sides are built, taking into account all proportions and perspective parallel lines, which converge in the point on the horizon. In order to perform the scheme, the picture of a cube should have a form of a construction or it can be drawn as a transparent frame. You can build the frame following such regulations: on a sheet of paper check the horizon (horizon is at eye level); determine the position of the plane on

which the cube is situated relatively to the horizon; taking into consideration the ratio of height and width of the cube, depict its compositional image on a sheet of paper; identify the spatial position of all sides of the cube, including all the reductions of the perspective of the cube (a cube is built with the help of fine lines); the last thing is the toning of the picture (it is done only after you have built the cube) [1].

The lack of spatial imagination of students makes the effective studying of such subjects as drawing, physics, geography, etc. impossible. That is why using perspective images in a geometry, teacher purposefully develops spatial imagination and spatial thinking.

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## THE LINGUISTIC FRAMEWORK FOR TEACHING WRITING TO YOUNG LEARNERS

Writing is an integral skill of successful second language learning. Teaching writing in the primary classroom should be a communicative and a structured process [2]. Having observed the process of teaching writing to young learners in secondary schools as well as the analysis of the content of basic English course books, it is possible to state that students have many difficulties when replicating written speech. Thus, a special system of exercises for teaching writing in primary school should be designed. First of all, the system should incorporate psychological characteristics of young learners, namely memory, attention and thinking which show up in the skills to independently set aims, find ways to reach them, overcome different obstacles and so on. Secondly, and most importantly, creating written messages presupposes the application of specific linguistic means: lexical, grammatical and punctuation.

Lexical means include learners' active vocabulary that helps to express ideas when creating a written message. Grammatical means consist in the use of grammatical structures in correspondence with active vocabulary. Punctuation means are regarded as specific punctuation characteristics of different types of writing. All of the means mentioned above are contextualised within the four domains of language use [1; 14]: personal, occupational, educational and public.

Within the personal domain the following types of written texts are created: holiday postcards for a foreign friend, birthday postcards, and letters to friends and family. The occupational domain embraces writing specific forms of invitations, short messages and making notes. The educational domain is concerned with the learning context in order to acquire specific knowledge or skills. Within this domain learners write short descriptions, fill in simplified application forms or questionnaires. The public domain refers to ordinary social interaction such as public services, cultural and leisure activities of a public nature, etc. It should be noted that creating written products concerning the public domain in y primary school is only partially covered.

So, designing an appropriate system of exercises based on psychological characteristics of young learners in connection to analyzed linguistic characteristics can enable the formation of primary students' speech competence in writing.

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### **MATHEMATICAL METHODS IN ECONOMICS**

The penetration of mathematics into economy can be observed from the ancient times. So, when studying the laws of king Hammurabi (1792-1790 to B. C.) we can make a conclusion about the considerable development of commodity-money relations in Babylonia. Xenophon (430-354, to B. C.) in his treatises "About the household" and "About the income" introduces the concept of exchange value of goods as the possibility to exchange one product for another. In Aristotle (384-322 B. C.) treatise "Policy" money is the measure of importance of item in the process

of exchange. So, in ancient times with the development of commodity-money relations in economy appears such a phenomenon as the measure of quality. It can be characterized as the application of arithmetic in the economy. [3]

The development of the application of mathematical methods in economics marked the twentieth century. The use of them is associated with the works of almost all Nobels prize laureates: D. Hicks, G. Solow, V. Leont'ev, P. Samuelsson.

The methods of elementary mathematics, classical mathematical methods of analysis, statistical methods, economic methods, methods of mathematical programming are widely used in economics. [1]

They all speed up the transactions execution in the economy, taking into account the influence of various factors and performance, improve the accuracy of calculations. [2]

Mathematical-economic methods are widely used in the field of management and maintenance, in agriculture, in a market economy (model of Viroso, model of Evans), and others.

So, mathematics complements the economy. And mathematical methods make the use of economics more convenient and wider.

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#### **TRAINING OF FUTURE PRIMARY SCHOOL TEACHERS FOR THE ORGANISATION OF STUDENTS GROUP ACTIVITIES**

Nowadays it is more then ever important to solve the problem of qualitative experts training in modern higher education system. The present world has created a situation where education is simply not a solution. For improving modern economical and social relations in general, it is necessary to renew an educational quality, which is the key to the wealth and prosperity of any country.

At the present stage, there is a certain discrepancy between the level of readiness of future specialists for primary school. One more problem is a low priority of higher education institutions in training. We can observe the lack of readiness of the pedagogical theory of active methods and forms of training and insufficient readiness of teachers to use it. Thus, the lack of didactic theoretical aspects of organization of group work in primary education and their practical significance for the solution of urgent problems of primary school determine the choice of theme of the article: "Training of Future Primary School Teachers for the organization of Students Group Activities".

In connection with the entry in to the European space of Ukrainian higher education need teachers with new thinking, aimed at improving the pedagogical paradigm of the pedagogical process, personal and social activities. In other words, the solution of the problem of higher professional education development is impossible without improving teaching of intellectual culture, active influence of scientists and educators on public opinion, the development and the usage of new technologies in education.

The problem of training future teachers received quite substantial coverage in the scientific literature of the past. Its theoretical and methodological basis is reflected in the works of K. Ushynskiy, M. Drahomanov, O. Dukhnovych, S. Rusovoi, V. Sukhomlynskiy. Modern aspects reflected in scientific heritage of A.Aleksyuk, N. Honobolina, S. Honcharenko, N. Kuzmina, A. Savchenko and others.

At the present stage explores find conceptual bases of professional preparation of future teachers in the context of learner-centered education (I. Bekh, A. Hoxhberh, L. Kartashova, V. Lutsenko, S. Sysoieva) and training teachers to implement innovative pedagogical technologies (I. Bohdanova, A. Yevdokimov, A.Kiyashko, I. Rusnak, S. Sysoieva).

A central issue in my article is to explore the pedagogical conditions of preparation of future teachers for group work organization.

Group training activities, in contrast with frontal and individual, are not going to isolate children from each other, and vice versa, they allow to realize the natural desire to communicate, mutual aid and cooperation[1].

R. Astvatsaturov writes: "the training comes in the format of subject – subject interaction. Collective intelligence can solve many problems quickly and efficiently... but it's not just that. Solving the problem, the group maintains cooperation, co-creation. Here everyone works on all... exchange of knowledge, ideas, changing the psychological climate. Even in the group of "weak" pupils also begin to take an active part in discussing and solving problems. During the group discussion, children learn to listen to each other. With each of the training tasks, they improve their tactics in cognitive search. They create a formula for success"[3].

Analyzing psychological and pedagogical literature, we came to the conclusion that it is necessary to enrich the future teachers knowledge about types, features of group work, the features of the lesson, the specifics of the organization of students' activities during these lessons, features of the teacher's activity, creation of

comfortable conditions of training and the organization of active interaction in class, organization, reflection, various forms of mutual learning. The process of training future teachers to implement group learning activities implemented during training, which should be organized so that the study of academic subjects and courses occurred with the use of lectures, practical and laboratory classes organized on the basis of group work [2]. The teacher in group learning activities directs the work of each student indirectly through the tasks that he offers the group and regulates the activities of students. The relationship between the teacher and pupils acquire the character of cooperation, because the teacher directly interferes in the work of groups only in that case if students have questions and they seek for the help of the teacher. These are their joint activities.

So, it should be noted that group learning activities improves students' achievement, solves a lot of educational and developmental tasks: fast immersing of a child in learning activities, building of self-esteem and self-regulation, the ability to adapt to the pace of the group work, the formation of students' positive attitudes to learning, preparation them for communication. Systematic work on improving methods of preparation of future teachers and the implementation of the presented requirements will strengthen the practical orientation of training and to ensure that this process was of a systemic and holistic in nature.

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#### PERFECT NUMBERS

In ancient times people attached a special mystical significance to the perfect numbers. Due to the complexity of their finding in ancient times they were considered to be divine. Thus, the medieval church believed that the study of perfect numbers led to salvation and those who found the following perfect number would get an eternal bliss. There was also a belief that the world was perfect, because it was created within 6 days. Humanity was though not to be perfect,

because it came from the incomplete number 8 as 8 people were saved in Noah's ark. But at the same time 7 pairs of unclean and clean animals were saved and a total of 28 is a perfect number. There are a lot of such matches. For example, a human hand can be called a perfect tool because 10 fingers are 28 phalanges.

The old problem of perfect numbers was mentioned in the "*Introduction to arithmetic*" by Nikomaha.

A *perfect number* is an integer that is equal to the sum of its proper divisors excluding the number itself.

First Pythagoreans knew only two perfect numbers: 6 and 28. It was till the time when Euclid (III in. S. E.) began to study this aspect.

Later Euclid found the following two perfect numbers as 496 and 8128. He also found a general formula for the perfect pair of numbers:  $d = 2^{p-1} * (2^p - 1)$  (\*), which gave the desired result, providing that the number of  $2^p - 1$  is simple. Euclid's proof was based on the formula for calculating the sum of geometric progression members<sup>[1]</sup>.

The perfect numbers 6, 28, 496 and 8128 are derived from Euclid's formula (\*) for values of "p" that is equal under 2, 3, 5 and 7:

$$\begin{aligned} 2^1 * (2^2 - 1) &= 2 * 3 = 6 \\ 2^2 * (2^3 - 1) &= 4 * 7 = 28 \\ 2^4 * (2^5 - 1) &= 16 * 31 = 496 \\ 2^6 * (2^7 - 1) &= 64 * 127 = 8128 \end{aligned}$$

Euclid's formula (\*) gives the perfect number not for all simple values. For example, when  $p = 11$ , number  $2^p - 1 = 2^{11} - 1 = 2047 = 23 * 89$  is drawn, therefore, the number  $2^{11-1}(2^{11} - 1)$  is not perfect.

The fifth number was found only in 15<sup>th</sup> century. It was 33 550 336. In Euclid's formula it corresponds to the value  $p = 13$ .

Mersenne expresses the hypothesis that the next six perfect numbers are derived from the Euclid's formula for values of  $p$  which are equal to 17, 19, 31, 67, 127 and 257. For the proof it was necessary to show that at these values, the number  $M_p = 2^p - 1$  is simple.

Due to Mersenne's achievements  $M_p$  were named after him. In some centuries a Swiss Leonhard Euler managed to check Mersenne's hypothesis for the first three numbers [2].

So far no one has found an odd perfect number and has not proved the existence of it.

Mersenne's hypothesis was wrong. The next Mersenne's number  $M_{67}$ , which was not checked by Euler, was drawn up.

In New York, 1903 a session of the American Mathematical Society was held. Professor Frank Cole (1861 - 1926) spoke at this conference. He came to the board and, without saying a word, began raising 2 to power 67. Then he subtracted 1 and moved to a clean part of the board where he multiplied two numbers:  $1.937.077.221 * 761.838.857.287$ . Both results matched. It was the first and the only time in the history of the society when the audience applauded. Frank Cole without saying a word, took his place. No one asked him any questions. American

Mathematical Society established the Cole Prize for outstanding achievements in the number theory.

In 1952 scientists used electronic computers to find Mersenne's numbers. The principle of programming is extremely simple. It is enumerative technique. Five giant Mersenne's primes  $M_{521}$ ,  $M_{607}$ ,  $M_{1279}$ ,  $M_{2203}$ ,  $M_{2281}$  were found with the help of this method.[1]

In conclusion, the history of perfect numbers is pretty intense and rich. There are a lot of unsolved facts and as scientists say there is no enough eternity to check all simple numbers.

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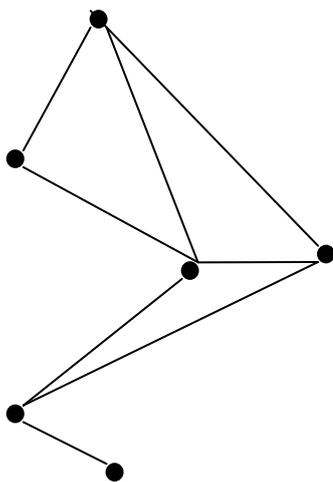
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## GRAPHS AND THEIR USES

Nowadays the development of all fields of science and technology leads to a continuous research and solving of certain urgent problems facing the humanity. Very often in order to solve a certain problem it is necessary to solve it in the language of graphs, and then interpret the result in terms of a necessary source.



*Fig. 1 Graph*

The graph theory is a branch of mathematics which studies sets with the given elements and relations between them. Objects of this type can be graphically represented in the form of geometric configurations consisting of dots, circles or other shapes connected by lines. The points correspond to elements of the set, and the lines represent specific relation (relationship) between them. (Fig. 1) These images are usually called graphs, but this concept is much wider, and the pattern is just one of the forms of representation of the graph.

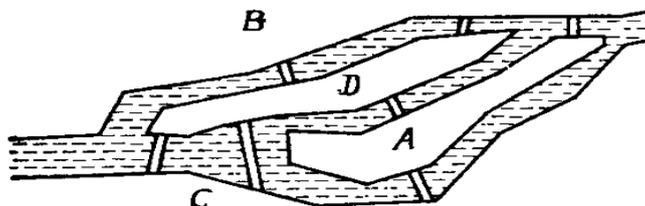
The graph theory has now become simple, affordable and powerful means of solving issues relating to a wide range of problems. In the form of graphs, for example, we can interpret the scheme of roads, electrical circuits, building challenges, maps and molecules of chemical compounds, the connection between people and groups of people.

This theory is also used in the design of integral circuits and the control circuits, in the study of machines, logical circuits, block diagrams of programs, in economics and statistics, chemistry and biology, in the theory of schedules. In mathematics the graph theory is used to solve geometric problems and problems of practical content. Graphs are the basis of many computer issues that make modern communications, and technological processes possible. Using graphs is the penetration of mathematical methods in science and technology. [1, p. 8]

Let us consider some applications of the theory in more detail. The graph theory and the related research methods are used in almost all sections of modern mathematics.

For example, graph is a tool of solving many problems in topology. A graph is called universal if it can be drawn in a single stroke, i.e. in a continuous movement, without passing through the same edge twice.

It is known that the solution of the Euler Königsberg bridges problem (Fig. 2) using the graph, marked the formal beginning of topology as a branch of mathematics.

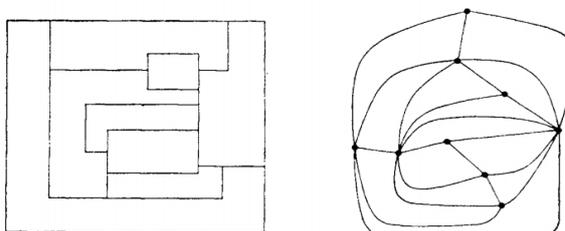


*Fig. 2 Königsberg bridges*

Graphs in chemistry are used to solve a wide range of theoretical and practical problems. The application of the graph theory is based on the construction and analysis of various chemical and chemical-technological connections in the form of models. The edges and vertices of these graphs represent chemical concepts, phenomena, processes and objects and, respectively, qualitative and quantitative relations or certain connections between them.

The graph theory is widely used in psychology. In 1936, Kurt Lewin used graphs in the form of planar cards for representing the living environment of an individual, as it follows from Fig. 3.

The psychologists of the group dynamics research centre studied the psychological interpretation of a graph where people were represented by vertices, and their relations by edges.[2]



*Fig. 3. Card and its graph*

So, finding ways of applying graph theory stimulates scientific and technical progress. A graph is a universal means of visual presentation of a great variety of tasks from almost all fields of knowledge.

Our further research will be devoted to the study of using graphs in informatics, physics and architecture.

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### CONTENT MANAGEMENT SYSTEM

Nowadays interactive CMS experience is an integral part of web-design and development. Extensive use of the convenient content management system helps to change fast and adapt the content site to meet user's needs without any special knowledge. Smart functionality of modern CMS makes possible to change interface and structure of the site, and also go far beyond this.

CMS (Content Management System) is a computer application that provides and organization the process of management of common objects, as well as creation and editing site's content [1].

To choose, which system to use for new web-site creation, one must consider a number of parameters, they are: usability, performance and functionality.

**Usability feature.** This characteristic shows the level of improved readability use of CMS. Such system is directed on users, who are properly familiar with Office programs and internet work. CMS has intuitive interface and it supports other language versions of site development environment.

**Performance** of content management system. This parameter determines and shows speedwork and the number of errors. If CMS is not optimized, it can result to poor performance of the site.

The parameter of **functionality** depends on customer's requirements to project task. In most cases there exist standard options of template sites and if necessary, one can connect more additional modules to the existing management system.

To decide which system to use for a particular resource, all CMSs represented on the contemporary market must be analyzed.

Nowadays WordPress is the most popular free service for creating web-sites. There is a big demand on CMS for blog creation. To create a resource on a certain content management system special knowledge are not required and interface is intuitive. Examples of these sites are: BBC AMERICA – <http://www.bbcamerica.com>; Lviv online <http://lviv-online.com/ua/>;

Joomla is another popular free content management system. Generally it is used to create and develop simple corporate sites. The advantages of this system are: manageability and high level of reliability. Examples of these sites are: IKEA <http://www.ikea.com/kw/en/>; LINUX – <http://www.linux.com>.

Drupal system, which is focused on programmers and is used to create more complicated internet sites with editing capability design. Drupal is coded in PHP that is why people who do not know this programming language and database MySQL, cannot configure this resource for normal work. Examples of these sites are: the official website of the White House – <http://www.whitehouse.gov>; wine Oreanda <http://oreanda.com> [2].

Considering the above mentioned, a conclusion can be made that WordPress is the simplest CMS for development among three leaders. It is recommended for people who do not need complex functionality. If you want to create sites of high functionality level, you can use CMS Joomla with a variety of tools. Drupal is definitely one of the most powerful and functional free CMS, but it will be recommend only for trained users who master PHP and MySQL.

Creating a large resource, that contains hundreds of pages and images may turn to be a problem, but with CMS the same process will be much easier. If you want to manage your own website, regardless of its size, the content management system is the only suitable one for this.

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*Mit mir ist die alte lyrische Schule der Deutschen  
geschlossen, während sogleich die neue Schule, die  
moderne deutsche Lyrik, von mir eröffnet ward.*

**Heinrich Heine**

## **LORELEY – EIN ROMANTISCH-DÜSTERES WERK VON HEINRICH HEINE**

Heinrich Heine gehört zu den reichsten lyrischen Begabungen im 19. Jahrhundert. Er führte die romantische Ironie in die Lyrik ein. Manche seiner künstlerisch virtuosen Lieder und Balladen sind Volksgut geworden. Als Satiriker hatte Heine eine treffende Schärfe, und mit seinem ironischen Prosastil wurde er zum Begründer des modernen Feuilletonismus. Seine Gedichte wurden in viele Sprachen übersetzt.

Heinrich Heine wurde 1797 in Düsseldorf geboren. Sein Vater war Kaufmann. Er hat in Frankfurt und Hamburg den kaufmännischen Beruf studiert. Da hatte er sich in seine Cousine Amalia verliebt und widmete ihr viele schöne Gedichte. Kaufmännischer Beruf interessierte ihn aber nicht. In Bonn, Göttingen und Berlin hat er dann Jurawissenschaften studiert. Gleichzeitig hatte er auch historische und philologische Vorlesungen gehört. Nach dem Studium wurde er als freier Schriftsteller und Journalist tätig. Er unternahm Reisen nach London, nach Italien. 1831 ging er als Berichterstatter der «Allgemeinen Zeitung» nach Frankreich und übersiedelte für immer nach Paris, wo er als demokratischrevolutionärer Publizist wirkte. 1841 heiratete er in Paris Mathilde Mirat und blieb in Frankreich. Deutschland sah er nur noch bei zwei kurzen Besuchen wieder. Ab 1848 wurde der Dichter schwer krank und ans Bett gefesselt. 1856 erlag er seiner schweren Krankheit.

Heine gehört zu den bekanntesten Schriftstellern des 19. Jahrhunderts. Zu seinen wichtigsten poetischen Sammlungen gehören: «Buch der Lieder», «Reisebilder», «Deutschland. Ein Wintermärchen». In Deutschland wurde er durch das «Buch der Lieder» bekannt. Das «Buch der Lieder», Heines erstes großes Gedichtbuch besteht aus vier Zyklen: «Junge Leiden», «Lyrisches Intermezzo», «Die Heimkehr», «Die Nordsee». Es wurde 1827 veröffentlicht.

Seine Gedichte wurden in viele Sprachen übersetzt. Besonders beliebt ist das Gedicht «Lorelei». Es wurde von Friedrich Silcher vertont und den Volksliedcharakter bekommen. Das Thema der schönen Jungfrau auf dem Felsen wurde von vielen Dichtern verarbeitet. Heines Gedicht wurde am bekanntesten und hat den Volksliedcharakter angenommen. Die Fischer auf dem Rhein wurden von

ihrem Gesang verzaubert, sahen die Felsenriffe nicht und kamen ums Leben. Es gibt viele Übersetzungen dieses Gedichtes ins Russische und viele andere Sprache.

Heinrich Heine Loreley (auch bekannt als „Heinrich Heine Lorelei“) erzählt von der Legende der schönen Jungfrau Lorelei, die am Rheinufer Schiffer ins Verderben trieb. Der Legende zufolge saß die Nixe auf einem Felsen am Rheinufer, kämmte sich ihr goldenes Haar und zog mit ihrem Wohlgesang die vorbeifahrenden Kapitäne an. Wie verzaubert vergaßen sie ihre wichtigste Aufgabe: den Kurs zu halten. Ihre Boote zerschellten an den Felsen im Fahrwasser und die Schiffer gingen mit den Wracks unter.

Rhetorische Mittel hat Heinrich Heine kaum verwendet, was jedoch angesichts der lyrischen Sprache nicht als notwendig erscheint. Des Weiteren ist das Thema des Gedichts weniger abstrakt als bei anderen lyrischen Werken, wodurch Metaphern nicht zur besseren Verständlichkeit verwendet werden müssen. Ebenfalls auffällig ist die Tatsache, dass das lyrische Ich ausschließlich in der ersten Strophe auftaucht. Dadurch ist es – im Gegensatz zu vielen anderen Gedichten – nicht die Hauptperson in der Handlung, sondern lediglich der Erzähler des Märchens. Dies erklärt auch den subjektiven Schreibstil, der vor allem in den letzten beiden Strophen deutlich wird.

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#### **APPLICATION DEVELOPMENT FOR TIME MANAGEMENT SYSTEM FOR ANDROID**

Information and telecommunication technologies have quickly filled our world. Humanity couldn't even dream about a computer that can fit in the palm 30 years ago. But now it's hard to imagine life without numerous modern devices. Smartphones, tablets, laptops, smart watches and many others have almost become irreplaceable helpers in our daily lives.

That's why, we can easily say that technologies occupy meaningful role in everybody's life. Nowadays it's hard to meet a person who doesn't have a phone or any other gadget. Thanks to modern devices, the life of many people has become

much easier and more importantly – convenient. Technical progress makes high technologies more accessible for us. But at the same time their use and role in every spheres of human life is increasing very fast.

Over the past decade the technology has progressed incredibly far. Mobile devices have become smaller, more powerful and much more useful. They have penetrated into all areas of our lives, and their role is growing. The availability of smartphones, tablets, e-books facilitates their rapid spread around the world. And, of course, all these billions of mobile devices seriously affect the quality of our lives.

