EUROMENTOR JOURNAL STUDIES ABOUT EDUCATION

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130 YEARS OF POSTERITY - A HOMAGE TO EMINESCU

EMINESCU - EDUCATOR OF THE ROMANIAN PEOPLE

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"Education is the culture of character, culture is the education of mind"[1]

ABSTRACT: *Even if Eminescu was not very keen on professorship, his contribution to the field of education in general, to the education of the Romanians in particular, cannot be questioned in the least.* **The ideas in his theoretical work had a major impact on the Romanian culture, instruction and modern education.** *His vision of education, his articles on teaching and education, as well as his involvement as a school inspector show Eminescu in a different hypostasis from that of poet-philosopher. This article presents Eminescu as an educator of the Romanian nation and herein we are trying to argue, by presenting certain opinions from his journalistic work[2], his notable contribution to the development and modernization of the Romanian education, many of his ideas being of topical relevance for today's education.*

KEYWORDS: *education, teaching, culture, character, school, personality*

Without being a teacher in the strict sense of the term, Eminescu can undoubtedly be regarded as an educator of his nation because he did not hesitate to state his opinion on the most ardent problems of his time, education included. The numerous observations – those which have

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[1] M. Eminescu, *Pedagogical Writings,* Junimea Publishing House, 1977, p. 89.

[2] *Ibidem*, p. 104, 116.

been preserved out of a large number - scattered in the press of his time, highlight the poet's European conception of teaching and education.[3]

Eminescu and his relation with the educational system

From the very beginning, "let us recall that Eminescu was acquainted with the problems of the Romanian school, maybe better than anyone else, because on July 1, 1875, Titu Maiorescu, then Minister of Education and Religious Affairs, appointed him as a school inspector of Iaşi and Vaslui counties, a position he held until June 4, 1876".[4] He had the obligation to inspect 152 schools around the two counties twice a year and to carry out the administrative tasks of the inspector's Chancellery. Eminescu refused the position of a philosophy teacher, but accepted to be a school inspector in Iaşi and Vaslui counties for ideological reasons. "My viewpoint is that I would come into contact with the rural population, the only one I am particularly interested in ...".[5] The first contact of the new school inspector with education ended up with a report addressed to the minister, in which Eminescu wrote down the observations he made on the occasion of the conferences he held with the primary school teachers in the county of Iaşi. "The lessons taught by the rural teachers revealed great shortcomings concerning both method and knowledge", he states in his report no. 202, dated "Iaşi, on August 10, 1875".[6] Referring to the teachers, Eminescu highlights some drawbacks of the Romanian education system, but he also proposes solutions. "Their knowledge consists generally of deadly words, whose living reality they do not understand. Of course, in this respect, the blame should be put rather on the education system which trained them than on themselves. I have seen many of them striving to be methodical, and in some people I have observed a method, a rare privilege, which nature bestows on inborn teachers ...; in others I have seen greater positive knowledge, but still I cannot say this is enough. The absolute lack of pedagogical means, the lack of a teaching body in

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[3] M. Nebunu, *Eminescu and the Modernity of his Pedagogical Thinking*, The Annals of „C. Brâncuşi" University, Tg. Jiu, Letters and Social Sciences Series no.1/2010, p. 103.

[4] https://irinamonica.wordpress.com/tag/ed.-religioasa/

[5] I.E. Torouţiu, *Studies and Literary Documents* vol. V, Bucharest, 1933, p. 119.

[6] The Archive of the Ministry of Education and Religious Affairs (The conferences of school inspectors with primary teachers, file no.198/75). Cf. I. Scurtu, *Eminescu, Political and Literary Writings* p. 246, apud. I. Creţu, *M. Eminescu*, The Publishing House for Literature, 1968, p. 168.

Romania is felt everywhere ... The didactic books, as many as we have, are for high schools, and they greatly require simultaneous explanations from the part of the teachers; terminology and style make it useless for rural teachers to read these books. They have nothing to read even if they would like to do it. They are almost completely deprived of any notions of natural sciences, for example, although these sciences are precisely the most powerful means of intuitive education and true sources of practical and positive knowledge".[7] These meetings with the primary school teachers represented a milestone of Eminescu's life and personality: *his friendship with the storyteller I. Creangă*. More specifically, Eminescu mentions the presence at the teachers' conference of the 1st and 2nd class primary teacher Creangă from the Boys' School No. 2 in Păcurari, whom he later visited in the classroom, where he could appreciate his willingness to teach the lessons to his children.[8] The friendship between the school inspector Eminescu and the primary teacher Creangă dates back to this moment and it is a friendship that will generate happy results for Romanian literature. Eminescu's desire to get to know the Romanian realities and to get involved in the social-cultural life will help him detach himself from the intellectual environment in Vienna and Berlin, where he studied between 1872 and 1874. Thus, he dedicated all his moral and intellectual forces to knowing education and guiding it. Wandering around Vaslui county, which was also part of his school district, Eminescu was sending on September 5, 1875, from Iaşi, the report no.212[9] containing his righteous proposals, based on his on-the-spot investigations. Knowing that he was addressing a minister with a mind of philosopher who was planning the reform of education, Eminescu took the liberty of giving a broad overview and criticizing seriously but severely this education: "The general impression that the rural schools of this county gave me was a bad one. Everywhere, low attendance and high administrative burden, everywhere agricultural worker's poverty, often terrible mortality, public burdens and work commitments arising from these almost unbearable hardships. Both the social environment and the administration make school almost useless. I still do not want to pronounce myself on the causes of these things, but I think that they can