Modern society lives in fast and energetic rhythm. Great amount of modern things provides many opportunities for development and self-improvement, however, it takes a lot of free time. Not everyone can deal with time and devote it to priority tasks without being distracted on less important things. Besides basic techniques of time management, there are some other things that can help us always to remember about important assignments and be more effective. Keeping up with the times, you can use special programs created for effective control and planning your time. It can be useful not only for modern man and women but for people of all ages.

Depending on people's needs, they can choose proper application which will help them to struggle with specific problems. These apps can make notifications, to-do-lists and flexible schedules, measure the time that you spend on different tasks and much more. Using these programs, your day will be more organized and less chaotic. Also you have an opportunity to capture important ideas and thoughts in one place but in different ways such as using voice or making notes [1]. It should be mentioned that it's convenient and contemporary. With a little help of smart and modern apps you will be able to control your productivity in different spheres of your life.

Nowadays most smartphones run on Android OS. Each year the number of users who have this operating system on their gadgets is increasing exponentially. Its popularity opens wide prospects for application development. Opportunities and conditions for programming under Android OS allow a programmer to create useful mobile applications to all tastes. Programs for organizing and planning time take a considerable place in the line of various applications for Android OS.

Due to modern tendencies, we can rephrase one famous expression: "Who owns the time, owns the world". That's why creating an application for successful time management for Android OS is a topical research nowadays.

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## **MARKETING STRATEGIES IN THE ACTIVITY OF SMALL ENTERPRISES**

Functioning of small enterprises is related to a range of issues, one of which is competitive activity of the large and middle companies. That's why development of marketing strategies and capacity for operative alteration of the activity will help to get rid of them. Correctly selected strategy that is in compliance with market terms and internal component organization allows the enterprise to achieve good results.

Marketing strategy is an organization's strategy that combines all of its marketing goals into one comprehensive plan. Marketing strategy is the foundation of a marketing plan. An enterprise must consider and analyse new products, prices, advertisement, and sales promotion and then choose a strategy which will keep the market [2].

Enterprises can use 4 basic types of strategies.

1. Strategy of printing-down: the original goods of large enterprise that turns the object of imitation into original. Competitiveness is provided by low selling prices. A danger is a decline of quality compared with an original.
2. Strategy of optimum size: it is used in areas where a small enterprise is optimal (trade, sphere of domestic consumer services).
3. Strategy of combining production: small enterprises produce components of complex products of one or more large enterprises.
4. The strategy of taking advantage of a large enterprise: small business entering contractual relationships with large enterprise and receives a right to operate in the market on its behalf and under its trademark (franchising). Franchising is often used in retail trade, catering [1].

Thus, when choosing a marketing strategy objectives of the enterprise, resources, the state of demand, general economic indicators of the company should be considered, because with the help of marketing strategy a company can succeed in the market and become competitive, well-known among consumers.

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## **DEVELOPING EMPATHY IN CROSS-CULTURAL COMMUNICATION**

Nowadays, in our constantly changing and developing world, we have great opportunity to experience ongoing immersion in other cultures. Humanity has been dealing with problems of cross-cultural communication since the first representatives of two different cultures made a contact. For the last century, scientists and researchers in this field have been working and developing theories and ways of dealing with intercultural differences. However, the problem still exists because it is not only a scientific but also psychological matter. Each person can overcome cross-cultural ignorance only through own experience, tolerance to somebody's difference, general cross-cultural competence and commonsense [2, c. 420].

Some steps to become cross-culturally intelligent are:

- cultural generalization needs to be sanctioned and differentiated from cultural stereotypes;
- culture-general should precede culture-specific;
- culture-general frameworks are necessary, and they should be presented from concrete to abstract;
- the goal of cross-cultural learning is empathy, not just tolerance.

Depending on individual's cognitive orientation used to understand cultural differences people can react to it in different ways. During the process of acquaintance with different culture, an individual can experience different state of intercultural sensitivity. Where at the beginning of process one sees his own culture as central and only reasonable. Then one develops a more and more moderate point of view, where one experiences own culture as in context of other cultures. At the end of process, one's culture becomes relative to any other.

Dr. Milton Bennett developed the model, which describes the different ways in which people can react to cultural differences [1, c. 152]. It contains the following points:

1. Denial of difference. Individuals experience their own culture as the only "real one". Other cultures are either not noticed at all or are understood in simplistic manner.
2. Defense against Difference. One's own culture is experienced as the most evolved or best way to live. This position is characterized by negative stereotyping.
3. Minimization of difference. At this stage, people emphasize human similarity in physical structure, psychological needs or assumed adherence to universal values.

4. Acceptance of difference. One's culture is considered as one of a number of equal, complex and valuable worldviews.
5. Adaption to difference. Individuals are able to expand their own worldviews to accurately understand other cultures and behave in appropriate way to this or that culture.
6. Integration of Difference. Individuals are easily enter and exit other culture worldviews

To reach the highest level of cross-cultural sensitivity an individual has to acquire an awareness of difference between cultures, discover similarities, grasp the importance of intercultural difference, explore and research into the other culture and finally develop empathy toward the other culture.

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### **COMPUTER GAMBLING: LEISURE OR DEPENDENCE?**

Indispensable components of modern life are a computer and the Internet. A computer, in the contemporary sense, is a necessary thing, because it helps not only in the work, but also in children's upbringing. Most parents accustom their children to a computer at an early age: cartoons, developing programs, games and more. However, this leads to unpredictable consequences, because children can addict to the computer.

The investigation of the problems of computer game addiction, carried with pupils of the 9th form in Polonskaya school, Khmelnytsky region, gave some results. It was found out that most children (69%) spend at the computer more than three hours a day. Almost half of them (45%) play computer games every day. And this fact testifies to the lack of interest of students in learning and communication with their peers in real world. They focus on their computers.

Most children (70%) play different games depending on their mood. But some children prefer games in which they can shoot or race a car, etc. In future this can be transferred into reality, as a killed hero of a computer game can be alive again or replaced. That's why life is not valued by a child. As for motivation, half of the children (51%) like to move to higher levels, 1/3 of them want to feel themselves leaders. It testifies about the formation of such a trait as purposefulness on the one hand and computer gambling on the other. Comforting fact is that almost all children (95%) still prefer a walk with friends rather than a computer game. You should also pay attention to the parents' reaction to this situation. Explaining the reaction of their parents to computer games or visiting social network, most teens (73%) replied that their parents did not like it and made comments. However, some parents are proud of that fact that their children are so developed. It proves that they are unconscious of the situation.

Therefore, in our opinion, despite the movement of the modern world forward, the transition to automation and using TMT, teachers should form cognitive interest of their pupils to learning. They need to conduct lessons in interesting ways, organize trips, themed evenings and so on. Parents in their turn should promote the development of their children. Most children play games because parents don't pay enough attention to them. So only in cooperation with teachers and their parents a child will be a healthy and harmonious personality, capable of having adequate attitude to the computer.

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## **LAND CONSOLIDATION AS A PART OF THE LAND RESOURCES STRUCTURE OPTIMIZATION**

Modern problems of land utilization and protection require improving the system of land utilization and optimization of the sizes and locations of land areas by means of land consolidation. This process will facilitate the improvement of land resources management systems as well as rational utilization and protection of land resources of rural communities. This is particularly important in terms of administrative reform and authority decentralization.

At the beginning of the agrarian reform in Ukraine an enabling environment for the support of private ownership of land was created by the Supreme Council of Ukraine's decree "About Land Reform", by the Laws of Ukraine "About Farming" and "About Form of Land Ownership" etc. It encouraged the land reform which was directed at land privatization and further division.

Later the process of agricultural land division resulted in a massive partition and fragmentation of land which slowed down the process of dynamic development of agrarian sector of Ukraine. Solving these land utilization problems lies in the establishment of cultural, technical, organizational and regulatory mechanisms of land consolidation.

Such authors as A. Martyn, A. Tretyak, L. Tkachuk and A. Shvorak in their publications studied the issues of land consolidation as an efficient tool of territorial organization. In general, these authors indicate the following objectives of land consolidation: rational and efficient land utilization beneficial for land users; creation of enabling environment for agricultural farming; life standards improvement in rural areas.

The process of consolidation can be conveyed in several ways:

- Land exchange;
- Land consolidation by means of rent;
- Buying and selling the land for further consolidation;
- Bordering lands consolidation by the owners' agreement;
- Development of land management projects for the regulation of the existing ownership and land utilization etc.

Measures and means of land consolidation listed above would help rural communities to utilize the existing natural resources more efficiently as well as to develop local infrastructure which would improve social and economic conditions in villages.

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## PROBLEMS OF COMMUNICATIVE COMPETENCE DEVELOPMENT OF MASTER DEGREE STUDENTS IN HIGHER ENGINEERING EDUCATIONAL INSTITUTION

**Problem statement.** Modern Ukrainian society, which undergoes a dynamic development, is characterized by informative and communicative type of forming public institutes and the development of innovative processes. The problem of training skilled specialists is related to forming professional and educational standards of engineering field of study, it is topical, in particular, in the question of the development of tools which will provide efficiency in communicative training.

**Analysis of researches.** Scientists [1, 2, 3, 4] mark a necessity to train specialists that possess professional skills and can provide professional mobility and allow: 1) to react operatively on changes in practical and scientific activity; 2) to use the vocabulary of disciplinary industry in foreign language adequately, as a method of task-solving in cognitive communicative activity; 3) to take part in international scientific and cognitive activity.

**Exposition of basic material.** In accordance with the modern requirements the special attention is paid to the search of ways to develop communicative

competence of Master degree students in higher engineering educational institutions. In our opinion, the special role in the development of communicative competence of Master degree students in higher engineering educational institutions is given to a competence-based approach, passing to which is stipulated a world tendency to integration in science and education. Scientists suggest applying the method of projects [5], which stimulates the development of scientific thought, or to use video lessons [6], directed to the development of mental activity. According to R. Gilyazova [7], the most effective method of communicative competence development of Master degree students in higher engineering educational institutions is reading professional texts and practicing speaking skills. It is suggested to use professional speaking clichés for memorizing.

**Conclusions.** The solution of the problem requires the search of new nontraditional forms of lectures which will result not only in ability to communicate on the basic level, but will also extend the knowledge in professional sphere.

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## **THE STUDY OF FERROELECTRICS IN THE HISTORY OF PHYSICS**

Ferroelectrics are characterized by a large number of abnormal dielectric and other physical properties that are linked with thermodynamic relations. These anomalous features were found in crystals of Rochelle salt. The terms "*ferroelectric*" and "*ferroelectrics*" come from the name of this salt. These terms were introduced into science by I. V. Kurchatov. The dielectric properties of ferroelectrics are similar to magnetic properties of ferromagnets. In 1880 French physicists Jean and Pierre Curie discovered and investigated the phenomenon of abnormally large electric polarization of Rochelle salt crystals under the influence of mechanical stress (piezoelectric effect). Abnormally high dielectric properties of Rochelle salt were discovered by American scientists J. Valashek in 1921. Fundamental investigations of Rochelle salt anomalies were done in 1930 by Soviet physicists I. V. Kurchatov and P. P. Kobeko. B. M. Vula and I. M. Goldman in the former USSR, Weiner and Solomon in the USA, S. Ogawa in Japan discovered anomalous dielectric properties of barium titanate, which due to its physical and chemical properties got wide practical application, thereby activating both theoretical and experimental researches of ferroelectrics.

Nowadays, there are more than 600 of ferroelectric materials, 2/3 of them are double and triple metal oxides (titanates, zirconate, niobates, tantalates, phosphates, borates, nitrates, etc.), but there are organic compounds, polymers, liquid crystals. Facts about ferroelectric phenomena and the structure of ferroelectrics are growing fast with the help of modern research methods (nuclear magnetic and electron spin resonance etc.) and the study of them already became a separate field of physics.

In ferroelectric crystal a spontaneous polarization can be caused by all three types of polarization: *electronic, ionic and orientation*. These components have different impact on the total polarization depending on the atomic structure of crystals, the nature of chemical bonds, physical characteristics of the constituent atoms, as well as external conditions (electric fields, temperature, pressure, etc.).

In conclusion, ferroelectric is also called a polar crystalline dielectric, which is in a certain range of temperatures spontaneously polarized, and the vector of spontaneous polarization depends on external influences (electric field, temperature changes, etc.).

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## **RELIGION NOW AND THEN, HERE AND THERE: THE ADVENTURES OF AN ABSTRACT CONCEPT AND THE UNIVERSAL LINGUISTIC CHALLENGE OF THE TRANSLATED VAGUE**

The term ‘religion’ refers to a concept which has raised multiple scientific and secular discourses regarding its meaning. Scientists who attempt to study the religious phenomenon, both disciplinary and interdisciplinary, have not reached a commonly accepted specified definition. The term ‘religion’ has had a long history mainly prior of the sixteenth century which is irrelevant to contemporary usage [1: 269). This statement is quite crucial in order to initiate ourselves to the diversity of a concept in the grounds of its multidimensionality and dynamicity. As an abstract idea it is, it can have a separate meaning for each faithful and social subject in each traditional context. However the problem is even deeper. It is not only how the term ‘religion’ may be conceptually charged either from the faithful or the scientist, but the tradition of the word itself.

Religion is the official word used in the English language, but what happens semantically in each person’s mind when they use this word based on their own linguistic experience and cultural background? The current paper will attempt to examine the meaning of ‘religion’ as a concept and as a term as well. To do so, an effort will be made in order to briefly follow some of the ‘adventures’ of the concept of religion and the words used for its description from time to time and space to space. Questions concerning the relevance of language and religion as cultural forms will be also discussed. However the leading question is: Can we use the term religion while not referring to the same thing in the name of language competence in modern science?

Therefore, the main purpose of this article is to present the deeper difficulty of translating abstract concepts which derive from various cultural traditions by using a single universal English word as an urge for satisfying current language competencies.

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## **DEVELOPING YOUNG LEARNERS' LEXICAL COMPETENCE ACCORDING TO THE PRINCIPLE OF LEARNER AUTONOMY**

According to the State Standard of primary education and foreign language curriculum for grades 1-4, learners are supposed to master the basics of communicative competence, including lexical competence. By lexical competence we mean the ability to recognize and use words in a language in the way that speakers of the language use them. The formation of lexical competence in young learners can be guided, i.e. dependent upon the teacher, and autonomous, or independent of the teacher [1, p. 23-36].

The principle of learner autonomy in the context of vocabulary building presupposes that learners set appropriate learning goals and take charge of their own learning. Learners can accept responsibility for identifying new words, learning them and evaluating the effectiveness of their learning process. By doing so, learners begin to think about learning, thus making the learning process transparent. The teacher's role in this respect is to create and maintain an environment conducive to learning. The teacher can try to regularly motivate learners to think about why they are learning certain words, exactly what they are learning, and how they learn most effectively [2].

To apply the principle of learner autonomy to teaching vocabulary in the young learners' classroom, we suggest four stages of the formation of elementary lexical competence, namely: recognition, guided practice, communicative practice and self-assessment.

On the recognition stage, learners can do receptive exercises in which they listen to a text, draw an illustration for it and use it as a visual support for memory work. The guided practice stage involves learners into self-training. They do receptive and reproductive vocabulary exercises on their own or in groups, identifying and reproducing the new words, classifying them, creating semantic maps, etc. The communicative practice stage presupposes the creative usage of acquired lexical items. For instance, learners can compose their own jazz chant basing it on the given example. On the last, self-assessment stage, learners are encouraged to use metacognitive learning strategies, such as keeping statistics of their own mistakes, identifying the ways to correct them, defining the problem that prevents them from accomplishing the tasks and searching the ways to overcome it.

Thus, the formation of lexical competence according to the principle of learner autonomy makes language knowledge more meaningful and applicable, as well as reduces the time for learning English. In our opinion, the usage of the

elements of independent learning in vocabulary building provides the mastery of self-control skills by learners, who are to determine their learning goals, to organize and structure their learning process, to assess the results using a range of learning strategies.

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### THE ANALYSIS OF CREATING SITES

Nowadays, technology development has reached its highest peak, surprising us by various discoveries that make our lives more comfortable and better. But much more remains unexplored and requires additional research. Computer technology is the most relevant in the modern era of computer progress and creation of websites occupies a leading position in the world development. CMS Joomla is one of the most popular managers for creating web sites and online applications. Its features allow an ordinary user to create websites without a lot of knowledge and to write new applications and sites by using different languages such as JavaScript professionally.

Sites that were created on Joomla are widely used by corporations, educational institutions (Oklahoma State University), art historians (Philbert Photography), academicians and so on, ranging from huge companies to individuals. Market for CMS Joomla took the 2<sup>nd</sup> place for use after CMS WordPress [1].

The purpose of this article is to consider the variety of tools for creating sites and study the basic features of the Joomla system. CMS (Content Management System) is an information system or a computer program to support and organize

the joint process of creating, editing and content management. Web pages, which are the building blocks of websites, are documents, typically composed in plain text interspersed with formatting instructions of Hypertext Markup Language (HTML, XHTML). They may incorporate elements from other websites with suitable markup anchors. Web pages are accessed and transported with the Hypertext Transfer Protocol (HTTP), which may optionally employ encryption (HTTP Secure, HTTPS) to provide security and privacy for the user. The user's application, often a web browser, renders the page content according to its HTML markup instructions onto a display terminal [2].

Data is stored in databases Apache, MySQL; programming language JavaScript; document formats HTML, XHTML, XML; Style Sheets CSS. For convenience, design and management of a blog, most authors use CMS WordPress and CMS Joomla.

The study showed differences between the above mentioned systems:

- Joomla is a large number of free plugins and modules, it is cheaper to pay in Joomla;
- It is quite easy to change the site for your needs in Joomla; WordPress requires the knowledge of PHP;
- Joomla has great functionality, allowing you to create complex and full-featured sites and blogs; WordPress has a smaller capacity and requires extensive knowledge in PHP;
- Joomla has many modules to expand the site and place various elements (banners, advertising, etc); WordPress has just sidebar, header, footer, to create more we need the good knowledge of PHP;
- Content in Joomla can be edited separately, which allows you to build a website (blog) with its own settings; WordPress is much less likely to have full access to file changes and it should charge pattern, preferably in its own language;
- The structure and number of menus in Joomla is specified by the user in the administrative area; in WordPress you can create only 2 types of menu i.e. categories and pages;

Thus, examining the variety of sites and the possibility of their creation, we can make a conclusion: for beginners CMS best option is WordPress, due to its easiness of setup, although Joomla is more functional.

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## **TECHNOLOGIES OF THE DEVELOPMENT OF SENIOR PUPILS SOCIAL ACTIVITY IN GEE CONDITIONS**

Social pedagogics as a science is closely connected to a social position peculiar to the country at a certain time and with public motion vectors. Taking into account the desire of Ukrainian population to create the image of conscious, responsible, fair, tolerant and active people in the world it can be said that for this goal some fundamental changes must take place in certain areas of life. In the field of education a social aspect of the educational process of senior pupils at GEI requires innovations.

Much attention should be paid to the social development of youth.

A famous Doctor of Sociology U. L. Vorobyov studies the social activity of an individual as a specific activity due to internal factors; then aimed not only at preserving the system but also its further development; creative and strictly selective activity which includes an estimated time [1].

Technologies of the social activity development should be directed to education of a socially active personality "Man of action" who is ready to manifest oneself in various areas of socially and personally meaningful activity [2].

However, the technologies of the development of senior pupils social activity that are used in the majority of CEI nowadays are outdated, inefficient and not able to meet the needs of today's youth.

In our opinion, increasing the efficiency of technologies of the development of senior pupils social activity can be achieved by providing qualitative changes in:

- perception character in teachers and pupils group, the role of social activity in the life of every Ukrainian;
- the image of socially active pupil among the peers;
- approach to the technology implementation of the development of social activity: i.e. rather than forced participation – increasing motivation; instead of regular performance of school teaching plans – the organization of social activity useful, creative, innovative, interesting for pupils;
- The transformation of the technology spectrum of social activity is a must.

The concept of social activity is very deep and multifaceted. On one hand, the implementation of some aspects of social activity provides learning and educational processes, but on the other hand there aren't any centralization efforts of educational activities in this context. Accordingly, the development of the social activity process has too superficial rather than a constant character which is not properly controlled. That's why optimization of technologies of the development of

senior pupils social activity should be conducted with considering the specific work of GEI and its functional units.

It can be said that the technology of the development of senior pupils social activity in the conditions of the GEI requires urgent transformation and optimization. Due to these processes the technology mentioned can meet the current demands of social changes and youth vector trends in teaching and learning processes.

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### ANTI-SOVIET LEAFLETS OF OUN AND UPA AS A FORM OF STRUGGLE

Throughout the millennial history the Ukrainian people fought for the right to have an independent state. In different periods of the Ukrainian history the leaders of the struggle were different persons and organizations such as Ukrainian Military Organization, the Organization of Ukrainian Nationalists and the Ukrainian Insurgent Army. The methods of their struggle against the German and then the Stalinist regimes were mostly of armed character but propaganda methods were widely used.

"One of the form of this ideological struggle was the appeals to the Soviet partisans to move to the side of the Ukrainian insurgents and they were often distributed in the form of leaflets. Another thematic direction of the UPA's printed material was in revealing the true essence of Soviet partisans, trying to prove that they were only pawns in the dirty game of Bolshevik leaders "[1].

The printed materials were produced not only in Ukrainian but also in Russian, Belarusian, Georgian and other languages of the USSR. Propaganda leaflets were issued in the local printerys. "During the German occupation, OUN's printerys worked in Olesyn in Berezhany district, in the village of Novoselka in Podgaetskiy

district, in the village of inMokrotynin Zhovkivskyi district. The largest UPA's printery was in Mikolayiv on the Dniester. It was headed byMykolaPalidovych" [2].

Basically, in the leaflets OUN and UPA tried to expose the brutal inhuman nature of the Soviet regime to show its ruthlessness towards their citizens. Senior Ukrainian Insurgent Army Command addressed a request to the soldiers and commanders of the Red Army, so they helped to overthrow the Bolshevik regime in Ukraine. Here's how it comes about that in one of the leaflets: "Brothers! Have we come to life under the Bolshevik-Stalinist regime? Is happiness coming to us, which is so loudly preached by the Bolsheviks? It could not be a lot of evidence to prove that the Bolshevik's dictatorship is no better than Hitler's. The whole world knows that the Bolsheviks have destroyed millions of the Ukrainian people"[3]. So retreating under the pressure of the Germans fromLviv, the Soviet NKVD murdered three thousand Ukrainians, inUman“red thugs” tortured 863 people and in Lutsk 2,000 Ukrainian “colour”were shot.Thousands of honest Ukrainianswere also given into the hands of the German Gestapo in KryvyiRih, Odessa, Kyiv, Dnipropetrovsk, Rivne "[2].

Another leaflet refers to the tactics of overthrowing the Soviet regime and the liberation of peoples which were oppressedby the Bolsheviks. So "blow to the imperialists must occur on all frontsat the same time. However, these attacks cannot be chaotic. They must be planned and organized. The fight should begin from Ukraine "[3].

Subsequently OUN re-imagined the essence of the German imperialism and understood that it was not different from Moscow, "a war between Germany and Moscow is primarily a war for the rich Ukraine, for our bread, coal and iron. The objective of the fight of the Ukrainians is the Ukrainian Independent State, and the path to it is the National Revolution of all segments of the Ukrainian people against the occupants "[4].

Thus, the UPA and OUN pinned all their strength to the fightagainst the Soviet regime. With political and propaganda techniques, they tried to show what actually the Bolshevik dictatorship and its policy were and what means were used to destroy the Ukrainian nation.

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## **POUR UNE ECOLOGIE DU LANGUAGE**

Parmi toutes les formes de pollution que génère l'activité humaine, l'une des plus dévastatrices est la pollution du langage.

La société de consommation, armée de ses deux puissants moteurs que sont le marketing et la communication, a généré au cours de ces dernières décennies ce que l'on pourrait nommer une inflation du langage. Des slogans publicitaires aux discours politiques, le phénomène est le même: on assiste partout à une surenchère de mots consensuels, de fausses questions et de paroles vaines qui, mis bout à bout, forment un babil informe et creux, aussi vide qu'il est assourdissant [1, p.43].

Aujourd'hui on se produit un terme nouveau, qui désigne ce phénomène: un bruit blanc.

Les conséquences de ce "bruit blanc" sont multiples: il réduit notre attention, anesthésie nos cerveaux, et surtout il conduit à un sentiment d'impuissance généralisé. Totalement dénuée de performativité, la parole des autorités – qu'il s'agisse des dirigeants politiques, des patrons d'entreprise, mais aussi plus globalement des anciennes figures de la république que sont les intellectuels, par exemple – n'a plus aucun sens pour les citoyens, qui en viennent à douter des autorités elles-mêmes. Ce doute, qui caractérise l'époque, participe grandement à la disparition du sentiment d'appartenance à un corps social uni. Noyés sous un amas de mots quotidiennement renouvelés, privés d'histoires porteuses de sens et de débats réellement contradictoires qui leur permettraient de se faire une opinion – autrement dit de "prendre parti" au sens littéral du terme – , les individus se replient sur eux-mêmes ou sur leur communauté, seul endroit où ils ont l'impression d'être compris et surtout de comprendre quelque chose à ce qu'on leur dit [2].

La pollution du langage a donc un rôle direct dans cette regression identitaire nostalgique que vit le pays. Mais cette dérive du langage n'est pas une fatalité: il est urgent de faire retrouver au langage son utilité et sa capacité à édifier et à transformer le réel. Pour cela, il faut oser la projection dans le futur d'une part, et associer parole et action, d'autre part. Par exemple:

**Mon ressenti.** – Mot à utiliser sans modération et ad nauseam si vous voulez passer pour quelqu'un de fin et de compassionnel. Sentir, c'est beau (à l'expression des pieds, il va s'en dire), mais "ressentir", whaouh! c'est énorme;

**Prenez soin de vous.** – De quoi je me mêle? Si j'ai envie de sortir tout nu par moins zéro, de boire du gros gros rouge toute la nuit, de bouffer des cacahuètes à l'huile de palme tout en fumant deux paquets de clopes, ça te derange.

Le langage, en renonçant à être le maquillage de l'impuissance ou la figure permanente du désir d'être aimé, peut devenir la base d'une nouvelle relation de

confiance entre les individus et les autorités, et entre les individus tout court [3, p. 188].

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### D'OÙ VIENNENT LES DÉRÈGLEMENTS DE L'ÉCOSYSTÈME TERRESTRE?

Un hiver trop doux, des étés trop chauds, les rivières asséchées, les tsunamis, ça fait réfléchir, non? Le fameux effet de serre n'est plus une menace lointaine. Et concrètement, chez nous, nous pouvons faire beaucoup pour la Terre.

De 1999 à 2016, inondations spectaculaires, canicules et tempêtes se sont succédés. La douceur de l'hiver dernier, le peu d'enneigement dans les stations de ski semblent être un signe de plus. En un siècle, les concentrations de gaz à effet de serre ont augmenté de 35 %, expliquant le réchauffement et ces phénomènes météorologiques extrêmes. Si cela continue, l'Angleterre ou l'Australie être engloutis. Le principal responsable? L'homme, ses industries et ses activités. Ce réchauffement augmentera de façon dramatique dans les années à venir si nous ne changeons pas nos comportements.

Tous les êtres vivants provoquent des modifications du milieu et créent des dérèglements et des déséquilibres, mais les êtres vivants qui causent les plus importantes sont sans conteste les humains.

L'activité humaine a toujours créé des modifications de son milieu mais jamais d'aussi importantes que depuis les 50 dernières années.

C'est l'activité humaine qui risque de mettre en péril l'équilibre de la planète pour les années à venir.

Parmi les perturbations causées par les êtres vivants on trouve:

la deforestation; la disparition de biotopes; la disparition de certaines espèces vivantes (exterminées par la chasse ou par la disparition de leur milieu naturel); la désertification; la pollution de différentes sortes [2, p.60].

Par exemple, la désertification de certaines zones pour des raisons climatiques ou géologique peut être amplifiée de façon catastrophique par l'action de l'homme. C'est le cas de la mer d'Aral [1, p. 42].

Si tout le monde consommait comme les Européens, il faudrait 4 planètes pour satisfaire tous nos besoins. Depuis un demi-siècle, nous ponctionnons la Terre plus vite qu'elle ne peut se renouveler. Des pénuries sont à prévoir: de pétrole, mais aussi de poissons. L'eau, enfin, pourrait être l'enjeu de conflits graves, entre le Nord et le Sud, et le XXI<sup>e</sup> siècle, le siècle des “réfugiés écologiques”.

Nous commençons à être malade de la pollution (asthme, cancers dus à l'alimentation, baisse de la fertilité, etc.). Quand on lutte contre la dégradation de l'environnement, on se bat pour préserver sa santé.

Pas question de refuser le progrès! En gardant son confort, on peut faire un petit effort. Sans se rationner ni se sacrifier. Au contraire, consommer vert, c'est retrouver le goût des bonnes choses et d'une vie plus naturelle. Elle mesure notre influence sur la nature à partir de questions sur notre mode de vie, on peut estimer la superficie de planète nécessaire à ses besoins en ressources naturelles pour produire ce que l'on consomme et absorber ce qu'on rejette [3, p. 123].

Pour devenir un éco-citoyen impliqué et concerné, il est important de mieux connaître la terre, son mode de fonctionnement et les dangers qu'elle court pour être capable d'agir sur l'environnement chacun à son niveau.

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## **IMPORTANCE OF THE ENGLISH LANGUAGE IN CORPORATE WORLD**

Several researches have been carried out across the globe to identify the importance of English language at various levels. A research paper by Dr. Noor Azina Ismail on “GRADUATES CHARACTERISTICS AND UNEMPLOYMENT: A STUDY AMONG MALAYSIAN GRADUATES” [2] tried to investigate the effects of graduates’ characteristics on the chance of being employed. The results showed that the employment prospects of graduates with a good command of English and who possess leadership and technical skills were better when compared to those without those skills. It was found out that students with skills like positive attitude, effective communication, problem solving, time management, team spirit, self-confidence, handling, criticism, flexibility, etc which are also known as soft skills as a whole, have much more better chances of survival in the tough corporate world compared to the students who are lacking in the soft skills.

K.P.S.K. Ilavenil in his research paper entitled “English and Engineering Education: The Need to Move Beyond the Employability Discourse” [1] has tried to study the deep and well-entrenched links between the English language and Engineering education in India. Further, he has also studied the employability practices prevalent in India and the emphasis that is given to possessing communication skills. In today’s era of cut throat competition, people face several challenges to survive and excel in their respective fields.

Amongst all the challenges communicating in English language is majorly faced by various individuals in the organizations. English is the language of trade and industry, through this research paper we have tried to throw a light on importance of English language in the corporate world some of the objectives are to know the perception of executives about English language and use of English language in corporate. Further we have tried to identify the challenges faced while communicating in English and to know the ways to improve English. The paper also tries to identify the importance of English language in exploring the technology and to tap the global opportunities that are available for and individuals career development. English is one of the most important languages in the world. It can even be said to be the single most important language. Yes, other languages are important too, but not for the same reasons as English are important. English is important because at present it truly links the whole world together.

Since adult learners understand the importance of the English language in the corporate world, we must try to achieve competency in the language. We need to achieve the intermediate or even advanced level of mastering the language, to structure it properly and use it smartly. This will win half of the battle in today's corporate world.

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### **MARKETING STRATEGIES IN A GLOBALIZING MARKETS**

The increasing of complexity of the world economy in both the global and national levels lead to the need to change the fundamentals of economic theory. The process of globalization has proved that marketing has to occupy a leading position in the development of international economic relations.

During two decades, managers have learned to play by the new rules. They concluded that the company should be flexible to respond quickly to the actions of competitors and market shocks. They must constantly develop to achieve the best results; they need to develop effective mechanisms of market competitions and always be one step ahead of their competitors – only then the company will be profitable.

One of the main strategies is "F. Kotler competitive strategies of differentiation".

Product differentiation – is a situation in which buyers examine identical goods of competing manufacturers as similar, but not completely substitute.

The main fields of competitive differentiation include 4 categories: good (commodity), service, staff, and image.

1. Commodity differentiation involves the search of differences between firm goods and competitive goods on the following parameters: functional characteristics, quality, commodity form, durability, reliability, repair ability, style, and commodity design.
2. Service differentiation is an important addition to the commodity differentiation, and when commodity differentiation opportunities are

exhausted, the service becomes not only the indicator of differentiation, but also a competitive advantage of a firm.

3. Staff can also become a positive advantage of the company. Differentiation of staff (or personnel differentiation) is particularly important for firms operating in the service sector.
4. Differentiation in the image sphere is realized through the following means: symbols, the media, atmosphere and events.

We consider that strategic plan based on three components, which are not mutually exclusive, and often complement each other. First, the position may be based on the production of goods and services. In practice, this position is called variety-based positioning, because it is based more on the supply of goods and services, than on a specific market segment.

Vanguard Group – a leader in one-to-capital investment - a good example of assortment positioning. Vanguard offers common stocks, bonds and money market funds, that guarantees yield expectation (profits) and reasonable fees. The investment focus of the company allows a constant good income for many years instead of extremely high profits, but for one successful year. Vanguard is known, for example, for its index funds. The company avoids to conclude the transactions on interest rates and prefers to deal with narrow stock groups. Fund managers keep trading levels low, thus reducing costs; and finally, the company warns its customers from rapid buying and selling because it increases costs and makes fund management to raise new capital and consolidate the cash to remunerate the debt. Vanguard also uses the strategy of permanent low costs to management personnel, customer service and marketing.

The second possible basis for strategic positioning is to satisfy all or nearly all the needs of a particular market segment. This approach is called positioning segment (needs-based positioning), which aims to completely acquire any market segment. It occurs when there is a group of consumers with different needs, when each group requires a separate set of services. Some groups of consumer are more sensitive to price than others, some require other characteristics of the product, and some feel the need of detailed information, service support, and specific services and so on. Ikea clients are a good example. Ikea tries to satisfy every need of its segment, not only a part of these needs.

The third possible basis for positioning is to try to meet the needs of customers differing in the degree of availability. Although the needs of these customers are similar to the needs of other customers, their specificity requires performing another activity. This approach is called access-based positioning. Availability may be the result of geographic location of the customer or the size of groups, or anything else that generates other activities necessary for the most effective satisfaction of customer needs.

Some multinationals use a peculiar symbiosis of previous two strategies, taking into account the consistent passing of market segments. In a price strategy of the firm, this method is used when the corporation having a strong position in the market, sets at first the highest possible prices for goods, intended for the "customers – innovators" (consumer goods, products of "high tech" and so on).

Transfer prices play an important role in the economic mechanism of TNCs (transnational companies) and the global economy as a whole that is caused primarily to the fact that a significant part of global exports is domestic TNCs turnover between subsidiaries in different countries.

Thus, a huge role of marketing strategies of the competitive environment in the context of globalization can be seen on these examples.

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### **LINGUISTIC SUPPORT AND INTERNAL OPTIMIZATION OF WEBSITES**

For centuries books have been the primary source of knowledge, providing people with three major ways of how to search for information on hundreds and thousands of pages. They included the search by the contents, references and indices. Surprisingly, it appears that the same methods are still used for searching data and necessary electronic pages in the Internet – a new global source of information. The only distinction is that they must be automated and carried out by means of special programs.

Search advancing or search optimization (from English “Search Engine Optimization”) is a package of measures for uplift of website positions in the results of search systems for certain users' inquiries. Usually, the higher website position in search results are, the more readers are transferred to it by search systems [1, 2].

Linguistic optimization is a set of special measures that are generally connected to the change of site content and links so that they correspond to potential users' inquiries. An ideal search advance is when the website ranks in the top three pages of the search results.

Practically any verbal phrase that makes some sense is typed into a search line as an inquiry will receive millions of links to the sources where this phrase is mentioned. It is natural that most users pay greatest attention to higher positions of the offered search results. According to statistics, no more than 85% of users

follow even to the second link, and no more than 10% go further than the second link. Thus, any owner of a web resource (business company, private and public organizations, social networks, clubs etc.) wishes his/her website to be "shown through" to the Internet users and collect as many visitors as possible. In a nutshell it means they try to promote their websites to the first pages of search results (and ideally number one!). The solution of this task is provided through SEO i.e. ensuring a website can be found in search engines for words and phrases relevant to what the site is offering.

Optimization methods can be divided into several types:

1. *White hat or natural optimization* is an adjustment and improvement of the code, the text and other parameters of the website for search system algorithms to increase its positions in search results without application of the forbidden or dishonest methods. It is a complex of the Internet marketing tools to increase website attendance based on the analysis of target visitors behavior and preferences.

2. *Black hat optimization* is an application of the forbidden and unfair methods for fine-tuning of the code, the text or other website parameters for search system algorithms to increase its positions in the search results.

3. Another kind sometimes used is *grey hat optimization*. This is in between black hat and white hat approaches where the methods used avoid the site being penalized however do not act in producing the best content for users, rather entirely focused on improving search engine rankings. It consists in adding a large number of catchwords in the text, often neglecting the layout, or automatic redirection from one web resource to another.

Our research consists in improvement of the website of applied linguistics department through reorganization of its semantic kernel using white hat and grey hat optimization techniques and meta-tags.

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## **SCHRITTHALTENDE ÜBUNGEN BEI DER ARBEIT MIT AUDIOVISUELLEN FORMEN IM DEUTSCHUNTERRICHT IN DER 8. KLASSE**

Eines der wichtigsten Probleme der Fremdsprachenunterrichtsgestaltung ist ziemlich beschränkte Möglichkeit der Kommunikation mit den Muttersprachlern und die Anwendung der Fertigkeiten der Umgangssprache außer der Schule. Um das oben erwähnte Problem zu lösen, benutzt der Lehrer verschiedene Lehrmethoden und Arbeitsweise, und eine davon ist die Arbeit mit dem Video.

Die Arbeit mit dem Video im Deutschunterricht hilft die Kenntnisse der Schüler zu verbessern und gibt die Möglichkeit alle 4 Arten der Sprachtätigkeiten (Hören, Lesen, Schreiben, Sprechen) zu aktivieren.

In der ausländischen didaktischen Literatur, insbesondere in den Werken von Karen Schramm geht es um die Anwendung des Videos einmal pro Woche oder mindestens einmal pro zwei Wochen [2, S. 178-183]. Der Unterricht mit dem Videoeinsatz für die Kinder der 8. Klasse dauert von 1 bis 6 Minuten.

Im Unterrichtsverlauf werden oft spezielle deutschsprachige Kurse, Videos, Audios u.d.ä. benutzt und wir haben ein Videofragment «KARLSRUHE: EINE STADT FEIERT GEBURTSTAG» aus der Internetseite «Deutsche Welle» gewählt. Man kann es in der 8. Klasse beim Erlernen des Themas «Deutschland» anwenden [3].

Man unterscheidet traditional drei Hauptetappen bei der Arbeit mit dem Video: vor dem Beginn der Schau, parallel mit der Schau und nach der Schau [1. c. 660-663].

Aufgrund dieser Klassifikation, behaupten wir, dass in der ersten Etappe werden die Übungen benutzt, die schon bekannte Kenntnisse aktivieren. Solche Übungen sollen sich auf die Kindererfahrung stützen. Die vorgeschlagene Übung wird zweckmäßig: *Karlsruhe ist 300 Jahre alt. Im Video kommen sehr viele Wörter vor, die man im 17. und 18. Jahrhundert verwendet hat. Welche Wörter können Synonyme sein? Ordnet zu. Benutzt, wenn nötig, ein Wörterbuch.*

Die nächste Etappe bei der Arbeit mit dem Video stützt sich auf unmittelbare Schau und die Übungen orientieren sich auf die Ansicht und das Verstehen des Videoinhalts. Zum Beispiel: *1. Achtet genau darauf, was passiert. Was ist im Video über die Stadt zu sehen. Wählt aus. Mehrere Antworten sind möglich; 2. Ergänzt die Lücken im Text mit den passenden Wörtern; 3. Mit welchem Wort kann man die Teilsätze verbinden? Wählt aus.*

In der letzten Etappe schlagen wir die kreativen Übungen vor: *1. Bereitet eine Projektarbeit zum Thema «Meine schöne Stadt» vor; 2. Schreibt einen Aufsatz zum Thema „Warum möchte ich Karlsruhe besuchen“, nehmt die Fragen zur Hilfe.*

Also, die Anwendung der Videomateriale kann für die Kinder den Verlauf der Informationswahrnehmung verbessern und auf diese Art können die Kenntnisse der Kinder erhöht werden. Wir sind fest davon überzeugt, dass die weitere Einführung der Videomateriale in den Lernprozess sehr erfolgsträchtig ist. Diese Ergebnisse könnten für Lehrer und Germanisten nützlich sein.

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### WHY SHOULD WEB DESIGN BE A PROFESSION?

The Internet is widely used to find some information, to buy necessary stuff without leaving home, to carry on business, to communicate with people despite the distance. All the above mentioned is provided by websites. The majority of these websites are created by website designers. The aim of this article is to show the attractiveness and advantages of the profession of a web designer.

What does a website designer do?

A website designer is often responsible for the layout, color scheme, and general design of a website. Designing a website is not just making it aesthetically pleasing. Skilled website designers must also make a website easy to navigate, so visitors can find exactly what they need as soon as possible. Website designers must also know how to help a website rank in a search engine and where to place advertisements so they are effective [1].

What kind of education does a website designer need?

There are no set education requirements to become a website designer, and some motivated individuals may be able to break into this field simply by learning

design and programming skills on their own. Website design is a rapidly growing and highly competitive industry, however, and successful website designers usually have at least a few years of post-secondary school [2].

A website designer needs to be artistic as well as computer savvy. Therefore, most website design degree programs focus on combining digital media courses with computer and web programming courses. At the very least, website designers should know basic web programming languages, particularly HTML and CSS, and graphics editors, for example Adobe Photoshop, CorelDraw.

We can find a lot of positive aspects in the profession of a web designer:

- the specialists having proper experience and qualification are required at the labour market;
- a web-design market gives wide opportunities of professional development;
- any design error can be corrected;
- it is possible to realize practically any idea without expenditures;
- a considerable salary.

A website designer's salary, however, is largely determined by his/her skills and working hours. This profession is the most highly sought and paid one on the Ukrainian labour market today [1].

Taking into consideration the advantages of the profession of a web designer and the prospects of its development in Ukraine and in the world, it is necessary to find resources for realization of the research activity in this sphere, the perfection of the educational process, organization of scientific exchange. It is also necessary to organize master classes and seminars by the best foreign designers and employees of the best foreign web design companies.

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## SOME PROBLEMS OF TOPOLOGY

Topology is a relatively young and the most abstract branch of modern mathematics that studies the ideas of continuity. In the XXI century, the century of rapid development of science and technology, the introduction of new technologies

into all spheres of public life, has become increasingly popular with people that have a tendency to unconventional thinking, able to set new, logical and complex tasks and solve them.

Elementary ideas of topology arise directly when observing the world around you. The first important observations and accurate topological correlations were found by L. Euler, K.-F. Gauss and B. Riman.

Topology is a branch of mathematics which studies properties of figures (or spaces), preserved by continuous deformations such as stretching, compression or bending. The main objects studied by topology are topological spaces. The main task of topology is to study topological properties of spaces, or topological invariants [1].

There are many various topological problems of different levels of complexity, solving them we use the basic concepts of topology, homeomorphisms and graphs, their properties and types.

One of the most interesting problems is that of the seven bridges of Konigsberg. The city of Konigsberg was located on the banks of the river Pregel. It was necessary to find a route through the city so that each bridge could be passed only once and one could not get on the island except over the bridge.

Solving it, Euler replaced each of the land areas by an abstract "vertex", and each bridge by an abstract "edge", which only served to reflect the combination of pairs of vertices (land masses) by the bridge. The mathematical structure received was called a graph (Fig.1).

Euler showed that the possibility to pass through the graph, passing each edge only once, depends on the degrees of vertices. The degree of a vertex is the number of edges that are tangent to it. Euler showed that a necessary condition for the walk of the desired species through the graph is the graph connectivity and the absence or presence of exactly two vertices of an odd degree. Further, if there are two vertices of an odd degree, the Euler way will begin in with one of the vertices and end in another. For the four vertices of an odd degree, the historical problem has no solution [2].

The solution of the seven bridges of Konigsberg problem marked the beginning of the development of graph theory and topology as a science.



Fig.1 Königsberg bridges and graph

The above mentioned solution to this problem is a large scientific event not only because it solved a very difficult math riddle, but also because it contributed to all fields of science and everyday life. The obtained solutions of the known tasks are widely used in physics, chemistry, biology, economy, informatics, medicine, etc. Topological tasks play significant role in the formation of logical deductive reasoning.

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## BILDUNG VON MOTIVATION UND VERHALTENSREAKTIONEN

*Aktualität:* Basierend auf der Forschungsergebnissen von Physiologen, die das limbische System des Gehirns untersuchen, kann man eine der wichtigsten physiologischen Eigenschaften vom menschlichen Gehirn betonen. Das ist die Bildung von Motivation und Verhaltensreaktionen, die heutzutage im Brennpunkt der Aufmerksamkeit von modernen Untersuchungen des Menschen stehen.

*Artikel zielt darauf ab,* das Forschungswesen festzulegen, ihre physiologischen Aspekte zu entdecken und die Verwendungsmöglichkeiten dieser Erfahrung im modernen Ausbildungssystem von jungen Menschen zu finden.

*Die Darstellung der grundlegenden Ideen:*

Wenn ein Tier in einer Zelle mit speziellen Hebel und Barrieren unterbracht wird, wird es früher oder später zufällig darauf drücken. Und wenn der Hebel an einer Elektrode verbunden ist und in einer bestimmten Zone des Gehirns (das Vergnügen) implantiert wird, dann wird solches Drücken die Reizung dieser Gehirnzone zur Folge haben, und das Tier wird ständig den Hebel drücken. Einige Tiere können sogar auf Essen und Trinken verzichten und drücken den Hebel bis völliger Erschöpfung. Zum Beispiel, die Ratten drücken den Hebel 5000 – 12000-mal pro Stunde, Affen – 17000 [1, 242]. Und umgekehrt, wenn die Elektrode in die „Unzufriedenheitszone“ implantiert wird, vermeiden die Tiere das Hebel drücken (d.h. Gegenreaktion) [2, 320].