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[7] *Ibidem,* p. 169.

[8] *Manuscript* 2275, f.1., apud. I. Creţu, cited works, p. 169.

[9] I. Scurtu, *cited works*, p. 249, apud. ibidem, p. 170.

be changed only by means of a new a system of taxes and a freer organization of work".[10] It is important to show, in the context of our analysis, that Eminescu did not confine himself to administrative, social and economic observations, but his attention was focused especially on the curriculum, the didactic method of the primary teacher and especially on the scientific training of schoolchildren. In this respect, his findings are always followed by the most appropriate pedagogical and didactic guidance. We bring some of these into consideration: "The responses seemed to me mechanical, so that it would be desirable for education to be more lively. In particular, children should not learn by heart anything they have not fully understood. Long grammatical skills must precede any written definition. When the children read something, they must grasp the meaning of what they have read and retell the content of the reading in their own words. Besides, style exercises are recommended, that is small compositions on subjects the children are familiar with.[11] Eminescu makes a special mention on teaching arithmetic: "in arithmetic the demonstrative method should be used, since the arithmetic operation will never seem to be a miracle, but a thing that explains itself".[12] The texts submitted to analysis are eloquent arguments regarding Eminescu's skills as a primary education guide at the highest level of his time. In this respect, it is remarkable Eminescu's very favourable appreciation written in a special report on *Advice for reading according to the writing following the phonetic system* by the primary school teachers Gheorghe Ienăchescu and Ioan Creangă (Iaşi, Typo-Litography H. Goldner, 1876).[13] "The difference between the method proposed by this booklet - emphasizes Eminescu in his report - and the routine and mechanical learning, as practiced in our schools, is the distinction between live and intuitive education and the dead mechanism of memorizing things which are incomprehensible for the children; it is the difference between *pedagogy* and *training*" Passing from village to village and contemplating, Eminescu was bearing in his mind the image of Moldavian villages under their many aspects: physical, social and economic. The old childhood icons fused with new ones and gained an ever-growing consistency. In the manuscript pages

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[10] *Ibidem.*
[11] *Manuscript 2288,* f.1. apud. *Ibidem*, p. 171.
[12] *Manuscript* 2275, f.2, apud. *Ibidem.*
[13] I. Scurtu, *cited works*, p. 260, ibidem, p. 171.

of the school inspector poet and philosopher, Moldova appears to us in such vivid colors as nobody since Dimitrie Cantemir[14] seems to have portrayed it.[15] The tremendous work carried out by Eminescu in his position of school inspector is preserved in precious archival documents, representing an objective radiography of the problems of our education in that period. They also contain a series of saving proposals brought to the attention of the ministry of education by the poet, in order to revive the Romanian educational process and make it more efficient, because for him culture and education represented the main vectors of the nation's progress.[16] As a school inspector, Eminescu called for the introduction of the "intuitive teaching method", a repeated request in his reports addressed to the Ministry of Education and Religious Affairs. Particularly insistently, the Romanian language school inspector approached that "honeycomb", which was the most important tool against denationalization. Considering the Romanian language the mirror of the spirit of our people, of morality and religion and of the outlook on the world, Mihai Eminescu used to call it a "queen"[17]. Later, as a journalist, based on the rich experience gained in the field, Eminescu published numerous articles addressing pedagogy, pedagogical psychology, and the teaching methodology of various disciplines. Moreover, his modern vision of school is presented in a comparative way as follows: "But the character of a good school is that the pupil learns within it more than he is taught, more than the teacher himself knows …. enough that school shouldn't be a storage of foreign knowledge, but a gymnastics of the whole individuality of man; the pupil should not be a porter who loads his memory with shells of foreign ideas under which he sighs, but a man exercising all the powers of his intelligence, strengthening his intellectual dowry, like a gymnast who strengthens his physical apparatus to the highest degree, either in

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[14] The first anthropological model was conceived by Dimitre Cantemir in *Descriptio Moldaviae*, a paper written on the recommendation of the German scholars in order to make his natio known around the world, when he was elected member of the Academy of Berlin, in 1714. (see. Gabriela Pohoață, The Cantemirian Anthropological model, in Cogito - Multidisciplinary Research Journal, vol. IX, no.4/2017, p. 7-18).