Die Zonen, die zum Drücken fördern, befinden sich in der medialen Band vom Gehirns substanz, die sich von der Frontallappen der Hirnrinde durch den Hypothalamus und Mittelhirn hinziehen. Die Punkte, deren Reizung die Vermeidungsreaktion bewirkt, sind in dem Seitenabschnitt der hinteren Zone vom Hypothalamus.

Diese Zonen bilden ein einzelnes System. Es wird festgestellt, dass bei Ratten der rückfällige Hebel druck auf 35% des Gehirns bezogen ist und Vermeidungsreaktion nur auf 5%. Die Reizung von restlichen 60% sind indifferent [1, 242].

Es gibt Information über entsprechende Versuche mit dem Hebeldruck bei den Menschen mit chronisch implantierten Elektroden. Die meisten von ihnen sind die Kranken an Epilepsie oder Schizophrenie, und einige – mit Geschwülsten der inneren Organe und unerträglichen Schmerzen. Die Menschen drücken wiederholend den Hebel und als Folge haben Spaß, fühlen sich ruhig und entspannt. Diese Gefühle werden als "Freude" oder "Ekstase" sehr selten beschrieben; und einige Personen mit dem höchsten Selbststimulationsniveau konnten die Gründe des vielmaligen Drückens nicht erklären. Wenn die Elektroden in den Zonen waren, deren Reizung Vermeidung bewirkt, bestimmen die Personen ihr Zustand als eine breite Gefühlpalette: von Angst bis Entsetzen. Deswegen wurden die entsprechenden Gehirnsysteme als Belohnung, Vergnügen, Bestrafung oder Vermeidung genannt.

*Fazit:* Diese stimulierenden Gehirnsysteme sichern eine starke Motivation bei dem Lernprozess. Die Bewertung dieser Tatsachen ist wichtig für das Verständnis von Sucht, den klassischen Antriebsblockverhalten der Motivationstheorie für Schwächung und Stärkung der Lebenskraft[1, 242].

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### CONFORMAL MAPPINGS

The concept of conformal mappings applies to a number of the most important concepts of mathematics. It arose from physical representations and is an important addition to the various fields of physics – the method of conformal mappings help to solve practical problems of hydrodynamics and aerodynamics, the theory of elasticity, the theory of electrostatic, magnetic and thermal fields and others.

Conformal mapping is the transformation of geometric figures, which converts infinitely small figures parts into those of similar shapes. The theory of conformal mappings is closely connected with that of analytic functions of a complex variable. The analytical function being considered as a reflection determines

conformal mapping of the function to the area of its values. Conformal mappings are a geometric way of functions of a complex variable, as well as a graph of functions of a real variable is represented by its geometric "portrait".

When studying complex analysis we are confronted to conformal mapping as graphical images of analytic functions. Thus, the theory of conformal mappings is a significant element of mathematical education. It is included in all textbooks and books of the theory of analytic functions [1].

Much attention to the problem of conformal mappings was paid by Jean Le Ron D'alembert, Leonard Euler and Carl Friedrich Gauss. Based on their work, Bernhard Riemann in his dissertation "Foundations of the General theory of functions of a complex variable" (1851) initiated the beginning of geometrical theory of functions and proved (though incorrectly) the main theorem on the possible conformal mappings of arbitrary simply-connected regions. In his research B. Riemann, like L. Euler, used physical representations associated with conformal mappings.

Since the mid-nineteenth century, conformal mappings were widely used as mathematical apparatus for the study of continuum mechanics. N. Zhukovsky and S. Chaplign (hydrodynamics and aerodynamics), G. Kolosov and N. Muskhelishvili (theory of elasticity) contributed to the development of the practical application of the conformal mapping theory [2].

So, conformal mapping is quite a convenient mathematical apparatus for solving of problems of mathematical physics and applied mathematics.

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#### **IDEAS OF K. D. USHINSKIY ABOUT HUMAN PHYSICAL EDUCATION**

According to the National Doctrine of Education Development physical education is an integral part of upbringing, which is aimed to provide each person with the necessary scientifically based knowledge about health and the means of its

strengthening [1]. That's why developing the ways of implementation an effective system of physical education it is necessary not only to take into account international experience, but also to study domestic pedagogical heritage. Particularly important in this context is the pedagogical heritage of outstanding national teacher Konstantin Dmitrievich Ushinskiy, namely the ideas of physical education.

His pedagogical outlook and educational ideas are important, because we use them now, and even reopen his works and literature about him.

A.M. Okopnyy, a researcher of the national history of physical education, assumes that pedagogical principles of Ushinskiy significantly influenced the theory of physical education. No doubt, he can be considered the founder of the Ukrainian pedagogical theory of physical education [2, p. 16].

In the works "Educational program for special female classes", "Pedagogical tour through Switzerland", "Pedagogical notes about Switzerland," "Something about the first lessons at school", "Work in its psychological and educational meaning" K.D. Ushinskiy described the international experience of physical education, its values in the harmonious development of personality, defined effective forms and means of physical education.

In the preface to the work "Man as the subject of education" K.D. Ushinskiy determined the system of educational means. Nature, family, society, nation, religion and language are considered the most important means of education [3, p. 560]

In his writing "Work in its mental and educational significance" K.D. Ushinskiy outlined the main aspects of physical education and defined a system of physical education consisting of physical exercise (gymnastics, children's games), natural factors (sun, air, water), hygiene factors (hygiene of clothing, food, work, rest, sleep).

K.D. Ushinskiy investigated the problem of pupils' nutrition as a pedagogical one. In the book "Children's World" he included the information about nutrition, the importance of different food for the body, its amount, food timeliness, pedagogical rules about the quantity and quality of food [5, p. 618]. A necessary condition for rational schedule of the pupils' day is sleep. He rightly notes that "lack of sleep weakens the body and makes a person languid and lazy" [4, p. 520].

Analysis of Ushinskiy's papers leads to the conclusion that integrated use of a variety of means of physical education will assist to preserve health. Creative use of Ushinskiy's pedagogical ideas will help teachers to organize and implement the process of physical education in modern conditions.

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## **NEED FOR RECOGNITION IN ADOLESCENCE**

Adolescence ranges from the age of 13 to 19, and it can be considered a transitional phase from childhood to adulthood. However, the physical and psychological changes may begin earlier. Adolescence can be the time of confusion and discovery. Transition may raise questions of independence and identity; many teens and their peers are always faced with such concepts as sexuality, drugs, alcohol and social life.

Studying the characteristics of adolescent period one should take into account the peculiarities of leading activity of this period i.e. the communication in the system of socially useful activities. It has been established that the major one is motivation directed to the implementation of age requirements and the necessity of communication, recognition, self-assertion.

The theory of one of the founder of humanistic psychology, an American psychologist Maslow (1908-1970) is considered to be the most popular and widely used. The basic idea of Maslow's classification is the principle of relative priority of motives actualization. Maslow's hierarchical model of motivation consists of five levels.

1. Physiological needs – hunger, thirst, sexuality and so on.
2. The need for safety, security and protection from pain, fear, anger, insecurity.
3. The need for social relationships, the need for love, affection, socially attached identification.
4. Requirements of self-esteem, need for achievement, recognition, approval.
5. The need for self-realization of one's capabilities and abilities, need for understanding and comprehension.

In adolescence, the above mentioned needs play an important role. This level is realized by means of creative human activity seeking to reach their spiritual potential and trying to realize the potential of inherited opportunities and abilities.

Taking into consideration the above mentioned, we note that the need for recognition plays an important role in the mental development of a child. This need is manifested by efforts to establish themselves in their child's moral qualities. A child feels a constant need to turn to adults to assess the results of his/her activities and achievements. In this case, it is important to support the child because inattentive, disrespectful attitude of adults can lead to children's loss of confidence in their abilities. This idea is expressed in the works of many scientists (G.S. Abramova, P.P. Blonskyy, L.I. Bozovic, A. Skripchenko, L. Dolinsky, etc.).

Thus, the need for recognition in the structure of motivating teenagers to creative activity plays an important role in their socialization.

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### ZUM PROBLEM DES KOLLOKATIONSBEGRIFFS IN DER WISSENSCHAFTLICHEN LITERATUR

Das Interesse der internationalen Linguistik an Kollokationen als Forschungsgegenstand nimmt in den letzten fünfzig Jahren kontinuierlich zu, vor allem beim Fremdsprachenerwerb. Gute Fremdsprachenkenntnisse setzen nicht nur das Erlernen des Wortschatzes und der Grammatikregeln voraus. Sie verlangen auch die ständige fehlerfreie Verwendung der festen, gebräuchlichen und stets wiederholten Wortverbindungen einer Fremdsprache, also Kollokationen.

Viele Sprachwissenschaftler vor allem aus dem englisch- und deutschsprachigen Raum haben sich mit den Kollokationen beschäftigt (J.R. Firth, J. Sinclair, H. Bußmann, F.J. Hausmann, M. Benson, A. Cowie und andere). Im Rahmen dieses Artikels konzentrieren wir uns auf das Problem der Kollokationen und setzen uns zum Ziel die Deutung des Kollokationsbegriffs in der wissenschaftlichen Literatur zu betrachten.

Der Begriff „Kollokation“ wurde in den 50er Jahren des 20. Jhs im Rahmen des Britischen Kontextualismus von J.R. Firth geprägt. Er machte zwar diesen Begriff einer breiten linguistischen Öffentlichkeit zugänglich, aber man findet bei ihm keine klare Definition oder ausführliche Erörterung dieses Terminus. A. Lehr versteht die Kollokationen als Elemente des syntagmatischen Kontextes. [5, S. 22]. Für H. Bußmann ist die Kollokation eine „häufig auftretende Verbindung von Lexemen, deren gemeinsames Vorkommen auf einer Regelmäßigkeit gegenseitiger Erwartbarkeit beruht, also primär semantisch (nicht grammatisch) begründet ist: *Hund: bellen; dunkel: Nacht*“ [2, S. 345]. Sie geht vom sogenannten *statistischen Ansatz* aus, dem ein weit gefasstes Kollokationsverständnis zugrunde liegt.

Ein anderer wichtiger Ansatz zur Kollokationsforschung ist der *phraseologische Ansatz*, bei dem um semantische und syntaktische Vereinbarkeit von Lexemen in einer bestimmten Sprache geht. Die Hauptvertreter sind F.J. Hausmann, M. Benson und andere. Unter Kollokationen fasst F.J. Hausmann Verbindungen von Lexemen zusammen, deren Kombinationsfähigkeit eingeschränkt ist und deren Zusammensetzung „differenzierte semantische Regeln und zusätzliche Üblichkeit“ fordert [4]. Nach M. Benson dagegen bestehen die Kollokationen aus zwei gleichen lexikalischen Komponenten [4]. J. Bahns stellt mit seiner Definition des Terminus Kollokation zwei Ebenen der Sprachbeschreibung dar: „Einerseits wird Kollokation als Bezeichnung für eine bestimmte Kategorie von Zweierverbindungen von Lexemen benutzt. Andererseits wird dieser Begriff in einem abstrakteren Sinne verstanden als das Zusammenvorkommen linguistischer Elemente“ [1, S. 24].

Daraus lässt sich schließen, wie sich die verschiedenen Definitionen von Kollokationen zum Teil geradezu widersprechen. Es handelt sich um ein äußerst interessantes Phänomen, das extrem vielschichtig ist und deshalb zahlreiche sprachwissenschaftliche Teilbereiche tangiert.

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## **IMPORTANCE OF ENGLISH COMMUNICATION FOR ENGINEERING STUDENTS FROM RURAL AREAS AND ITS REMEDIES**

Communication is the life blood of all the organizations. Getting the work done in effective manner has become more important than having the most knowledge [1]. Employers give considerable value to graduates acquiring a diverse set of skills in different work environment. As the professional world becomes more diverse, competitive, and result-oriented, the importance of technical communication skills continues to increase. English is the official language of international business, air traffic control, shipping, United Nations Diplomacy, world banking, science and technology, academic research, space travel and global computing.

Education has multiplied the role of English language, because universities worldwide often use English as the common mode of learning and communication. English is an international language of the Constitute, the Supreme Court, the High Court, and official departments. Everybody has realized the importance of communication and therefore, they want to be a better communicator. It has left no field untouched: be it a medical, or engineering, Arts or Law, or even Sports or Music. In commerce or Business it has become a must. Lack of serviceable communication skills contributes to the low profile of engineering in general public. Employers give considerable value to graduates acquiring a diverse set of skills in different work environment. Besides analytical and problem solving skills, subject specific knowledge, research and improved decision making ability, management skills, understanding of other culture, confidence and competence to work in international environment are considered the most essential qualities for engineers. A more proactive and accessible style of communication can be more engaging for the people. Indeed oral skills, presentation skills are considered one of the best career enhancers and to the single biggest factor in determining a student's career success or failure.

The IT revolution and globalization of business have brought technical communication to the forefront of academia and industry [2]. With the whole world becoming the global market and businesses becoming diverse and result – oriented, professionals and technocrats are facing new challenges in communications every day. It is the possession of appropriate knowledge of a particular technical subject matter as well as the possession of highly sophisticated technical or professional skills. A success in this competitive environment depends

not just on acquiring knowledge and hard skills, but also on developing effective technical communication skills.

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### DEVELOPING INTELLECTUAL ABILITIES OF PRIMARY SCHOOL PUPILS THROUGH DIDACTIC GAMES

Among many factors that determine the level of material and cultural life in any country, intellectual potential achieved by this country occupies an important place. The historical experience of society proves that even states that are not very rich in natural resources, can reach high living standards, but they should possess the powerful intellectual potential which is ensured by the ability of mental activity and the development of creative inclinations of the individual.

The most important place in the school system belongs to elementary grades as a basic link in the development of intellectual and creative person. To create the conditions for stimulating young learners' intellectual activity, to improve the efficiency of the educational process through the development young learners' of intellectual abilities is an important task for teachers.

The development young learners' of intellectual abilities is based on specific mental operations [1, c. 2]. The process of thinking is a combination of various operations, the most important of which are analysis, synthesis, generalization, classification and systematization.

Games are universally considered to be effective means of attracting young learners' to learning activities is a game. Teachers should systematically use interesting tasks, such as puzzles, anagrams, board games and lotto in the educational process. It is necessary to include more tasks for developing of children's memory, attention span and logical thinking [1, c. 11].

Here are some examples of games aimed at improving the development of young learners' intellectual abilities.

#### 1. Game: «My Aunt Went to the City and Bought ... »

The teacher explains that pupils should complement the phrase: «My aunt went to town and bought...» with words naming school items and clothing.

Pupil 1: My aunt went to a to the city and bought a book.

Pupil 2: My aunt went to to the city and bought a book and a bag.

Pupil 3: My aunt went to to the city and bought a book, a bag and a ruler.

## **2. Game "Duty Letter"**

Pupils are to write as many words as possible in which the indicated letter stands in a particular position.

– *beginning with the letter "p"?, e.g. pen, pupil, pig;*

– *the second letter is "a"?, e.g. pan, table, bag;*

– *beginning with the letter "m"?, e.g. mouse, map, mother;*

– *ending with the letter "o"?, e.g. photo, two, lego.*

The increase of stimulating content of the educational material is an indispensable condition for the development of pupils' intellectual abilities. Intellectual games are to be based on pupils' interests, motives and wishes. They develop in pupils not only memory, concentration span and attention imagination imaginative and logical thinking building up confidence, patience, tolerance and other personal qualities [2]. Thus, intellectual games are not an entertainment, but excellent psychological training aimed at the development of different abilities, the emotional sphere, character and leadership traits.

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## **PSYCHOLOGICAL PECULIARITIES OF «SELF-IMAGE» OF NARCISSISTIC PEOPLE**

**The relevance of the scientific research** is due to the need to establish the specific «Self-image» in narcissistic people. It is important to solve their personal problems, interpersonal conflicts, problems of self and others.

The term "narcissism" goes back to the ancient philosophy, where it is first used in the legend of Narcissus, son of a river god. In the most famous interpretation the legend is described in the poem by the Roman poet Ovid's

"Metamorphoses." This is where from the concept of narcissism gains its lexical meaning as a character trait – " self-affection". It is this understanding of the term is spread in everyday life.

The scope of research interests included the concept due S. Freud's works, who considered narcissism an integral part of an individual from the birth. Freud was the first who studied the problem of narcissism in terms of the concept of "unconscious". Research problem of narcissistic personality and narcissistic behavior is open to debate, particularly in the most significant issues of psychological nature and essence of narcissism.

Today the concept of "narcissism" has no commonly accepted definition. This is the reason for active empirical and applied psychological research with the use of standardized procedures in different fields of psychology, including general psychology, personality psychology and clinical psychology, psychology of interpersonal relationships, developmental psychology.

At the present stage of this problem investigation, scholars emphasize that the problem of narcissism should be studied not only in terms of psychopathology and clinical practice, but also within the psychological norm. "Narcissistic disorder is difficult to diagnose for several reasons. In psychosocial practice, there are patients who do not follow standard psychological contact, do not develop the usual transfer reactions and their emotional disinterest greatly complicates therapist's work"(R. Frey). That's why the **practical value** of our investigation lies in the fact that the data identified in the study and psychological conclusions based on these data make the basis for programs development with in the psychotherapy to work with narcissistic personality type.

The theoretical analysis involves the study of leading psychological ideas about narcissism, definition and diagnostic criteria for narcissistic personality disorder, the study of classical and modern studies in psychoanalysis, narcissism.

People whose identity is organized around support of self-esteem by getting approval from others are often called narcissistic by the specialists. "Self-esteem" trauma can lead to the fact that any person temporary will behave as if narcissistic character is peculiar to him/her [3; c.70]. All types of personality structures include narcissistic function: they retain self-esteem by means of certain protections. But to be regarded as an individual of narcissistic character type, a person must possess lasting, automated and independent on situations patterns of perception and behavior.

Currently, the diagnosis of narcissistic personality is made too often, especially by psychodynamic clinicians. This concept is often applied incorrectly to people whose reactions are caused by the situation, as well as to psychopaths, depression, obsessive-compulsive and hysterical individuals. If someone suffers from narcissistic problems this is not the reason to call this man/woman a narcissistic personality.

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## **LEARNER'S ATTITUDE AND ITS IMPACT ON LANGUAGE LEARNING**

In India, English is not used only for the utilitarian purpose but also for the interpersonal and inter-institutional communication. It works as the Business Language as well as the Lingua Franca, which means that it is required to carry out the business and also to communicate with people of different cultures as India is a multi-cultural and multi-lingual country. A group of students was selected to pursue different undergraduate courses after secondary examination in Gujarat (a state in India). The study shows that in the present scenario the motivation to learn English by the target group is of instrumental kind [2]. Their aim is, of course, to pass their current examinations and then to appear for an interview for a job.

Books and other learning materials are easily available in English. With over 68,000 titles brought out annually, India is the third largest publisher of books in English, after only the USA and Britain. While the paper discusses learner's attitude it also highlights the teacher's approach and methodology to teach the pre-designed curriculum. Proficiency in English Language can only make you successful – this is the belief spreading all over giving rise to the study of the learners' needs from the grass root level [1].

Teachers' attitude plays an important role in the present context. In the professional courses, the teachers' have changed their role from being the controller of the class to the facilitator [3]. Today learners want English Language Teaching to be customized according to their needs. In Gujarat State Board schools, English gets the status of L2 or L3 as Sanskrit is also taught alongwith Hindi. Sanskrit is introduced in class VIII and Hindi is introduced in class V. In 2007, a change in the curriculum has been introduced and now English is being introduced from class V as a main subject in state board schools. All rural areas are

covered with these state board schools as providing education to all sections of the society is one of the primary responsibilities of the government. These schools teach the largest number of students in Asia. Pursuing a pre-designed syllabus does not always satisfy their needs. The attempt to study the impact of teaching English upon the students in schools pursuing curriculum of different boards and compare their learning outcome a study of the behaviourist school and cognitivist school has been taken up.

While the behaviourist school propagates that language can be learnt by imitation and habit formation, the cognitivist school suggests that human beings do not always speak what they are taught, they also speak more or less. “Parental encouragement” and “communication with teachers” in schools providing English speaking environment and communication with the English speaking peer group are some of the external factors at the school level which motivate students learn English at faster pace. Their anxiety level is high whenever they are asked to read, write or speak English. This results in slow learning or in no learning. The paper also studies the sociolinguistic factors responsible for their attitude towards language learning.

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### USING OF FIBONACCI SEQUENCE

The subject of the article is the analysis of the Fibonacci sequence as an object of mathematical theory. Archimedes, I. Tytsyus, Johann Goethe and many other prominent thinkers and scientists paid much attention to studying of Fibonacci sequence.

Named after Fibonacci, also known as Leonardo of Pisa or Leonardo Pisano, Fibonacci numbers were first introduced in his «Liber abaci» in 1202. The son of a

Pisan merchant, Fibonacci traveled widely and traded extensively. Math was incredibly important to those in the trading industry, and his passion for numbers was cultivated in his youth [2].

The Fibonacci sequence is a series of numbers, where a number is found by adding up the two numbers before it. Starting with 0 and 1, the sequence goes 0, 1, 1, 2, 3, 5, 8, 13, 21, 34 and so forth. Written as a rule, the expression is  $x_n = x_{n-1} + x_{n-2}$ .

Fibonacci first noted the sequence when pondering a mathematical problem about rabbit breeding. Beginning with a male and female rabbit, how many pairs of rabbits could be born in a year? The problem assumes the following conditions:

1. Begin with one male rabbit and female rabbit that have just been born.
2. Rabbits reach sexual maturity after one month.
3. The gestation period of a rabbit is one month.
4. After reaching sexual maturity, female rabbits give birth every month.
5. A female rabbit gives birth to one male rabbit and one female rabbit.
6. Rabbits do not die.

This is best understood in the diagram.

This continues until a year has passed, in which there will be 233 pairs of rabbits [1].

Though the rabbit question may pose completely unrealistic conditions, Fibonacci numbers do actually appear in nature, from sunflowers to hurricanes and galaxies. Sunflower seeds, for example, are arranged in a Fibonacci spiral, keeping the seeds uniformly distributed no matter how large the seed head may be.

A Fibonacci spiral is a series of connected quarter-circles drawn inside an array of squared with F-numbers for dimensions. The squares fit perfectly together because of the nature of the sequence, where the next number is equal to the sum of the two before it. Any two successive F-numbers have a ratio very close to the Golden Ratio, which is roughly 1.618034. The larger the pair of Fibonacci numbers is, the closer is the approximation. The spiral and resulting rectangle are known as the Golden Ratio [3].

The Golden Ratio is denoted by the Greek letter phi. Greek architects used the ratio 1: phi as an integral part of their designs, including the Parthenon in Athens. Though this was not consciously used by Greeks or artists, the Golden Rectangle does appear in the Mona Lisa and other Renaissance art works. Phi is also the ratio of the side of the regular pentagon to its diagonal. The resulting pentagram forms a star, which is the star seen of many flags [1].

Our further research will be devoted to more detailed studies of using of Fibonacci numbers in trading.

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## **SPECIFIC FEATURES OF BRITISH SPOKEN ETIQUETTE**

The processes of globalization in the XXI century bring international communication to a totally new level. Therefore, knowledge of the characteristics of the national etiquette of the country-interlocutor is extremely important in the process of intercultural communication.

Britain is known around the world as a country with an impeccable commitment to culture and traditions. English etiquette is characterized with the constant manifestation of such qualities as courtesy, calmness and tolerance.

Most often, to attract attention of other people following forms are used: “Excuse me”, “Pardon me”, “I say!”, “Say”, “Look here!”, “Hi!” and “Hey!” etc.

In case when an appeal to the stranger separates tears him from his work, or interrupts the conversation with other people “Pardon me” or “I beg your pardon” are typically used. The British use the expression “Look here!” before expressing their protests, discontent, reproach, etc. The most universal common formula which is used when referring to a person unfamiliar to you with a question or asking for help, is the phrase “Excuse me”. For example, “Excuse me, could you please tell me” or “Excuse me, would you be so kind to”.

To attract the attention of a stranger, who is far away enough, it is possible to use the phrase: “I say” or “Say” (Послушайте!). Sometimes it is possible to use a stylistically-reduced forms of “Hi!” or “Hey!” (Эй!).

English spoken etiquette is characterized by clearly limited time frames in respect of greetings: “Good morning!” (till 12.00 a.m.), “Good afternoon!” (12 a.m. – 3 p.m.), “Good evening!” (after 5 p.m.). The expression “Good night” in English is not a greeting, by farewell expression, which has no time limits. Shorten forms of “Morning!”, “Evening!”, “Hiya!” and “Afternoon!” are used to communicate with friends or familiar people. The expression “Hi, you” (Hello, how are you?) is considered to be a slang form, which is mainly used by teenagers. But the phrase “How do you do?” as a greeting can now be heard only among the older generation [2].

It is necessary to point out that writing a letter, even any official one the above listed greetings are not used, because the sender does not know exactly when the addressee opens it, so the following greeting is used: “Dear, ...”.

One of the prominent features of the English spoken etiquette is the continual expression of gratitude. The most frequently used word is “Please”. It helps to bring a sense of mutual respect and goodwill into interpersonal communication. A typical response to it is the word “Welcome”.

English spoken etiquette prescribes the rejection of a sharp tone while talking. Even a slightest increase in the tone of conversation is regarded by the British as a provocation of scandal. The only case when it is permitted is a scandalous violation of socially accepted norms of behavior by the opponent.

As for the farewells, the most frequently used phrases are “Good bye”, “Bye”, “Have a good day”, “Keep in touch”, “I’m out!”, “Remember me to your wife / husband”. The most universal forms of farewell, applicable for almost any situation, are the “Good bye” and “Bye”. Making farewells, the British try to mitigate the possible categorization of this formula by appropriate intonation design, expressions of gratitude, regretting the fact that they have to go and so on. “Well, mustn’t keep you...”, “Goodbye, must dash / fly / be going”, “Have a good day”.

“Keep in touch” form used when one is exactly sure that they will not see the interlocutor for some time. Literally it is translated as “оставайся на связи”, i.e. “не пропадай”. “I’m out!” is a form of farewell with a subtext, which implies that you are happy to leave. Into the Russian language the phrase can be translated as “я сматываюсь”. “Remember me to your wife / husband” (Передайте от меня привет вашей жене/мужу) is used by the representatives of the older generation.

There is no exaggeration to say that the English speech etiquette (like speech etiquette of any other language) is one of the components of great art of making people appreciate you. Therefore, language learning requires a deep study of etiquette.

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## **THE MAGICAL NUMBER PI**

The mathematical constant  $\pi$  is called the number which has its secrets and hidden meanings by many members of the scientific community. If you look at a number of historical studies, it can be said, that scientists of all time, paid a lot of attention to this number.

It is a well-known fact, that pi is the ratio of the circumference of a circle to its diameter. It should be mentioned, that a number of interesting and amazing facts about pi exists.

1. Pi ( $\pi$ ) is the most recognized mathematical constant in the world, that has been known for almost 4000 years. Its value is the ratio of any circle's circumference to its diameter in Euclidean space or the ratio of a circle's area to the square of its radius. The value of pi is approximately equal to 3.14159265, but it is an irrational number and its decimal representation never ends or repeats.
2. The symbol for pi ( $\pi$ ) has been used regularly in its mathematical sense only for the past 250 years.
3. Both  $\pi$  and the letter  $p$  are the sixteenth letter in the Greek and English alphabets, respectively [3].
4. Egyptologists and the followers of mysticism have been fascinated for centuries by the fact that the Great Pyramid at Giza seems to approximate pi. The vertical height of the pyramid has the same relationship to the perimeter of its base as the radius of a circle has to its circumference.
5. If the circumference of the earth were calculated using  $\pi$  rounded to only the ninth decimal place, an error of no more than one quarter of an inch in 25,000 miles would result.
6. A mysterious 2008 crop circle in Britain shows a coded image representing the first 10 digits of pi [5].
7. For the first time, the scientists have discovered a classic formula for pi in the world of quantum physics. Now the scientists have also found it "lurking" in the world of physics, when using quantum mechanics to compare the energy levels of a hydrogen atom.
8. The father of calculus Isaac Newton calculated pi to at least 16 decimal places.
9. In 1995, Hiroyoki Gotu memorized 42,195 places of pi.
10. In 2002, a Japanese scientist found 1.24 trillion digits of pi using a powerful computer called the Hitachi SR 8000, breaking all previous records.

11. The world record the value of pi was set by Chao Lu from China in 2005. He correctly recited from memory its first 67,890 digits. It took him 24 hours and four seconds at a rate of 47 digits a minute without food or toilet breaks. He had planned to recite 93,000 digits but made a mistake at the 67,891st [7].
12. The first million decimal places of pi consist of 99,959 zeros, 99,758 1s, 100,026 2s, 100,229 3s, 100,230 4s, 100,359 5s, 99,548 6s, 99,800 7s, 99,985 8s, and 100,106 9s.
13. The first 144 digits of pi add up to 666 (which many scholars call it “the mark of the Beast”). And  $144 = (6+6) \times (6+6)$  [1].
14. The Feynman Point is the first place where 6 9s occur in  $\pi$ . This happens at digit 762, which is much sooner than expected.
15. If you were to print 1 billion decimal values of pi in ordinary font it would stretch from New York City to Kansas.
16. Leonardo da Vinci (1452-1519) and Albrecht Durer (1471-1528) both briefly worked on “squaring the circle,” or approximating pi [6].
17. A Givenchy men’s cologne named Pi is marketed as highlighting the appeal of intelligent and visionary men.
18. «Pi Day» is celebrated on March 14 (which was chosen because it resembles 3.14). The official celebration begins at 1:59 p.m., to make an appropriate 3.14159 combined with the date [2].
19. Albert Einstein was born on Pi Day (3/14/1879) in Ulm Wurttemberg, Germany.
20. If you write 3.14 on a piece of paper and hold it in front of the mirror, it will say PIE [4].

It can be said, that interesting facts about pi don’t stop there and it is thought, that pi is the most recognized mathematical constant in the world.

So, the scientists believe, that pi is the most important and intriguing number in all of mathematics.

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## **ERZIEHUNGSZIELE UND –PRINZIPIEN VON PESTALOZZI.**

Johann Heinrich Pestalozzi ist wohl die bekannteste, größte Erziehergestalt des deutschsprachigen Raumes. Im Verlaufe seines einundachtzigjährigen Lebens hat er uns ein umfangreiches Schrifttum überlassen – 28 dicke Bände umfassen seine «Sämtlichen Werke», hinzu kommen noch 13 Bände der von ihm verfassten Briefe. Pestalozzi ist «der» Klassiker der Pädagogik, an dem kein Weg vorbeiführt. Alle großen pädagogischen Themen finden wir bei ihm wieder: die Frage nach dem Menschen, die Ausdifferenzierung des Verhältnisses von kindlicher Selbstentwicklung und Notwendigkeit des erzieherischen Eingreifens, die Bestimmung der Beziehung von Erziehung und Politik, die Erarbeitung eines differenzierten Erziehungsbegriffs, der nach den Zielen und Methodenpädagogischer Beeinflussung fragt.

Für Pestalozzi ist das Ziel jeglicher Erziehung der sittliche Mensch. Er nennt drei Bereiche einer sittlichen Erziehung: *1. Sittliche Gemütsstimmung. 2. Übungen der Selbstüberwindung. 3. Vorstellungen und Begriffe von Recht und Pflicht.* Nach Pestalozzis Überzeugung liegen die Voraussetzungen zu einer sittlichen Lebensgestaltung in der Natur des Menschen.

Grundlegend für die gesunde Entwicklung des Kindes ist nach Pestalozzi die Mutter-Kind-Beziehung. Die drei sittlichen Grundgefühle entwickeln sich im Kinde nur dann optimal, wenn die Mutter dessen natürliche Bedürfnisse in einer Atmosphäre liebender Geborgenheit befriedigt. Dies alles ist nur möglich in der Grundgestimmtheit der Ruhe. So schreibt er in seinem letzten grossen Werk, im «Schwanengesang» (1826): «Das Wesen der Menschlichkeit entfaltet sich nur in der Ruhe».

Nach Pestalozzis Überzeugung muss sich im Kind parallel zu den drei sittlichen Grundgefühlen der Liebe, des Vertrauens und der Dankbarkeit der Gehorsam entwickeln. Dabei hat der natürliche kindliche Gehorsam nichts mit Unterdrückung zu tun, sondern ist im Gegenteil die Grundlage der Freiheit.

Pestalozzi beschreibt das Ziel des Erziehungsversuchs als Unterstützung der Selbständigkeit der armen Kinder. Dies bedeutet konkret: *die Kinder müssen in der Zukunft arbeitsfähig sein*, um sich und ihre Familie durch ihrer eigenen Hände Arbeit ernähren zu können; *die Kinder müssen ein richtiges Wissen erwerben*, um

sich in der Welt orientieren zu können; *die Kinder müssen vor allem sittlich gebildet werden*, um als Mensch leben zu können. Aus dieser Zielsetzung ergeben sich eine Reihe von pädagogischen Prinzipien. Zunächst: die Erziehung muss sich auf die soziale Situation beziehen, aus der die Kinder kommen, und in der sie leben werden. Zweitens muss die professionelle Erziehung auf den Prinzipien der familiären beruhen. Drittens schließlich muss in der Erziehung der armen Kinder Arbeit und Lernen miteinander verbunden werden. Ziel der Arbeitserziehung ist nicht der ökonomische Gewinn durch Kinderarbeit, sondern die Vorbereitung der Kinder auf eine zukünftige Berufstätigkeit, um sich selbständig ernähren zu können.

In seinen Erziehungsplänen projizierte er, dass Betreuung, Erziehung und Arbeit sollten verbunden und die Kinder der Ärmsten so auf ein menschenwürdiges Leben vorbereiten werden. Sein Ziel war die Entwicklung einer neuen Unterrichtsmethode. Zu diesem Thema schrieb er «Wie Gertrud ihre Kinder lehrt» und wurde somit zum großen Erzieher und Reformator der Volksschule seiner Zeit. Das neue Werk machte ihn zum berühmten Erzieher und Reformator der Volksschule.

Grundlegende Ideen Johanns Heinrichs sind Bestandteil unseres Schulalltags, so z.B., dass die Anschauung einen unverzichtbaren Platz im Prozess der Bildung und Erziehung hat. Wir gehen von der Erkenntnis aus, dass nur dann effektiv gelehrt und gelernt werden kann wenn Theorie und Praxis eine untrennbare Einheit bilden. Mit seiner «Elementarmethode» erschloss er Gesetzmäßigkeiten vom Einfachen zum Komplizierten.

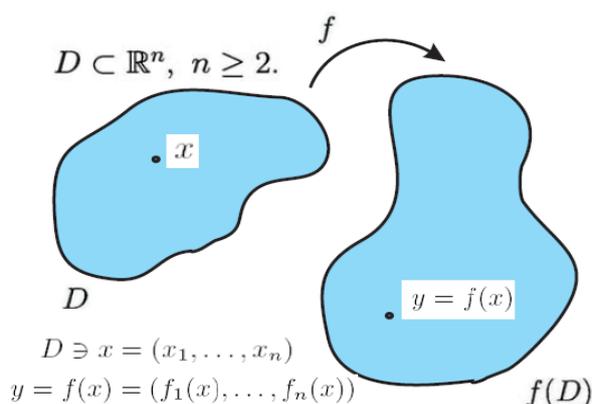
Er war schon zu Lebzeiten ein weltweit bekannter und berühmter Mann. Auf der Grundlage seiner Ideen entstanden «Pestalozzi-Schulen». «Parteiisch fürs Volk» nannte Pestalozzi seine Grundhaltung.

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## THE CONCEPT AND EXAMPLES OF RING Q-MAPPINGS AND (P;Q)-MAPPINGS

The paper is devoted to some particular classes of mappings. They have been little studied before.



Picture 1. A mapping  $f$  which is defined in a domain  $D$

Let there be a domain in  $\mathbb{R}^n, n \geq 2$ . Denote  $\overline{\mathbb{R}^n} = \mathbb{R}^n \cup \{\infty\}$ . We suppose that  $f: D \rightarrow \overline{\mathbb{R}^n}$  is continuous in  $D$

$$x = (x_1, \dots, x_n) \rightarrow f(x) = (f_1(x), \dots, f_n(x))$$

A curve  $\gamma$  is said to be a continuous mapping of  $[a, b]$  (or, correspondingly,  $(a, b), [a, b), (a, b]$ ) in  $\mathbb{R}^n, \gamma: [a; b] \rightarrow \mathbb{R}^n$ . A family  $\Gamma$  of curves is a set (collection) of curves  $\gamma$  and  $f(\Gamma) = \{f \circ \gamma | \gamma \in \Gamma\}$ .

Given  $p \geq 1, p$  – modul of the family  $\Gamma$  of curves  $\gamma$  is

where a Borel function  $\rho: \mathbb{R}^n \rightarrow [0, \infty]$  is admissible for  $\Gamma$ , write  $\rho \in \text{adm } \Gamma$ .

$$M_p(\Gamma) = \inf_{\rho \in \text{adm } \Gamma} \int_{\mathbb{R}^n} \rho^p(x) \, dm(x) \quad [2]$$

By  $\int_{\gamma} \rho(x) |dx| \geq 1 \quad \forall \gamma \in \Gamma$ .  $\Gamma(E, F, D)$  we define a family of all curves  $\gamma: [a; b] \rightarrow \overline{\mathbb{R}^n}: \gamma(a) \in E, \gamma(b) \in F, \gamma(t) \in D$ .

Let  $x_0 \in D,$

$$A(r_1, r_2, x_0) := \left\{ x \in \mathbb{R}^n: \left. \begin{array}{l} r_1 < |x - x_0| < r_2 \end{array} \right\}$$

$$S_i = S(x_0, r_i) = \{x \in \mathbb{R}^n: |x - x_0| = r_i\}, i = 1, 2$$

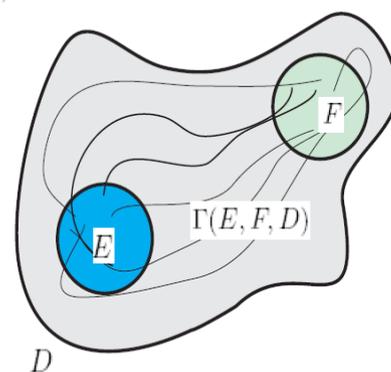
[1]

$Q: D \rightarrow [0, \infty]$  be a Lebesgue measurable function. A mapping  $f: D \rightarrow \overline{\mathbb{R}^n}$  (or  $f: D \setminus \{x_0\} \rightarrow \overline{\mathbb{R}^n}$ ) is said to be

$M_p(f(\Gamma(S_1, S_2, A))) \leq \int Q(x) \cdot \eta^p(|x - x_0|) \, dm(x)$  ring  $(p; Q)$ -mapping at the point

$x_0$  if and only if  $\int_{r_1}^A \eta(r) \, dr \geq 1$

$$E, F \subset \overline{\mathbb{R}^n}$$



Picture 2. Curve family connecting two sets  $E$  and  $F$  in  $D$

$\forall A = A(r_1, r_2, x_0)$ ,

$0 < r_1 < r_2 < r_0 = \text{dist}(x_0, \partial D)$ ,  $\eta: (r_1, r_2) \rightarrow [0; \infty]$  and

**Example 1.** The mapping  $g: R^n \rightarrow \overline{R^n}$ ,  $g(x) = \frac{x}{|x|} \log \frac{1}{|x|}$

is a ring Q-mapping at every point  $x_0 \in R^n$  with  $Q(x) = \log^{n-1} \frac{1}{|x|}$ .

**Example 2.** The mapping  $f: R^n \rightarrow \overline{R^n}$ ,  $n \geq 3$ ,  $f(x) = \frac{x}{|x|} \exp \left\{ \frac{n-1}{n-2} \log^{n-1} \left( \frac{1}{|x|} \right) \right\}$

is a ring Q-mapping at every point  $x_0 \in R^n$  with  $Q(x) = \log \frac{1}{|x|}$ .

So, the article proved that little attention has been paid ring Q-mappings and (p;Q)-mappings as particular classes of mappings before, worth being investigated.

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### MOTIVATION AS A FACTOR OF TEENAGERS' CREATIVE ACTIVITY

The aim of this abstract is to study creativity as a phenomenon of human activity and animal behavior.

Creativity is the activity that results in the creation of new material and spiritual values. Creativity is a cultural phenomenon, as well as a psychological aspect: the personal and procedural one. This implies that a personality possesses a set of abilities, motives, knowledge and skills, you should pay attention to the fact that creativity, above all, implies the existence of abilities. The individual and psychological peculiarities of a person contribute to the successful fulfilment of a given activity and do not mean only knowledge, abilities and skills.

Every activity, including the creative one has a motivation element that pushes a person to perform this activity. There are the impulses that cause the activity of the organism and determine its orientation.

A number of motives take part in the formation of human activities. Only one of them is the leading motive and the others are subordinate, secondary, which are used for extra stimulation. Leading motives determine the subjective sphere of human activities. The hierarchy of motives also characterizes the motivational sphere. Some motives are stronger than others and occur more often; others are weaker and occur less frequently. The greater is the force and frequency of motivational formations occurrence at certain level, the higher is the hierarchy of the motivational sphere.

Motivation can be both external and internal. External environment focused on supporting children in their activities and autonomy will enhance their intrinsic motivation and tendency to compete. An important indicator of intrinsic motivation is a sense of competence, which depends on the way of organizing activities. In the case of the imposed choice of activities is the job give tasks may seem to be too complex.

Motivational trends of the success achievement and failure avoidance sometimes cause teenagers to creative activity. Teenagers age Peculiarities are the sense of maturity, perfectionism and other. They have a high level of aspiration and wish to realize themselves and their creative potential. Motivation is the main factor of socialization of teenagers.

So motivation is a factor of the development of a teenager, as well as his abilities and creativity.

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## **TECHNOLOGIES AND DEVELOPMENT PROSPECTS OF VIRTUAL REALITY**

Last 70 years can be safely called the information era, the era of the birth and computers formation. The current stage of information development and communication technologies is characterized by the expansion of opportunities for everyone to receive information and to pass it and to have free access to the knowledge.

Large computerization has changed the minds of everyone. Increasingly, communication in the real world is replaced by a virtual communication and the process of learning has become remote.

Virtual reality is an artificial environment that is created with software and presented to the user in such a way that the user suspends belief and accepts it as a real environment. On a computer, virtual reality is primarily experienced through two of the five senses: sight and sound. The simplest form of virtual reality is a 3-D image that can be explored interactively at a personal computer, usually by manipulating keys or the mouse so that the content of the image moves in some direction or zooms in or out. More sophisticated efforts involve such approaches as wrap-around display screens, actual rooms augmented with wearable computers, and haptics – devices that let you feel the display images.

Virtual reality can be divided into:

- The simulation of a real environment for training and education.
- The development of an imagined environment for a game or interactive story.

VRML (Virtual Reality Modeling Language) is a language for describing three-dimensional (3-D) image sequences and possible user interactions to go with them. Using VRML, you can build a sequence of visual images into Web settings with which a user can interact by viewing, moving, rotating, and otherwise interacting with an apparently 3-D scene. For example, you can view a room and use controllers to move the room as you would experience it if you were walking through it in real space.

To view a VRML file, you need a VRML viewer or browser, which can be a plug-in for a Web browser you already have. Among viewers you can download for the Windows platforms are blaxxun's CC Pro, Platinum's Cosmo Player or Fountain in my case Cortona 3D.

360-degree VR (360-degree virtual reality) is an audiovisual simulation of an altered, augmented or substituted environment that surrounds the user, allowing them to look around them in all directions, just as they can in real life.

360-degree VR can be used for many purposes different from entertainment. The virtual reality technology can be used in most kinds of training that involve a physical environment, including pilot and driver training (as well as actual piloting or driving), surgery, and undersea and space exploration via remote-control robots.

There is a number of types of 360-degree VR, including live and previously captured video or real-time, real-time rendered 3D games, and pre-rendered computer graphics imagery (CGI).

Currently available 360-degree VR consumer systems include Oculus Rift, Morpheus, HoloLens and Vive & Gear.

Analyzing the above, we can conclude that science has made great strides forward in the practice of virtual worlds and reached a high level in the development of devices that reproduce them. It can be predicted that the future of virtual reality technology will become an integral part of society and will be used in various fields of human activities.

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### THE HISTORY OF THE HYPERCOMPLEX NUMBER

Hypercomplex numbers are composite numbers that allow simplifying the mathematical description of certain problems. They are used in signal processing, computer graphics, relativistic kinematics, orbital mechanics, air and space flight. The author came across hypercomplex numbers in accelerator physics, where they can be used to describe symplectic transformations. Hypercomplex numbers come

along with matrix representations that reproduce the laws of addition and multiplication.

The hypercomplex numerical system is the extension of complex numbers.

The study of the above mentioned extensions is a new scientific and practical direction their development it caused serious difficulties and demanded the effort of leading experts [1].

In the nineteenth century the numeric systems called quaternions, tessarines, coquaternions, biquaternions and octonions became established concepts in mathematical literature, added to the real and complex numbers. The concept of a hypercomplex number covered them all, and called for a discipline to explain them.

Quaternions were discovered by William Rowan Hamilton in 1843. Hamilton was looking for ways of extending complex numbers (which can be viewed as points on a plane) to higher spatial dimension. He could not do so for 3 dimensions, but 4 dimensions produced quaternions. According to the story he told, he was out walking one day with his wife when the solution in the form of equation  $i^2 = j^2 = k^2 = ijk = -1$  suddenly came into his mind; he then promptly carved this equation into the side of nearby Brougham bridge (now called Broom Bridge) in Dublin.

Quaternions have been discovered by Hamilton after 10 years of research of possible fields of triples or quadruples.

The invention of the quaternion numbers has contributed to the creation of a number of important sections of modern mathematics, particularly matrix theory, multidimensional geometry and others. The quaternions have been successfully used in the theory of numbers, theoretical mechanics and theoretical physics [2].

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## **THE INTERNET OF THINGS**

Imagine a situation where all appliances "know" each other and cooperate closely in order to benefit their owners. Devices equipped by artificial intelligence, helping their owners in everyday life, simplify and make their life comfortable. It is not a myth or a fiction, it is the newest concept called "The Internet of Things."

The Internet of Things is the concept of communication network of physical or virtual objects ("things") that have the technology to interact with each other and with the environment, but can also perform certain actions without human intervention.

The main idea of the concept is the following: all household items, products, components of manufacturing processes, all the devices in your home, in the car, on you etc., have been equipped with built-in computers and sensors able to process information coming from the environment, share it and perform different actions depending on the received information.