[15] *Manuscript 2255,* f.162, apud. I. Crețu, cited works, p. 172.

[16] Mihail Daniliuc, Eminescu, https://doxologia.ro/puncte-de-vedere/eminescu-educația-e-cultura-caracterului-cultura-e -mind education, July, 2016.

[17] Mihai Eminescu, *The Patology of Our Society, Political Articles*, Edition prepard by N. Henegariu and C. Tomescu, Bucharest, Vremea Publishing House, 1998, p. 561.

force or skill. Here we speak, of course, about educational instruction in primary and secondary schools, not universities"[18]. The distinction which Eminescu makes in the context between pre-university and higher education is remarkable: in primary and secondary schools, "the teaching method is the most important thing; in universities, the method is indifferent, as here science and only science is required. And there will be a great difference between the spiritual teacher who knows how to arouse the interest of his audience for assyriology, for example, whereas another one will not be able to arouse their interest, not even for the beautiful letters; however, the essence of university remains science, without taking into account any other purpose, while the essence of the other schools is growth".[19] "As far as the religious education is concerned[20]: Eminescu considered it more than necessary: faith, the poet thought, is one of the most important heritage that Church, School and family can convey to the future generations; through religion, the learners come to differentiate the perennial values from the transient ones; religious education contributes to the formation of personality, teaching them to seek beauty, kindness, to love God and their peers, to be grateful to their forefathers, to look at the future with responsibility. Without religious education, the Romanian society is threatened by many plagues, with negative consequences in all fields of activity. Here is what Eminescu said: "*in a country where religion and the purity of morals have been removed by epicureanism and sybaritism, in which the conscience of what is right and what is wrong, of what is good and what is evil are daily offended by the social uplifting of some walks of life made up of dishonest people, in which carelessness has led to the admiration of petty people, the public spirit vainly seeks a support against corruption. Far from finding this support, on the contrary, he is attracted by the general whirlwind and comes to believe that moral laws, which are the same for all peoples, are empty words that are told by word of mouth but which nobody believes*. It is obvious that Eminescu was dissatisfied with the way in which the Romanian education was organized, detesting the trivial manner of a reproductive education that overloaded the students with a lot of information learned by heart, leading to the decrease of motivation towards learning and even to disinterest, to superficial training. In this respect, he points out:

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[18] Idem, *Political Work,* (1880-1883), cited works, p. 117.

[19] Ibidem.

[20]https://ziarullumina.ro/repere-şi-idei/eminescu-şi-educaţia-religioasă-din-şcoli-108444,html.

"... the Romanian student righteously distinguishes himself by the lack of interest for learning ..."[21] Eminescu, knowing that the tone of a lesson is offered by the teacher, gets with his analysis to the root of things, when he asks himself: "Where to have such an interest from, when teachers lack it in most cases, where to have love for the subject from, when the so-called duty teachers accomplish consists in the minimum possible of lessons taught, when, except for rare exceptions, most of them are deprived of that thirst for finding out the truth that is proper to the people of science?[22] Analyzing the state of the Romanian education from that time, Eminescu invites us to a lucid analysis focused in the following text: "Thus, our co-nationals , different from others, do not study for the sake of study, with that vivid conception, with that enthusiasm of the youth and teaching staff from other countries, but in order to graduate from school as soon as possible, to graduate equally quickly and superficially from an obscure faculty of law and to occupy a position as soon as possible".[23] It is only natural to ask ourselves: If Eminescu lived today, how would he appreciate the quality of Romanian education?! What would distinguish the radiography of today's Romanian education from Eminescu's critical but lucid analysis of the drawbacks of the education system of his time?! We appreciate that Eminescu's assessment of the state of education and the way in which the rulers of the country approached it is of topical relevance for us, so we dare say that the Romanian thinker developed a philosophy of education at a high level of intellectuality and spirituality. Eminescu supported with sound arguments the need for a real-applicative education capable to meet the needs of the nation's progress. The manuscripts of the poet Mihai Eminescu, 46 volumes, about 14,000 pages, were offered to the Romanian Academy by Titu Maiorescu in 1902. And in these manuscripts, now published, we find a lot of science about school, about education and about the lofty purpose of a teacher, authentic educator: "... the mission of the people who wished with all their heart the welfare of their country is the moral growth of the young generation and of the generation that will come."[24] [25]

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[21] M. Eminescu, *cited works,* p. 117.