This will give users a lot of opportunities: washing machines operated from the office; refrigerators sending emails that the orange juice is over; cars driven without the aid of people; devices entertaining pets in the absence of the owners; ovens remembering the hundreds of recipes and a lot of other amazing concepts and startups.

The Internet of Things can be divided into three segments: mobile, consumer and industrial ones. That is, each of these categories brings together devices of an industry by organizing a certain network of devices performing the same task.

The Internet of Things can cause huge changes in everyday life, giving ordinary users a whole new level of comfort. But the elements of such a system should be adequately protected from unauthorized interference using reliable encryption algorithm. Otherwise, they can bring harm, giving cybercriminals a loophole to undermine information security. As soon as the computer is connected to the network, other people can establish control over it and the device will continue to dutifully carry out their instructions. And since things with embedded computer stores a lot of information about their owner, including exact location, access to such devices could allow an attacker to commit a crime.

Thus the described concept with further development and integration into the daily life of users, as well as further conglomerates of computer industry investing has a great future. Implementing original ideas, humanity will get a new level of life. But among the many advantages there are some significant shortcomings. One of the worst is the possibility of unauthorized access to devices and their resources.

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## ZHYTOMYR RUSSIAN-LANGUAGE LITERARY ASSOCIATIONS IN THE LATE 20<sup>TH</sup> - BEGINNING OF THE 21<sup>ST</sup> CENTURY

The Zhytomyr Russian-language poetry is one of the brightest phenomena in the post-Soviet Ukraine. A huge role in its development was played by the emergence of Associations “Nadezhda” and “Az Esm” in the late XX<sup>th</sup>.

The novelty of our study lies in the fact that, for the first time, peculiarities of the Zhytomyr Russian-language-written poetry at the present stage of its development have been researched at the level of the regional literary process.

In the late 70's – early 80's of the 20<sup>th</sup> century the development of the Russian-language literature in the Soviet Union significantly changed. Poetry accepted for publication and displayed for the public attention was based on the principles of socialist realism as a leading literary method. Social thinking of that period was formed in accordance with the myths that were propagandised at the time.

The Zhytomyr Russian-language poetry at that time-period was developing under the influence of these very factors. In 1978, Rufim Karlovic Vazhinsky organized in Zhytomyr a literary association “Nadezhda”. 1978–1984 was the most productive period in the creative activity of “Nadezhda”. Despite all the difficulties with the publication, the students released more than fifty pages of literary works in various publications. In general, poetic pieces created by the participants of the literary association may be characterized by individuality, lack of sharp conflict, prevailing of civil motive in poetry. While analysing the main trends of the development of the Russian-language poetry in the city of Zhytomyr at the time, we can see how among people separated from society under constraints of a military school there appeared free-thinking individuals with their own internal problems.

Starting from the second half of the 1980's human thinking began to change. There came the epoch of postmodernism. The members of the “Nadezhda” association whose creative manner was based on the classic patterns were going

through hard times. This led to the fact that by the early '90s the literary association had ceased to exist, and together with it an entire era of social realism had gone.

After the breakup of the Soviet Union, there came a period of an oversaturation with information and the loss of literature-centrism.

In 1995, in Zhytomyr was founded a new association of the Russian-language poets "Az Esm". The basic concept of the Association became and still is absence of a distinguished leader, but only recognition of the initiator of the association, because "to guide creative people is impossible and unnecessary." Each participant is a creative person, and the full name of the association speaks about it: "Az Esm. I am. I am the man. I am a creative person" The main purpose of the association is to support the work of the talented authors writing in the Russian language.

Each participant of the literary association is not similar to another and is interesting by him/herself. So, poetry of Svetlana Pavlova is different from the poetry of Oksana Naumenko. Vladimir Belozersky is different from Sergei Dunev. Sergey Ship gravitates toward philosophical lyrics. Social significance is manifested in the works of Vladimir Zubkov. At the same time all are united by a subtle sense of the essence of the poetic craft [1, p. 41-42].

For practical support of writers, from 2004 to 2008, the association was publishing a literary and art magazine "Kovcheg". The main artistic and aesthetic goal of the magazine is the salvation of spirituality and culture of language, and its strategy is to give talented Russian-speaking poets an opportunity to speak up.

Today, Association "Az Esm" has released 15 issues of literary and art magazine "Kovcheg", the library of "Kovcheg", which includes 56 books of different genres, and 3 collective books of poetry. For Zhytomyr, poetic literary and art magazine "The Ark" presents a powerful platform that has contributed to a wider and deeper spread of the Russian-speaking segment of our national poetry.

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## STRUCTURE OF MALACOLOGICAL COMPLEXES OF THE TETERIV RIVER IN CHUDNIV DISTRICT

Teteriv is the river in Ukraine, it flows through the Dnieper Hills and Polissia. Teteriv is the right tributary of the Dnieper River and falls into Kyiv reservoir. The

length of the river is 385 km, basin area is 15300 km<sup>2</sup>. It flows within the boundaries of Chudniv, Romaniv, Zhytomyr, Korostyshiv, Radomishl districts of Zhytomyr region and Ivankiv district of Kyiv region. The bottom of the river is mostly sandy, in some places – rocky, with clay-sandy reaches. There are several reservoirs built on the Teteriv River [1].

The aim of the research is to study features of species diversity and population structure of malacological complexes of the Teteriv River (Chudniv district). The material for this paper is based on my own shellfishes research [4].

Shellfishes or invertebrates form a separate type of animals which take their origin from annelid worms. Shellfishes are mostly aquatic animals and are very seldom land ones [3].

Bivalves (Bivalvia) is a class of mussels whose most characteristic features of the structure are a shell of two valves located on both sides of the body and almost complete reduction of the head and all related entities, including Radul. Bivalves is an only water group, they live in both salty and in fresh water, and can be found mainly at a depth of 100 meters. Bivalves are natural filters of water [3].

Pearl mussels (*Unio*) are a medium size genus of freshwater bivalve shellfishes belonging to the family of Unionidae. They have a strong, well-developed shell, with one or two teeth.

Pearl mussels (Unionidae) are biofilterers of water facilities, they feed on particles in the water, organic compounds and small plankton, and therefore play an essential role in the biological purification of water [2, 4].

Traditionally, to determine the species of *Unio* the lock structure is used [2]. For example, we know that the in right valve *Unio pictorum* over the front tooth there is a rudimentary extra tooth in the shape of a thin plate, and in *Unio tumidus* such additional tooth is missing.

Anodonta (*Anodonta cygnea*) is a genus of freshwater bivalve mussels. The turtle has two valves. It is elongated-oval and thin-walled in most species. Valves are the same. *Anodonta cygnea* has no leaf teeth. Its mantle forms only rudimentary siphons [3].

Bivalves family Unionidae make a substantial biomass of macrozoobenthos of the rivers, ponds, lakes [2].

As the result of research four species of bivalves were identified: *Anodonta cygnea*, *Unio pictorum*, *Unio corneum*, *Unio tumidus*.

Since weather conditions last summer and autumn were extremely unfavorable for shellfishes, it is necessary to continue investigation on the real structure of mussels of the Teteriv River.

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## **LE TOURISME EN BÉLARUS**

Le Bélarus a des sites touristiques attrayants et est prêt à accueillir les bélarusses et les étrangers. Parmi des options prioritaires du développement du tourisme dans notre pays on distingue l'écotourisme, le tourisme curatif, religieux, d'affaires, nostalgique et rural.

La nature intacte du Bélarus, les forêts et les marécages uniques attirent les partisans de l'écotourisme du monde entier [2, p.53].

Grâce aux conditions climatiques curatives et phytothérapeutiques, les gisements des eaux minérales et des boues thermals, Bélarus attire les amateurs de tourisme curatif. Les gens viennent ici pour se détendre, reprendre des forces et d'améliorer leur état de santé dans les sanatoriums. Le Bélarus possède une base bien développée des sanatoriums.

L'intérêt particulier pour les amateurs de l'histoire et de l'architecture présentent des églises du Bélarus: dans le pays qui a longtemps été le «carrefour» européen on peut voir les églises catholiques, les églises orthodoxes, les synagogues, les mosquées des Tatars, les églises en bois des vieux-croyants. Cela ouvre beaucoup de possibilités pour le tourisme religieux [4, p.120].

Il y a des voyageurs qui visitent le pays pour trouver ou se rencontrer avec des partenaires d'affaires, visiter l'exposition ou organiser le séminaire. On a créé toutes les conditions pour le tourisme d'affaires au Bélarus. Les hôtels qui sont intéressés à attirer les voyageurs d'affaires, vous offriront non seulement l'hébergement, mais aussi les services supplémentaires.

Ces dernières années, au Bélarus se développe activement une telle direction comme le tourisme nostalgique. Le plus souvent, un voyage dans le style nostalgique organisent des résidents de la Communauté des États indépendants, ainsi que ceux de la Pologne et d'Israël.

Le tourisme rural au Bélarus est la possibilité de retourner à ses racines, d'apprendre les caractéristiques ethnographiques de chaque région du Bélarus, et plus encore – de se plonger dans une vie simple circulant dans rythme lent et

mesuré. Ici, dans le Bélarus profond, on peut facilement sentir l'esprit de l'éternité [1, p.150].

De nombreuses ménages ruraux bélarussiens abritent des festivals originaux, qui attirent les amateurs de tourisme événementiel. Le manoir «La rive de sable» (district de Bykhov de la région de Moguilev) invite tous les amateurs de la pêche et de la chanson d'auteur pour le «Grande barde-pêche» à la fin de l'été [3, p. 72].

L'analyse du fonctionnement du tourisme dans les régions bélarussiennes montre que le développement de cette activité économique encourage la création de liens et les contacts entre les différents acteurs de l'industrie touristique tout en instaurant des partenariats, en stimulant l'économie locale.

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### L'IMPACT INDIRECT DU TOURISME: UNE ANALYSE ECONOMIQUE

Le tourisme est une activité aussi vieille que l'homme lui-même. Mais son influence sur les mécanismes économiques ne date que de quelques décennies. Le tourisme rapporte gros à l'économie mondiale, c'est ainsi, il est une source importante de devises, dont vient sa qualification d'une «Industrie de Paix» qui est en passe de devenir le premier dans le monde [1, p.142].

Pour le mot tourisme, il ne signifiait de façon explicite la théorie et la pratique du voyage qu'à partir de 1811. Cependant, on va se rendre compte de la complexité de cerner dans une définition toute la réalité touristique. En 1951: l'Académie Internationale du Tourisme, définie le tourisme comme suit: «Un

terme qui s'applique aux voyages d'agrément, un ensemble d'activités humaines mises en œuvre pour réaliser ce type de voyage et une industrie coopérant à la satisfaction des besoins du touriste. Le terme touriste s'applique à toute personne voyageant qui se déplace pour au moins une durée de 24 heures dans un endroit autre que celui de sa résidence habituelle».

Une autre définition est donnée cette fois-ci l'Organisation Mondiale du Tourisme. Il considère comme touriste toute personne qui se rend dans un pays autre que celui correspondant à son lieu de résidence habituelle, mais autre que celui correspondant à son environnement habituel, pour au moins une nuit, mais pas plus d'une année, et dont le motif principal de la visite est autre que celui d'exercer une activité rémunérée dans le pays visité.

Son impact sur les mécanismes macro-économiques joue un rôle catalyseur dans le développement d'un Etat. L'analyse de cette idée nous mène logiquement à voir en premier lieu les différentes formes du tourisme, suivi en second lieu du rôle du tourisme dans le développement économique des Etats.

Le rôle du tourisme dans l'économie est souvent perçu comme limité au seul secteur des CHR (Cafés, hôtels et restaurants) ainsi qu'aux agences de voyages, réceptifs et transporteurs, qui constituent dans de nombreux pays le premier secteur des services. Cependant, l'impact économique du secteur touristique est beaucoup plus important dans la mesure où la production des services de tourisme et de loisirs nécessite de nombreux «inputs» qui concernent l'ensemble de la production à la fois agricole, des IAA (Industries Agro Alimentaires), et industrielle y compris la production de biens d'équipement et le secteur du bâtiment et des travaux publics [3, p. 89].

La mise en évidence de ces impacts indirects du tourisme est considérée comme prioritaire par les pays du T20 (G20) ainsi que par l'Organisation Mondiale du Tourisme qui a produit des outils méthodologiques avec les CST (Comptes Satellites du Tourisme). L'évaluation de ces impacts économiques du tourisme permet de fournir des éléments d'appréciation pour la conduite des politiques économiques de relance face aux crises économiques et financières internationales. Elle permet de montrer que le tourisme peut devenir un élément moteur de la reprise en faveur d'une croissance économique stable et durable à condition que les politiques d'accompagnement sectoriel soient mises en œuvre en considérant le rôle central de l'activité touristique [2, p. 87].

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## **MODERN TRENDS IN INNOVATION MANAGEMENT**

Modern theories of innovative development shifted the emphasis to behavior; they formed a desire to accumulate knowledge. It became apparent that the economic growth of countries largely depends on the innovation activity of businesses, their aspirations, efforts, and abilities to use the latest technologies in their work, a creative approach to detecting the ways to meet the needs of consumers, thus improving and upgrading products, producing higher revenues and changing market positions.

Economically active investors always seek the way to preserve and to increase their economic income. If there is no innovative dynamic sector in economics, they will look for other spheres to apply their release capital temporarily. The negative consequence for the innovation process in the system of industry is that the flow of scarce resources will find other channels, increasing the already acute shortage of financing innovation. Specialists believe that in the nearest future, due to the acceleration of changes in innovation policy as a means to gain the market, the most advanced corporations will be converted to self-learning organization. That is, they will be fully adapted enterprises with employees able to innovate, to think independently, to identify and to solve problems using modern methods of system and process approaches and analysis of business reengineering.

It is obvious that investing is a hazard innovation process, but entrepreneurs agree to risk looking forward to the extra income. Moreover, there exists such dependence – the more hopes for a great success in future are, the higher costs must be accepted now. But the problem of choosing an object for investment is not limited to reducing the amount of funds. Typically, companies look for finance projects that have a high potential efficiency and ensure their profits. Such innovations may include not only science and technology but also the organization, economic and social spheres. Investment attractiveness of these innovations should be primarily defined by their internal characteristics. But no less important for making investment decisions is an innovative project aimed at attracting financial resources.

Based on the data being examined we may conclude that management innovation is a very useful area for further economic development.

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## **RELIGIOUS BELIEFS OF THE CELTS**

The Celtic history occupies an important place in the study of the ancient world and the medieval Europe. Therefore, scientific interest in these barbarian tribes, especially in their religious beliefs, is growing. At the end of the 6<sup>th</sup> century BC when the Celts «appeared on the European stage, the formation of their religious beliefs had ended» [1, с. 234]. The aim of the paper is to determine a way of organizing economic and social political system in the Celts religious beliefs.

The Celtic religion satisfied the trends that prevailed in their society and in this regard the gods of the Celts had an archaic appearance. We can explain the fact that some of them related to hunting cult – Gallic gods Tsernunn (god with antlers), Morkus (boar), Wasp Agay (a bear); the others were associated with the domestic animals (God Mullah – a mule or a donkey; Damona – a patron of cattle; God Tavros – a bull) and some deities were associated with natural phenomena (Levtsytios – the god of lightning, Taranis – the god of thunder, the Romans identified him with Jupiter, Esus – the god of the forest vegetation). The Celts also believed in spirits, fairies, elves, monsters and they worshiped trees, source rock, etc.

To honour and satisfy the gods of the Celts, lavish ceremonies were performed in different seasons. The most important religious holiday was Samayin («a year-end»), which was on December, 31. On this day, the sacred fire was extinguished on the altar and a new one was lit, symbolizing the beginning of a new year. Among the major events there was the summer season eve opening on May, 1 – Beltayin, the beginning of a brighter season, a holiday of the God of Meadows. So these celebrations show us how devout the Celts were and they were willing to do everything to please the gods.

The Celtic burial had also a religious nature, symbolizing the end of the life cycle. The Celts performed the first burial immediately after the death, it was temporary: the soul hadn't separated from the body yet and «chose a house on the territory of the tribe, waiting for the next burial which was collective for all

deceased members of the clan or tribe» [1, с. 300]. After the second burial the soul started its journey to the country of The Magician Mall – a country of youth and pleasure. Ordinary mortals formed a crowd there. Heroes, kings, who died in the battles, belonged to the elect and their graves were filled with everything necessary for afterlife.

Unfortunately, the Celtic beliefs, rituals and myths began to change after the Roman conquest of Spain, some parts of the northern Italy and Gaul, that ruthlessly destroyed the Celtic priests especially Druids as the protectors of the original Celtic culture. These factors have led to «the loss of their Celtic identity, including the religious aspect, and that, in turn, put an end to their way of organizing economic and social systems» [2, с. 94].

So, the life of the ancient Celts and their economic activity were reflected in the images of various mythological characters that were actually defenders of their craft.

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### DIE BESONDERHEITEN DES FUNKTIONIERENS DER GEFLÜGELTEN WORTE IN DEUTSCHEN FERNSEHSENDUNGEN

Die gegenwärtige Stufe der Entwicklung von der Sprachwissenschaft ist durch wachsendes Interesse an geflügelten Worten als sprachlichen Einheiten gekennzeichnet, die den komplexen Prozess der Entwicklung der nationalen Kultur und Sprache wiedergeben. Geflügelte Worte haben einen besonderen Platz in der Phraseologie als eines der interessantesten Ausdrucksmittel der Sprache.

Unter geflügelten Worten versteht man treffende Ausdrücke oder Urteile von Schriftstellern, Staatsmännern, Feldherren und anderen prominenten Persönlichkeiten, die durch ihre Trefflichkeit die allgemeine Anerkennung fanden. Zu den geflügelten Worten sind also folgende wichtigste Merkmale der phraseologischen Wendungen geeignet: die Stabilität der Komponenten und die semantische Umgestaltung des Ganzen. Sie sind meistens international, denn ihre

Quellen sind Bibel, Geschichte, Kultur und Literatur von verschiedenen Ländern und Völkern.

Dank neuen technischen Entdeckungen erschienen im 20. Jahrhundert neue Quellen der geflügelten Worte (Werbung, Kino, Fernsehsendungen u.a.). In Deutschland ist Kino eine der beliebtesten Kunstarten. Die Namen von vielen deutschen Filmen, die auf den Bildschirmen des Landes gezeigt sind, wurden geflügelt. *Stahl Kreuzfahrt: Himmel ohne Sterne*, 1955), Film von G. Keuter; *Liebe, Jazz und Übermut*, 1957, deutscher Spielfilm; *Wie sag ichs meinem Kinde?*, 1970, deutscher politischer Film; *Mit Schirm, Charme und Melone in den 1960er-Jahren*, der Titel der TV-Serie; *Die Gentlemen bitten zur Kasse*, 1974, deutsche TV-Serie Regie Th. Olden und K. P. Witt [3].

In der deutschen Sprache existieren viele Zitate von Filmstars und Moderatoren der Top-Fernsehsendungen. Hier sind einige von Ihnen: *Was man weiß, was man wissen sollte* – aus populärem in den frühen 1960er Jahren TV-Quiz-Show «*Hätten Sie's gewusst*» (Name der Rubrik); *Apfelwein – Metropole* – infolge besonderer Leidenschaft der Einwohner von Frankfurt zu Apfelswein, und wurde durch die Fernsehsendung «*Der blaue Bock*» bekannt; *Das – (er) ist Spitze* – wurde weithin durch die TV-Sendung «*Dalli-Dalli*» bekannt u.a. [2].

Die Wissenschaftler bemerken eine Reihe von Faktoren für die Transformation von Titeln der Filmen und Zitaten aus ihnen in geflügelte Worte: Unterhaltung, unterhaltsame Geschichte, die Aktualität des gestellten Problems, semantische Kapazität der Sätze, die hohe Professionalität der Filmemacher und talentierte Schauspielerei [1, c. 157]. In erster Linie wurden geflügelt: besonders intrigierende Titel (*Himmel ohne Sterne*, *Liebe, Jazz und Übermut* u. a.); Titel, die besonders emotionell sind (*ohne dich wird es Nacht* u. a.); Titel, die mit bekannten Kunstwerken verbunden sind (*Nacht unter Wölfen*, *also sprach Zarathustra*, *das Wirtshaus im Spessart* u. a.).

Viele geflügelte Worte, die aus dem Kino gestammt wurden, sind heute genug gebräuchlich in moderner deutscher Sprache. Man kann heute die Zitate aus gut bekannten Filmen in Rundfunk- und Fernsehwerbung, in Titeln der Zeitungen und Zeitschriften usw. bemerken.

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## **TECHNOLOGIES FOR CREATING COMPUTER GRAPHICS AND COMPUTER ANIMATION**

The computer graphics requirements in our society increase every day. It can be seen everywhere: on the billboards, on TV and internet (advertisements, movies, and cartoons, etc.). The computer graphics and animation are applied in such fields as industry, science, marketing, publishing, journalism and others. But the most popular spheres of using computer graphics and animation are television, education and art.

The aim of this paper is to research the basic concepts of computer graphics and computer animation; to consider the role of computer graphics and animation in the modern world, to analyze their future contribution in educational and scientific branches.

Computer graphics is a discipline that studies and develops tools and methods for creating and converting graphical objects by means of computer [1].

It is divided into:

- 2D – graphics (allow objects to be drawn on an X-Y scale as if they were drawn on paper);
- 3D – graphics (allow objects to be created on an X-Y-Z scale (width, height, depth). Objects can be rotated and viewed from all angles).

The main tasks of computer graphics are:

- entering computer information, which has a graphical form or defines that form;
- processing, optimization, storage media, security, transmission of this information by local and global networks;
- output from computer in graphical form.

Computer animation is a rapid display of pictures, which causes the holistic visual perception [2]. Fast change of pictures (a sequence of frames) creates the illusion of motion, which is closely related to nature of human eye (the retina can hold image for a while, before it takes a new image).

Technologies for creating computer graphics and animation consist of methods of creating, editing, processing, saving graphics with interfaces.

Many companies and businesses today cannot live without such technologies. They use them for good advertising, as it encourages potential customers to buy their products or services. But graphics and animation can be implemented in nearly all fields of human activities, including science and art. Every contemporary educational program or a text book contains elements of computer graphics. Many

artists use computer technology for instant fixation of images and ideas, gaining a wide range of opportunities to create individual creative style. Computer technology also can be used in portrait graphics, posters, applied graphics, design, and more. Every modern cartoon is done by means of computer technology. This work is very painstaking and time consuming as it has many stages (modeling the characters, creating background, rendering, etc.). It becomes a popular theme at numerous festivals and other events taking place in different countries around the world.

In conclusion, it can be said that modern computer technologies play an important role in the modern world and have unlimited plans for new researches in development of computer graphics and animation to meet the demands of contemporary scientific and business world.

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## LEXICAL MEANS OF EXPRESSING THE CATEGORY OF NEGATION IN ENGLISH PHRASEOLOGY

The negation in English – is multifaceted, requiring constant reflection on the phenomenon, changing with the development of language.

The main element of the negation in ordinary language and phraseological units are formally logical negative values of not proudest, not belonging to the subject is any indication, lack of subject matter.

At lexical level, the negation in English can be expressed by negative pronouns, adverbs, negative conjunctions and negative particles.

The most frequently used in English phraseological units with explicitly expressed by the negation are:

1. the particle 'not': *not to know smb. from Adam* – никого не знать; *to tell it not in Gath* – не рассказывайте в Гефе.
2. negative pronouns, which indicate on the absence of an object or symptom:

- the negative pronouns which express the absence of something and is used as an adjectival pronouns: *make no bones about smth* – не возражать против чего-либо; *cut no ice (with smb.)* – не оказывать никакого влияния;
- the units containing the component ‘nothing’: *a mere nothing* – пустяк; *good for nothing* – ни на что не годный;
- the pronoun ‘neither’, which indicates on that none of the two parties does not perform any operation and it is not subject of the state: *neither rhyme nor reason* – ни складу ни ладу.

Other pronouns and adverbs encounter in phraseological units with the element of negation is rather rare. They are:

1. nobody, no one: *to be nobody’s fool* – не проведешь; *It’s nobody’s fault, but your own.*
2. nowhere: *to be nowhere* – растеряться; *to be in nowhere, come in nowhere* – не попасть в список участников финала; безнадежно отстать; потерпеть поражение;
3. never: *never say die* – никогда не отчаиваться;
4. none: *none of that!* – ничего подобного.

Very often negative elements in the English idioms are the negative affixes: *an unlicked cup* – зеленый юнец; *an unknown quantity* – человек, о котором ничего неизвестно.

So, the negation at lexical level in English idioms is expressed quite diversely. Along with other means, lexical means provides a rich choice of shades of denial for the speaker; allow to operate with linguistic means accurately, to form a particular language situation. Vocabulary is the most accurate, expressive means of every state, the thoughts of man voiced through the vocabulary.

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### GENRE FEATURES OF ENGLISH LITERARY FAIRY TALE

The author's fairy tale is an epic genre-based fiction work, closely associated with folk-tale and belonging to a particular author. This story has not existed in

oral form and had no variants before being published. Literary fairy tale either imitates folk tales (literary fairy tale, written in a folk poetry style), or creates a didactic work for the kids on the base of non-folk plot [3, p.57].

A specific school of author's stories has formed in the English literature. Its special style is characterized by ironic narrative and humour of the absurd. The main motive of the English author's fairy tales is a situation in which the main character tries to avoid mishaps. The activity of the heroes of fairy tales is not aimed at achieving some results, but to avoid loss of the failure. In the texts of English fairy tales dominates specific information, the statement of certain facts. This means that British tales are not so fabulous and magical as Russian, it is just a sad cautionary tale not always with a happy ending in which the protagonist goes around the world and observes different events.

Compared with the tales of other nations in the English fairy tales such motives of activity as the desire for power and success expressed are the least pronounced.

The creators of the English author's fairy tales claim they did not invent their characters, they say that England itself, its nature, history, customs did this. English storytellers often refer to the world created by their predecessors, or put their characters into it. All these prove that English tale is a special literary phenomenon. It develops in the framework of certain traditions. So for example, the world where the heroes of English fairy tales live is real and therefore the dangers that await them are also real. The problems solved by the characters are rather moral than adventurous. Moreover, the writer is putting his characters into difficult circumstances, provides them with the opportunity to find a way out themselves. The method of packing one episode on another episode and repeating them, leads to the climax and the denouement. The main peculiarity of the English tale is that it is off from real time, a strict sequence of events creates a special magic time.

The main character of English author's fairy tales is, as a rule, a child. And since one of the central issues of fairy tales is the relationship between adults and children adults rarely help children in their exploits and travels.

The words of Virginia Woolf about L. Carroll's fairy tales are a bright description of the English author's fairy tale: "they are not children's books, but the books in which we become children".

Thus, English author's fairy tale is characterized by the following genre traits:

1. the protagonist of the tale is usually a child;
2. the majority of authors of fairy tales did not write for children before;
3. the tales evolved from oral stories told to writer's children;
4. English tales are usually addressed not only to children but also to adults;
5. one of the central problems of the fairy tales are the relations between adults and children;
6. the use of various language techniques, word games, parody, nonsense, idioms, humor;
7. the main hero of the tale is always placed in difficult circumstances from which he himself must find the way out;

8. digression from the rules of "happy ending" which is characteristic to the tales of other countries.

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### FAMILY SOCIAL SUPPORT IN UKRAINE AND ABROAD: COMPARATIVE ANALYSIS

Today, the number of families who live in difficult situations due to economic and political crisis is increased. The number of families with different kinds of drug addiction is also grown. There are single-parent families, migrants' families and families where violence is raging. Every year a number of people registered in the police on domestic violence is changed: 2010 – 91913, 6 months of 2011 – 102150. [5]. According to the statistics, every year the single-parent families are increased. Nowadays, it is one in five, in addition to 90% of the sons and daughters of a single mother raising [8]. Taking everything into consideration, the basis of social support improvement is one of the main mechanisms of social problems elimination.

It is known that the notion 'family' in Ukraine, Europe and the USA has the different context. For instance, in Ukraine and Russia, 'family' means a group of people related by blood or marriage with children or without them [9]. In the USA or England the "family" is considered to be an unmarried couple who shares the household [1]. The term "social support" in Ukraine and abroad has common characteristics (development of program that is aimed at positive changes achievements in the family that found itself in a difficult situation). The term "social support" exists only in the former Soviet society and European countries. The term "crisis intervention" is used in the United States. Social support is the work of a social worker which is aimed at supporting the family in various forms of life. It helps to form a family's ability to overcome different difficulties. [6]

Crisis intervention is a process dedicated to the coordination, rehabilitation, care and support of people with difficult life circumstances. [2] So we can say that the terms "crisis intervention" and "social support" are sufficiently similar in the content.

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### CONTENT-MARKETING ALS HAUPTVORTEIL DER KONKURRENZFÄHIGKEIT

Das traditionelle Marketing verliert immer mehr an Effektivität. Deshalb ist es nötig andere Verfahren im Internet auszunutzen. Dazu gehört die Erzeugung einer

vernünftigen Geschäftsstrategie von Content-Marketing. Content-Marketing ist nicht eine neue Richtung von Marketing, sondern eine neue Art der Werbung.

Content-Marketing ist das Verfahren des Marketings, das sich auf Schaffung und Verbreitung wichtiger und nützlicher Information gründen. Es ist auf das Heranziehen und Vergrößerung des Auditoriums ausgerichtet, was im Weiteren den Profit in geometrischer Progression vergrößert [2].

Der Hauptunterschied des Content-Marketings von anderen Marketingsarten ist eine andere Auffassung über den Warenverbrauch. Die Arbeit beginnt mit der Forschung von Markt, Kunden und ihren Bedürfnissen, die Text, Foto und Video betreffen. Zu den verbreitetsten Verbindungskanälen des Content-Marketings gehören Webseiten und Netzwerk. Content-Marketing wird nicht nur von den erfolgreichsten Weltgesellschaften, sondern auch von den Unternehmen des Klein- und Mittelstandsbusiness ausgenutzt. Man sollte Content-Marketing bei Förderung der neuen Brands, der komplizierten Warenerzeugnisse und der Gesellschaften verwenden, für welche es schwer ist, das Auditorium mit Hilfe von anderen Kanälen zu finden [1].

Zu seine Hauptaufgaben gehören: die Ausarbeitung der Information, die den Wünschen und Bedürfnissen der Verbraucher entspricht; Anregung des Konsumenten mit Hilfe der Information zum Einkauf; Umwandlung der neuen Kunden zu den Verbrauchern der Waren oder Dienstleistungen; Ausarbeitung des Leadersimages; Heranziehen des Verkehrs auf der Webseite des Unternehmens.

Die Etappen der Verwirklichung des Content-Marketings: 1) Ausarbeitung der Strategie; 2) Schaffung des Contents selbst; 3) Vorrücken des Contents.

Die Ausarbeitung der Strategie des Content-Marketings schließt in sich die Bestimmung der Zielgruppe und des Budgets. Ohne deutliches Verständnis für das Ziel gelingt es nicht, entsprechende Instrumente, Fachmann team auszuwählen, die für das Ergebnis arbeiten wird.

Von dem Budget hängt die Qualität und Geschwindigkeit der Ausarbeitung der Materialien ab. Das Content-Marketing lässt sich leicht outsourcen.

Zu den Grundprinzipien der Schaffung des hochwertigen Contents gehört folgendes: das Content sollte mit dem Brand verbunden sein; ständige Vervollkommnung des Contents; Ausnutzung von verschiedenen Medienverbindungen; Erschaffung des inspirierenden Contents, das auf die alltägliche Erfahrung des Auditoriums basiert [3].

Auf solche Weise kann man richtig Akzente setzen und wichtige Eigenschaften der Waren hervorheben. Zur Folge bringendes Ergebnis sei die Konkurrenzfähigkeit der Kompanie.

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## FUSIONISM OF ALGEBRAIC AND GEOMETRICAL METHODS

Fusionism (from Latin "Fusion" – merging) is a qualitative unity of algebraic and geometrical material. Just like this in XIX century the common teaching of different subjects was called.

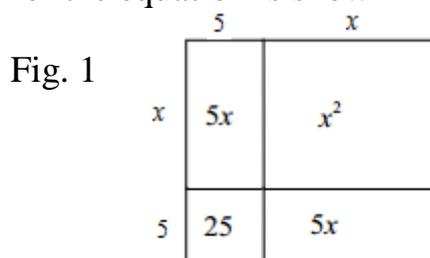
The ideas of fusionism approach to the study of mathematics can be found in the works of an Asian scholar of the eleventh century Ibn Sina (980 – 1037). Though fusionism of algebraic and geometrical methods was met much earlier, in the works of the Pythagorean school, whose main achievement in this direction was the creation of geometrical algebra.

Geometrical algebra was based on ancient plane geometry that was represented by a geometry of a compasses and ruler. So it was maximally adjusted for research of identities, both parts of which are quadratic forms, and for solving quadratic equations [1, p. 79].

Let's consider *the task of al-Khwarizmi*. To solve the equation  $x^2 + 10x = 39$ .

Al-Khwarizmi formulates this task as follows: "The square of the unknown and the ten unknown are 39 dirhams (Dirham is a silver coin of the medieval East). What is the unknown?" [7, c. 170]

Geometrical solution of the equation is shown in Fig. 1



We build a square with the side of  $x$  and finish building of two rectangles with sides of  $x$  and 5. The figure obtained is called a "gnomon". We add this gnomon to the square with the side of  $x + 5$ . Then area of the built square is  $S = (x + 5)^2$ .

According to Fig. 1 we determine  $S = x^2 + 2 \cdot 5x + 25 = x^2 + 10x + 25$ . We have a  $(x + 5)^2 = x^2 + 10x + 25$ . According to the task  $x^2 + 10x = 39$ , hence:  $(x + 5)^2 = 39 + 25 = 64$ ,  $x + 5 = 8$ ,  $x = 3$ .

Using algebraic equations, unsolvability of famous tasks of geometry (squaring a circle, doubling a cube and trisection of an angle) is proven by means of compasses and ruler. In this research an attempt is made to solve algebraic tasks by means of geometrical methods and vice versa.

Let's consider *Wallis's task*. Prove that the square has the largest area of the rectangles with the same perimeter [2, c. 40].

*Solving.* We apply the derivative for research of functions  $S(x) = (2a - x)x$  on a maximum.  $S(x) = 2ax - x^2, S'(x) = 2a - 2x = 0, x = a$ .

As  $S''(x) = -2, S''(a) = -2 < 0$ , then  $x = a$  is a point of maximum, and  $\max S(x) = S(a) = a^2$ . The sides of the rectangle are  $x = a$  and  $2a - x = a$ , that is, the rectangle with the largest area is a square.

Thus, we considered the interpenetration of geometrical methods and characters into algebra and vice versa. We also studied geometrical interpretation of algebraic dependences and analytical interpretation of geometrical facts. The idea of fusionism in mathematics is quite elegant and innovative in relation to the traditional system of the successive teaching of mathematics. The traditional solving of some mathematical tasks foresees bulky calculations, but usage of fusionism of algebraic and geometrical methods facilitates their solving and proving.

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## **IMPROPER INTEGRALS**

Mathematics is one of the oldest sciences that emerged at the dawn of civilization. It is constantly enriched, periodically updated and approved as a means of knowledge of the laws of the world. Math helps the humanity to discover and use the laws of nature. Nowadays it is a powerful driving force for the development of science and technology.

Elements of integral calculus can be found in the works of the mathematicians of the ancient Greece. The basic concepts and the grounds of integral calculus theory, its connection with differential calculus, its application to solve practical problems were worked out in the end of the 17th century by Isaac Newton and Gottfried Leibniz. The historical development of integral calculus is associated with the names of Leonhard Euler, Augustin-Louis Cauchy, Bernhard Riemann and others.

Integral is one of the central concepts of mathematics. Its emerging resulted from two main problems: the reconstruction of function for the given derivative and calculating the base area constrained by the function graph  $y = f(x)$ ,  $x \in [a, b]$ , lines  $x = a, y = b$  and oriented line  $OX$ . In 1690 Jacob Bernoulli introduced the term "integral". In the history of mathematics the term is associated with two Latin words: «*integro*» – recapture and «*integer*» – whole.

The two above mentioned problems lead to two interconnected types of integrals: antiderivative and definite ones. The study of properties and calculation of these integrals are the main problems of integral calculus. The given defined integral in the border set of integral sum, while the interval of integration is finite, and the integral function of that interval is constrained. If at least one of these conditions is broken the above given definition of definite integral will become unaccepted: in case of endless interval of integration it cannot be divided into  $n$  frequency-response intervals of a finite length, and in case of unbounded function the integral sum has no finite border set. To generalize the concept of the definite integral in the above mentioned examples we get an improper integral, i.e. the integral of the function on the infinite open interval or of an unbounded function.

The study of improper integrals introduces the methods and ways of calculating these integrals. We can also study the conditions of improper integrals existence use, the acquired knowledge to solve different mathematical problems.

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## **COGNITIVE FUNCTION OF THE METAPHOR IN PETER ACKROYD'S NOVEL "LONDON. THE BIOGRAPHY"**

Metaphor is the subject of research of various branches of linguistics. At the end of the previous century the traditional point of view according to which metaphor was considered to be a purely linguistic phenomenon and was viewed as a matter of words rather than thought or action was reconsidered. Modern linguistic research on metaphor interprets it as a process that takes place first of all in our mind and only then is regarded as a linguistic phenomenon. G. Lakoff and M. Johnson who are the authors of the conceptual metaphor theory state that metaphor is pervasive in everyday life, not just in language but in thought and action. Our ordinary conceptual system, in terms of which we both think and act, is metaphorical in nature [3].

In the novel "London. The Biography" written by the contemporary British writer Peter Ackroyd the very title has metaphorical meaning. For the first time in the history of literature the *biography* of the *city* is written. Here the city is a living being and has its own life. In the title of the novel the author uses definite article. In such a way he wants to show that his work is not one of many researches on the history of London. From the very beginning London appears as a human body and the metaphor of organism is supported by other numerous metaphors in the story [1].

Metaphor in a literary work is not only used as a stylistic device, it is a way of cognition. Every author wants to express some new, unique idea. To achieve this goal they cannot do without using metaphor, as it can create some new sense that would be more understandable for the recipient. In the following example the author lays emphasis on the corporeality of the city: "*The byways of the city resemble thin veins and its parks are like lungs. In the mist and rain of an urban autumn, the shining stones and cobbles of the older thoroughfares look as if they are bleeding*" [2; 1]. The city is changing all the time, there is life and movement in it and it is metaphorically expressed by the concept of human body. Parallels with the body organs help the recipient understand that city is not just byways, parks and thoroughfares, it is a living matter.

*"Whether we consider London as a young man refreshed and risen from sleep, therefore, or whether we lament its condition as a deformed giant, we must regard it as a human shape with its own laws of life and growth"* [2; 2]. In such way referent "human shape" helps the recipient realize that the city is a living being. It proves metaphor cognitive function because the recipient gets to know London

through the prism of new referents. P. Ackroyd depicts the city's history as an evolution of a living being making the image of London available for perception.

The author also compares the city to the bird phoenix that is the symbol of everlasting life and renewal: *“One of the permanent, and most striking, characteristics of London lies in its capacity to rejuvenate itself. It might be compared to some organism which sloughs off its skin, or texture, in order to live again. It is a city which has the ability to dance upon its own ashes”* [2; 706]. So the motive of permanent renewal comes through the whole novel. In the image of London P. Ackroyd wants to underline its unending youth and ability to change.

Having analyzed the cognitive function of metaphor in Peter Ackroyd's novel “London. The Biography” we can conclude that metaphor in this work plays more than just aesthetic role. Metaphor is not just a stylistic device but it is a means of cognition. By means of using this cognitive phenomenon the author underlines some nuances, emphasizes important aspects, besides with the help of metaphor the writer can show some thought, idea or feeling and get it across to the recipient.

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### LEGENDS OF COSSACKS. THE COSSACKS-SORCERERS

Among Zaporizhian Cossacks there was mysterious, surrounded by legends phenomenon – sorcery. The story of the sorcerer was usually exciting and dynamic fantasy, based on the Ukrainian history and mythology, which should take its special place among the legends of the world. It is known that in the folk mind sorcerers were granted with unique abilities, they could walk on water, air, pass through walls and they could not be destroyed with the conventional weapons.

The first mention of the sorcerers dates back to the 19th century. They are mentioned in the works of such writers as Yevgen Hrebinka, Nikolai Gogol,

Panteleimon Kulish, Andrii Tchaikovsky and Adrian Kashchenko. The Polish historian Bartosz Paprocki left memories of Cossacks, who not only enchanted the bullets, but took them from their bodies by hand and threw them back to the enemy. Those, who the bullets were hit, were killed on impact. We find out about sorcerers from the historical works of Apollon Skalkovsky, Mykola Kostomarov, Volodymyr Golobutsky and Dmytro Yavornytsky [2].

The most famous Cossack-sorcerer is Cossack Mamay. It is idealized image of Cossack-traveler, warrior, sage, storyteller and sorcerer in one. But this Cossack had never been to Zaporizhia, but there were hundreds of his kind. That's why Mamay is mentioned at folk songs, legends and tales more often than any hetmans, koshovyis or colonels [3, 86].

The glory of the greatest sorcerer was taken by ataman Ivan Sirko, who participated in more than 100 battles and had no defeat from 1659 to 1680.

Historians believe that the Cossacks-sorcerers originated from the ancient Ukrainian pagan magicians. There is also a version that the roots of sorcery came to us from the time of the great migration of Aryan tribes from Ukraine to India. We can trace the etymological link of the word "sorcerer" or "kharacternyk" with name "Hara" – the ancient Aryan god of war. It is interesting to mention, that the attribute of this God is a trident – an ancient sign, which is a symbol of Ukraine [1, 176].

The ancient Ukrainian legends about the famous Cossacks-sorcerers, such as Ivan Sirko, Semen Paliy, Maxim Zalizniak, Severin Nalyvaiko, Petro Sahaidachny, Ivan Bohun, Maxim Kryvonis, Ivan Zolotarenko, Ostap Dashkevych, Dmytro Baida-Vyshnevetsky, Andrii Pohytun, Ivan Pidkova, Samiylo Kishka, Danylo Nechai or Gaidamak and the outlaw leaders, who also owned sorcery abilities such as Ustym Karmaliuk, Oleksa Dovbush, Pyntya or Golovach, confirm with amazing consistency that these characters had to fight and kill the devil and received supernatural military capabilities of God [1, 179].

Sorcerers were usually people with extrasensory abilities, with susceptibility to suggestion, hypnosis, clairvoyance, telekinesis or telepathy. According to the legend, sorcerers "had never been buried by priests but they were buried by Cossacks" [2]. This is the proof, that many of these people were not Christians.

So sorcery institute was one of the secret societies in Zaporizhia, which played an important role in the history of the Ukrainian Cossacks. Sorcerers formed the development strategy of the Cossacks and Ukrainians in general. With extraordinary abilities, they could anticipate events for several future centuries. Sorcerers' mission was to save the soul of the Ukrainian people.

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### **NON-VERBAL MEANS OF COMMUNICATION**

"Every movement of the soul has its natural expression in voice,  
gesture, facial expression."

Cicero

The modern educational system has set the task to educate teachers harmoniously and comprehensively developed personalities. To achieve an appropriate outcome should be able to show the positive side of the students and help them develop as best steer students on the right path and contribute to their intellectual development.

**The aim** of this study is to determine the role of non-verbal communication in educational activities.

The teachers of primary school play in children life the important role, they should be not only carrier of knowledge but also a connoisseur of psychology and pedagogy of education. Modern psychology has a very large variety of approaches for identify certain characteristics of both man and child. One of the most mysterious is a chapter of psychology as a non-verbal communication. Our gestures and facial expressions never tell lies. In a study activity of truth detection is very important, both in relation to the specific subject under study and in interpersonal relationships.

The primary school teacher children play in the development of significant value, it should be not only carrier of knowledge but also a connoisseur of psychology and pedagogy of education. Modern psychology has a very large variety of approaches and identify certain characteristics of both man and child. One of the most mysterious is a chapter of psychology as a non-verbal communication. Our gestures and facial expressions never tell lies. In a study of truth detection is very important, both in relation to the specific subject under study and in interpersonal relationships.

At the initial stage of Homo sapiens was not explicit human language which we have in the present, people understood each other by gestures. In many situations of communication we can say one thing but our hands or simply expression face contrary veracity and reliability of our words. As knowledge of this branch of

science can be applied in the classroom? As for students (elementary school children), it should be noted that they have the true facial expressions. If we consider variety gestures of the child is mostly we'll see how inadequate and not typical of the adult. Most of these emotions we adults try to suppress in yourself. People used that society should behave nobly and educated. For example, when for child to do something a pleasant, or give a gift, or report a hike to the zoo, the circus which he waited so long that joy will leap and dance. This and other habits inherent in us from the ancient times of our ancestors. They likewise behaved to celebrate a successful hunt. Jumping around and brought them joy.

Our feet can say about us much more than we allow ourselves. If we compare the gestures of hands and legs, it should be noted that the language of hand gestures can be another "chip away" to improve, but his feet never subjected to mental control, they will naturally talk about all the experiences of the body at the moment. If we consider the example of what is so can be said about the student legs (and other concrete gestures of the body), the moving feet can mean that a child defenses and wants to release his energy, he would have gladly jumped, run at the moment and does not to sit.

At such moments usually the focus will be confused and will not be delayed for a long time on one thing. Or it may even indicate that the one who shakes his legs the sitting but in his minds somewhere in a hurry, it could disturb an important call and he understands that you need to hurry in these moments you want to passage of time as quickly as possible. As far as the feet interlocutor or student (child) directed to leave the room, it suggests that people willingly went to the street, that left the premises. If you want to find out interpersonal relationships in the team, in the class you should pay attention to the reaction of the children to one another that the distance between them often, or some nice touches people, how close embrace and contacts. Spatial terms of communication, the location of interlocutors at the time of contact, exploring science which was called Proxemics.

Proxemics comes from the English Proximity, is proximity. Anthropologist Edward Hall in 1950, researched personal space man in his personal behavior, this term denotes "an analysis of how a person performs spontaneous structuring micro space – interpersonal space organization of space in the dwelling, the planning of the urban environment". Everyone has a certain territory, which considers them personally. Distance in communication depends on many factors (origin, culture, personal preferences). For very small or large distances people may experience discomfort or inconvenience.

Hall identifies interpersonal identifies four areas:

- intimate (0-0,5m)
- personal (personal) (0.5 m-1,2m)
- social (1,2m-3,65m)
- Civil (3,65m or more) [2]

**Conclusion** it is important to note that should not be underestimated our true item on the sign, and consider them separately. If you want to understand a man we should take into account many factors that influence a person and combine gestures and facial expressions, looking like one.

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## THE GOLDEN RATIO – A MEASURE OF DIVINE BEAUTY CREATED BY NATURE

What are the similarities between the Egyptian pyramids, the paintings by Leonardo da Vinci, a sunflower, a snail, a pine cones and human fingers ? The answer to this question lies in the amazing numbers that were discovered by the famous mathematician of the Middle Ages Leonardo of Pisa, better known as Fibonacci. After his great discovering, the numbers got the scientist's name . Fibonacci sequence is called surprising, because numbers had an unusual feature: each number in this sequence is equal to the sum of the two previous numbers, besides during the division of any number of sequences to a previous one, the same amount 1, 618 is got. That is, this value is the number of the famous golden section, the number  $\varphi$ .

The aim of this paper is to prove that the Golden ratio is the mathematical category, on principle of which natural things are created. The example of the human body can be given.

Why do some people attract our attention, but others don't? What law do we distinguish between these two types of people by? The answer is the same: some people have the proportions that correspond to the golden ratio and visually they are perceived as perfect [2, p.8].

The "Vitruvian Man", that is the famous picture, accompanied by the explanatory inscriptions made by Leonardo da Vinci in about 1490, can be remembered. It depicts a figure of a naked man in two superimposed positions to the other, with his arms and legs extended sideways, inscribed in a circle and with his arms extended sideways and feet together , inscribed in a square. Amplitude of arms sideways is approximately equal to his height. This picture and the notes are called the canonical proportions [3].

It should be mentioned that the proportions of the various parts of the body are numbered very close to the golden section .If these proportions are consistent with the formula of the golden section, the appearance or the human body is considered perfect.

The first example of the golden section in the structure of the human body is:

If we take a navel point as the center of the human body and the distance between the human foot and a navel point for the unit of measure, the human full-length is equivalent to the number 1.618 [1, p.42].

In addition, there are several major golden proportions of the body:

- the distance from fingertips to the wrist and from the wrist to the elbow;
- the distance from the shoulder level to the top of the head and the head size;
- the distance from the navel point to the crown of the head and from the shoulder level to the top of the head;
- the distance from the navel point to the knees and from the knees to the feet.
  - o There is a number of examples in structure features of the human face that are close in meaning to the formula of the golden section:
- the distance from the tip of the chin to the tip of the upper lip and from the tip of the upper lip to the nostril;
- the distance from the tip of the chin to the top of the eyebrows and from the top line of the eyebrows to the top of the head;
- if we summarize the width of the two front upper teeth and divide that sum by the depth of the teeth is to arrive at a number of the golden section, one could argue that the structure of these teeth is perfect.

If you push your palm closer to yourself and look closely at your index finger, you find the formula of the golden section in it. Each finger of our hand has three phalanges. Sum of the first two phalanges in relation to the entire length of the finger gives the number of the golden section (except the thumb). Besides, the ratio between the middle finger and the little finger is also equal to the number of the golden section. We have two hands and the fingers on each hand consist of three phalanges (except the thumb). Each hand has 5 fingers, a total of 10, but with the exception of two phalangeal thumbs. So, only 8 fingers are created on the principle of the golden section. While all the numbers 2, 3, 5 and 8 are the Fibonacci number sequence [4].

So, these are not all examples of correlations in the structure of the human body, where the golden section is used. It can be said that this phenomenon is being studied.

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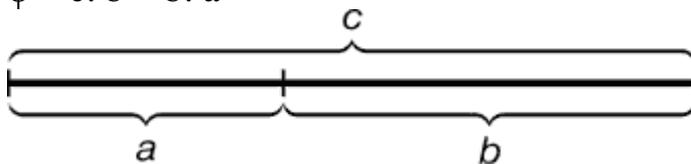
## HARMONY IN MATHEMATICS

Since ancient times people, studying Mathematics, tried to prove not only bare mathematical facts and theorems but also find certain harmony. In fact a man always aspires to harmony. Consequently people noticed certain ratio which is named the golden. Such an amazing proportion we can find in any sphere of our life: in science, technologies, art and even in nature. The principle of the golden ratio has a large value and that is why it is considered to be the highest manifestation of the whole structural perfection and its parts.

The golden section is such a proportional division of the segment into equal parts, in which the entire segment refers to a bigger part, as a bigger part refers to a smaller one [2].

If we write it into the mathematical language, then we will have

$$\varphi = c : b = b : a$$



The number  $\varphi$  is sometimes called the "golden number" and it is  $\approx 1,618$ .

The notion of the golden section will be incomplete, if we don't mention about the spiral. The form of twisted spiral shells attracted the attention of Archimedes.

People noticed the helical and spiral arrangement of leaves on the branches of trees long ago. The spiral was seen in the arrangement of sunflower seeds, in cones of pine, pineapple, cactus, etc. Spider weaves web spiral too. DNA molecule is twisted in the form of a double helix. Goethe called spiral "curve of life". The golden section proportion is shown in these examples in parts perpendicular to the direction of its growth. Nature made the division into symmetrical parts and golden ratio by itself. We can see the repetition in parts of the structure [1].

Another object of the study was the human body and then scientists identified several major gold proportions of the body:

- the distance from the fingertips to the wrist and from the wrist to the elbow is 1: 1.618

- There are a lot of examples of proportions in facial features, which are close to the formula of the golden section. The golden section in a human face is considered to be the criterion of a perfect beauty.
- the distance from the tip of the chin to the top of the eyebrows and from the top line of the eyebrows to the top is 1: 1.618
- the distance from the tip of the chin to the tip of the upper lip and from the tip of the upper lip to the nostril is 1: 1.618[1].

Of course, this is not a full list, but scientists understood one important thing: the principle of the golden section we can find everywhere and in everything that nature created. So our bodies can be considered to be ideal.

The components of galaxies are in the shape of the spiral too. Periods of the solar system planets are subordinated to the principle of the golden section.

The formula of the golden section and the golden proportions are well known to all creative people, because these are the main rules of aesthetics. Any work of art, designed in strict accordance to the proportions of the golden section, is perfect in terms of aesthetics [2].

So, it is easy to see that even such a science, as Mathematics, has beauty and harmony, that our body and everything that was created by nature is close to ideal. But even things which were created by man like a masterpiece of art, architecture, art, photography and etc. can be ideal if the object was created in accordance to the principle of the golden section.

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## METHODS OF SOLVING THE SYSTEMS OF EQUATIONS

The research is devoted to the basic methods of solving of equations systems. This is an important question in mathematics, since the systems of equations are used to solve a large number of tasks. Simple math problems studied in the course of higher mathematics give the possibility of obtaining analytical solutions. Complex mathematical models require the use of numerical methods.

Numerical methods are mathematical tools by which a mathematical problem is formulated in a form suitable for solution on a computer. In this case we speak

of converting a mathematical problem in the computational task. It should be noted that with the invention of fast and powerful digital computers, the role of numerical methods for solving scientific and engineering problems has increased significantly. Although analytical methods of solving mathematical problems are very important, numerical methods essentially expand possibilities for solving scientific and engineering problems. Calculating is a routine and the computers save scientists or engineer's time: formulation of objectives and generation of hypotheses, analysis and interpretation of the calculation results and the like.

Numerical methods provide a systematic formal approach to solving mathematical problems. However, their effective use depends on the user's abilities, because there are several possible numerical methods to solve each mathematical problem and the software implementations are different for different types of computers.

Numerical methods are powerful tools for problem solving. Having mastered these methods, a future specialist acquires the ability to systematic analysis using mathematical modeling of most complex tasks of modern science and technology.

The study of numerical methods stimulates the gaining of practical computer skills, because the best way to learn programming is writing computer programs himself. The study of numerical methods encourages the deeper understanding of mathematics itself, since one of the objectives of numerical methods is simplifying the methods of higher mathematics to basic arithmetic operations.

The system of linear algebraic equations plays an important role in mathematics, since it helps to solve a large number of problems of linear algebra, theory of differential equations, mathematical physics, etc, and those of physics and engineering, where the above mentioned mathematical theories are applied.

The methods of solving the systems of linear equations can be divided into two groups: exact and iterative.

The methods that enable to find the exact solution of the system by performing a number of arithmetic operations under the assumption that all computations are performed exactly (without rounding), and the coefficients and free members are the exact number's, are called accurate.

The methods that allow to find an approximate solution of the system with a pre-specified accuracy by performing the number of arithmetic operations, are called iterative.

So the, methods of solving the systems of equations are very diverse and important.

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## **PATTERN RECOGNITION PROBLEMS AND SYSTEMS**

Pattern recognition is a branch of cybernetics which describes methods and classification algorithms for objects of various nature. [1, 9] Throughout life, humans are constantly faced with problems related to objects identification. Effectiveness of existence or even creature's life depends on the success in solving these problems. That is why every healthy organism has remarkably developed abilities to recognize patterns.

Recently, with increasing possibilities of computer technology, this kind of problems is becoming relevant to people who work in the field of information technology. Consequently, the image recognition attracted other industries from medical to security.

We can define the following branches of expert systems that use pattern recognition techniques:

- classification, clustering;
- search in databases and knowledge bases;
- scene recognition and analysis;
- character recognition;
- security systems;
- medical diagnosis.

The main problem of pattern recognition theory can be described as an algorithm with the following steps:

1. Converting input data about the pattern to vector form. Created feature vector is an n-dimensional numerical vector, where every number represents a feature of specific object. When describing images, values inside vector can describe pixels as well as higher level features (object contour coordinates etc.) Vector space related to this vectors is often called feature space.
2. Descriptive features selection. It lies in finding a minimal number of features that will describe certain pattern in given feature space most informative.
3. Classification. It comes to determining the edge of classes and choosing optimal methods for associating some feature vector to a class. The boundaries of classes can be defined explicitly during development or implicitly for a system to define them at a runtime.
4. Correcting steps 2 and 3 by evaluation of results. Such evaluation is necessary to determine the magnitude of errors related to classification and its further improvement.

Types of characteristics of patterns [2]

There are four basic classes of features:

1. Physical characteristics. Data from different measuring devices.
2. Qualitative characteristics. For example, concept of «red», «light», «low» and so on.
3. Structural characteristics. Geometrical description, various relations with other features.
4. Logical characteristics. Statements which can be either true or false.

Types of recognition systems:

1. Systems without learning. The amount of initial data is sufficient to form full and minimal set of features for recognition and classification. There is no automatic correction of errors in such systems. [1, 97]
2. Supervised learning systems. The amount of initial data is sufficient to form full and minimal set of features for recognition but not enough for classification. During their runtime such systems are provided with so called “training” data where patterns are linked to classes manually, leaving for the system to figure out the rules for assignment given pattern to a particular class. [1, 108]
3. Unsupervised learning systems. In such systems features are not given from the outside, but they are generalized inside using set of rules provided by experts. [1, 330]

So, the described methods and systems are general. That is why every given problem in the field requires further improvement of methods and modification of algorithms.

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## CURVES OF THE FOURTH ORDER AND THEIR PLACE IN OUR LIVES

We are surrounded by interesting world of Mathematics. While studying and exploring its laws, we express different opinions, prove or deny. We can not imagine our life without Maths because everything that surrounds us can be described with the help of mathematical curves or mathematical shapes, surfaces. Mathematics is truly omnipotent. It helps us not only to describe the shape of a living organism and plants, but also to follow their changes. Even Galileo said: "*Nature speaks the language of Mathematics.*"

The concept of line arose in human consciousness in prehistoric times. The path of a thrown stone, an outline of flowers, plants leaves, twisting coastline and other natural phenomena since ancient times attracted person's attention. They formed the basis to define the line concept. It took much time for our ancestors to start comparing the shapes of curves.

The first drawings on the walls of caves, primitive designs for household items show that people were able not only to distinguish line from the curve, but also to distinguish individual curves.

The same things happen in modern life. Everything that surrounds us consists of a certain set of features that are composed of various curves. Curves are widely used in daily routine, art, architecture, nature because of their frequent occurrence.

The study of curves and their properties will broaden the geometric representation, enhance knowledge, increase interest in geometry, create a profound basis for further studies in Mathematics, Physics and other sciences.

We would like to show some examples of curves which have practical usage in our life.

The first is *Lemniscate of Bernoulli*. The technique Lemniscate is used in particular as a transition curve on small radius rounding (railway lines in mountainous areas, on tram tracks). Equipotential field lines created by two parallel currents that go through long wires in plane, which are perpendicular to them, in some cases are Lemniscate.

It is interesting that Lemniscate of Bernoulli is used now while constructing tram lines in those places where the train makes a small radius turn. We also meet Lemniscate of Bernoulli in ordinary everyday things: in Mathematics it is a sign of infinity or figure eight, in life we meet it in glasses, bow tie.

The second curve is *Limaçon of Pascal*. It is a plane algebraic curve of the fourth order. Limaçon of Pascal is widely used in engineering. It is used as a line for eccentric profile.

The third curve is *Cardioid*. It is used as a line for drawing profiles, if you want the profile sliding rod to make harmonic oscillations. Cardioid microphones are used in places with extra noise and sound reflections.

In this paper we have described curves of the fourth order, their types, and also how these curves are widely used in our life. Today Mathematics is important not only as a science, but it also has found its place in our daily lives.

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### MEANING CONTENT OF SUPERSTITIONS AND PREJUDICES IN BRITISH LINGUOCULTURE

There is a good English saying: “So many countries so many customs.” British people keep traditions, primary connected with national customs and ceremonies. Among people’s traditions and customs, we often come across superstitions and prejudices which are still are part of our life, history and culture [2, с. 78].

Superstition is a credulous belief or notion, not based on reason or knowledge. The word is often used pejoratively to refer to folk beliefs deemed irrational, which is appropriate since irrational means "not based on reason". This leads to some superstitions being called "old wives' tales" [6, p. 6]. It is also commonly applied to beliefs and practices surrounding luck, prophecy and spiritual beings, particularly the irrational belief that future events can be foretold by specific unrelated prior events”[6, p. 5]. People have believed in superstitions and had prejudices from the dawn of time. Prejudice defined as any preconceived opinion or feeling, whether positive or negative; an adverse judgement or opinion formed beforehand or without knowledge of the facts (Webster Dictionary).

Superstitious beliefs are an outcome of ignorance and lack of rational thinking, but then they are beliefs after all. Beliefs become notions, then become opinions, and eventually begin to prevail in society [1, p. 363]. For instance, many authors suggested that superstitious believes may develop in anxious individuals with a strong need for control, in an attempt to overcome perceived uncertainty in their

surrounding, or as a coping mechanism following traumatic childhood experiences [5, p. 91].

There are different origins of superstitions: 1) professional and household superstitions; 2) superstitions of ancestors (historically developed superstition); 3) pagan rituals, traditions and legends (idol worship); 4) the fear of the unknown; 5) the fear of death; 6) animal behavior; 7) the fear to get the curse, evil eye, disease, etc.

From these sources alone must have sprung that system of crude notions and practices still obtaining among savage nations; and although in more advanced nations the crude system gave place to attractive mythology, the moving power was still the same; man's interpretation of the world was equal to his ability to understand its mysteries no more, no less [3, с. 202]. For this reason the superstitions which persist, are of special interest, as showing a psychological habit of some importance.

Linguoculture covers both superstitions and prejudices. This term can be defined as the total sum of culture information objectified in language, considering it from the viewpoint of various research aspects of culture and language. Within this approach a concept «means of speech activity» is proposed as an element of linguoculture. This notion has a very broad interpretation: in different sources linguoculture content includes images, text and precedent names, values, traditions, linguistic arsenal of tools and symbols [4, с. 368]. Linguoculture shows us ethnic picture of the world, it allows us to look at any period of history represented by written sources.

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## **ENVIRONMENTAL EDUCATION IN EARLY CHILDHOOD**

Environmental education is one of the major challenges of today and tomorrow. The last few years more and more we hear such phrases as “environmental crisis”, “ecological disaster”. People are so wasteful in using nature, so we have almost no environmentally clean places on the planet today. The people and the states of the Earth are clearly aware that spontaneous and without control use of natural resources can not continue.

Thus, environmental issue is not just the problem of environmental pollution, but the problem of converting people’s spontaneous influence on nature in a conscious, deliberate, systematic interaction with it. The basis, the source of such interaction is ever person’s adequate level of environmental awareness, environmental culture.

The nature of the Earth can not exist separate from human society. The man and the nature form one functional system “nature-society”. Optimal relationships within this system are possible only with the conscious management of the natural environment with the awareness of what nature the society wants to see in the future. We can not do without predicting the possible consequences in nature changes without their forecasting today. Therefore, knowledge about the system “nature-society” is the main form of environmental awareness. Environmental consciousness is a social consciousness which can be formed by specifically directed training and education.

Environmental education is the process of development of the system of knowledge and ideas about the relationship of environmental factors and their interdependence. The content of environmental education has several successive stages, the ultimate purpose of which is a personality with the formed ecological culture. Ecological culture is the culture of human activities more or less related to the knowledge and transformation of nature. Formation of ecological culture of preschool children is one of the main steps, a part of the development of a cultural person in general, fully developed personality; and therefore it requires special attention in the work with children. Since early ages the children should realize the importance of nature for the people’s life.

The role of nature in the moral and aesthetical development of children was revealed by the great teachers of the past: Zh.- Zh. Russo, Pestalozzi, Dysterveh, K.Ushynskiy. They told about the development of children’s “sense of nature” as a sense of nature’s positive influence on a human. Great teachers urged not to separate the children’s life and activity from nature, but to teach them intelligently

and purposefully to learn and feel its colors, sounds, forms, diversity, and that will improve the environment [1, с. 22-23].

You must teach the children to see the relationship between plants and animals to understand how man affects their lives; to understand the truth that there are no useful and harmful animals in the nature, instead of they are all connected with each other, they need each other, and therefore all of them are useful. It is important to develop the children's senses of not indifference, the ability to feel themselves in the place of flowers and plants, to love and to protect nature, not in words but by helping flowers, trees, animals, birds, all living things. So, our task is to teach children to understand and to love nature; to see the diversity of forms, colors, sounds in nature, to develop the ability not only to enjoy nature, but also to study it, to watch it, to discover its mysteries and phenomena. Nature should be revealed to a child not only as indivisible integrity, a living laboratory, where he can observe and study the life of its inhabitants, but also as a school in which he can successfully master the elementary rules of behavior, the skills of rational use of nature, protection and growth of its resources.

Environmental education in early childhood is a holistic concept that encompasses knowledge of the natural world as well as emotions, dispositions and skills. Environmental education in early childhood includes the development of a sense of wonder; appreciation for the beauty and mystery of the natural world; opportunities to experience the joy of closeness to nature; and respect for other creatures. It also includes the development of problem-solving skills and the development of interest and appreciation in the world around us. These goals acknowledge that learning is more than a cognitive process and that emotions play a particularly important role. [2, с. 56].

In conclusion I'd like to say that early childhood educators should provide opportunities for children to experience peace, joy, and fascination with nature because these emotions undergird their developing knowledge, skills, and dispositions. The task of environmental education for young children is to forge the bond between children and nature. Children who respect the environment feel an emotional attachment to the natural world, and who deeply understand the link between themselves and nature, will become environmentally literate citizens.

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## **RECOMMENDATIONS FOR HTML, CSS AND JAVASCRIPT USAGE**

XXI century is characterized by the rapid development of IT technology industry, monitoring news and innovation in informational sources. The most popular of them is the Internet.

Nowadays, every person must skillfully use the Internet, in spite of the fact that experts constantly update the information technologies.

However, web developers face the problem of the slow loading pages and encumbered code. This factor is problematic for users, because the connection can beset among different devices; operating systems and browsers, etc. There are different download speeds. To avoid possible problems, developers should use the special recommendations. In this article, we tried to present the most optimal set of recommendations for web developers.

The relevance of the topic is that technologies rapidly evolve provided in our every day life demands from the users to follow all the news and innovations. A significant portion of the population uses the Internet for work, leisure and information retrieval, so the development of this structure is the most rapidly developing. As a result, there are a lot of problems, the solution of which is present in this article.

The paper aims to give the advice to beginners and professional web developers to avoid problems with slow loading pages, encumbered code and to reduce the time for debugging there code.

So, there are guidelines that will help to improve code quality and to facilitate collaboration and to support infrastructure. These recommendations present themselves as the best practices for writing HTML/CSS/JavaScript. Use them to optimize your code and to avoid bugs

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## **TO THE PROBLEM OF THE FORMATION OF LEXICAL COMPETENCE OF PRIMARY SCHOOL CHILDREN IN ENGLISH LESSONS THROUGH FAIRY TALES**

One of the most effective ways to influence the feelings and emotions of primary school children is a fairy tale. Childhood and fairy tales are related. Fairy tales awaken the imagination, engage emotionally. Many tales are designed to create better ways of learning a foreign language using already known lexical units [1]. Thus, fairy tales play an important role in the formation of the English lexical competence of primary school children.

Tale can be adapted to a certain extent by the teacher to the requirements of the programme and the level of foreign language acquisition of each particular class. In this case it is possible to organize lexical, grammatical sociocultural material according to the needs and expectations of their primary school children. In any case, the teacher could use pictures, puppet theatre dolls, facial expressions and gestures to provide the necessary explanations and previous experiences of children in order to help them to understand the story.

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## **THE FORMATION OF PROFESSIONAL TERMINOLOGY IN ENGLISH PEDAGOGICAL SPHERE**

One of the first scientists was well-known linguist D. S. Lotte who gave the definition of the term in the 20th century. Term (from Latin *Terminus – boundary, termination*) – is a specific word or word combination which is in a certain professional sphere and used in the particular circumstances. Terminology is the study of terms and their usage. It is the words or word combinations which used for the special scientific sense, social life. [1, c. 247].

The term has its own form, stylistic colour and also, its inner content. That's why we can't imagine the equivalents to the terms, we should find them in the original. We had some difficulties with translation.

If we compare three languages: British English, American English and Ukrainian, we will see the same term but with different meanings.

For instant, class – is a group of students taught together – we will find in Britain; class – is a group of students who finish their studies at school or university in a particular year – in America and class – is an occasion when the group of students taught together meets; a lesson – in Ukraine.

There are some differences between “primary education” – “elementary education”, “secondary education”, “further education” and “higher education”. All these terms have similar meanings but every country has the own system and denomination.

It is very difficult to separate two terms “виховання” and “освіта” in Ukraine. However, in English, we have only one-word “education” which also means “pedagogy”. From the other hand, Ukrainian word “виховувати” has several synonyms in English, such as: educate, bring up, foster, inculcate on, cultivate, train, rear [2, c. 4].

And of course, there are general words which are the same for these languages, for example, educational establishments; pupils, students, teaching staff (Amer. – faculty); disciplines, subjects.

In conclusion, we can say that the formation of terminology is a very difficult process. One term has several meanings and a lot of synonyms and equivalents in other languages; it means that translator should be well-informed in this sphere. And it gives him the opportunity to do it better.

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в сучасній науці**

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