[22] *Ibidem*, 116.

[23] *Ibidem.*

[24] M. Eminescu, *cited works,* p.89.

[25] Ibidem.

Education and culture

Eminescu may be regarded as an educator of the Romanian nation, an idea that we support in this article, because education is, somehow, an existential priority for the Romanian thinker. Education is the chance of a country, of a people to get in tune with the other peoples of the world. From this perspective, he showed a constant interest in the quality of school education, the prestige of teachers and their living conditions, constantly militating for the increase of the authorities' interest towards education. Eminescu considered education not only a process of information, but especially one of man's formation: *"Education is the culture of character, culture is the education of mind. Education is meant to cultivate the character and morals, culture to educate the mind. That is why a well-educated man, with a good heart, character and good morals can possess little knowledge, while, on the contrary, culture, the most extensive knowledge can be the attributes of a man without character, immoral and heartless."*[26]

The triad *education-culture-science* is the paradigm for which Eminescu pleads towards the intellectual and spiritual development of younger generations, a condition sine qua non for the survival of his people in the world.

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[26] Ibidem.

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"THE WONDERS OF NATURE ARE LIKE THE WONDERS OF MATHEMATICS"
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ABSTRACT: *130 years after the premature demise of one of the leading figures of Romanian culture, Mihai Eminescu, we will attempt to have a closer look into the depth of his ideas, his research projects that were bestowed upon the Sciences, and, primarily, upon the queen of all sciences, which is to say, mathematics. We will be highlighting some mathematical aspects, namely the ones discussed in his work[1], all the while taking into account the level of development in mathematics, in the 19th century.*

KEYWORDS: *Algebraic calculus, Algebra, symbolistic logic, pedagogical talent*

Mihai Eminescu invites us to embark on a trip over an era, trip which will lead us to understand that one of the greatest scholars in Ancient Greece was Pythagoras (580-500 B.C.). In his School, Pythagoras regarded the "number to be the substance of all things"[2]. In his work Metaphysics, Aristotle claimed: "[...] the so-called Pythagoreans, the ones that first dealt with mathematics, dedicating themselves to it completely and helping it progress, considered themselves within their rights to regard its principles as the principles of all that is. And seeing how numbers, by the very nature of mathematics, are to be found at the very heart of every mathematical study, and, also, how they were convinced that there are more similarities to be found between numbers and permanent as well as changing things, than there are between the basic elements of Fire, Water and Earth and the latter, it was thus that they had come to assign a number to Justice, another number to Spirit and Intellect, another one with Time, and so on, with every other thing. Furthermore, when they came to realise that musical ratios and laws can also be rendered by means of numbers, that every other thing was

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[1] Mihai Eminescu, *Fragmentarium*, Diplomatic edition. Variants, notes, addendum and index by Magdalena D. Vatamaniuc, Bucharest, 1981.

[2] Idem. p. 277.

created, in its own substance, but in the image and likeness of numbers and that numbers are the most important thing in the world, they reached the conclusion that the elements in numbers are the elements in all things, and that the entire Universe is built of numbers and harmony".[3]

The development of symbolistic logic in the 19th century lead to a "crisis of the foundations of mathematics". Positive, real numbers have represented, ever since ancient times, the measures of geometric objects. In this sense, Eminescu wrote: "This is how we know that negative quantities are not real, natural amounts, for they cannot depict real amounts, and I cannot call real that which is less than nothing, and, thus, bears no relation to a real amount, for such a relation only occurs between similar amounts. However, they can still be compared to each other, since a debt can be greater or smaller than another debt".

It thus became necessary to build a logical structure for real numbers, numbers that are freed by the process of measurement. Amongst those to help build a that logical structure, we would like to mention the German mathematicians Karl Weierstrass (1815-1897), Georg Cantor (1845-1918), Richard Dedekind (1831-1916).

At the heart of this structure lay the set of natural numbers. Italian mathematician Giuseppe Peano (1858-1932) completes the axiomatic assembling of this set of numbers in 1889.

It is in this particular regard that we observe Eminescu's remark: "Whosoever says 1, says at once the infinite series of numbers, whosoever adds 1 to 1, at once subtracts 1 from 2: but he who does this thing is he who possesses the infinite texture of mathematics and geometry in his head", "but the most abstract of all notions is the notion of integers, of numbers".[4]

As a result of this, we understand why Eminescu wrote: "Algebra could only become manifest once letters were freed from their role of symbolizing concrete numbers".[5]

Some of the topics covered are arithmetical operations with fractional numbers, then calculus involving letters ("*arithmetica speciosa*"). Other topics that are minutely dealt with are arithmetical

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[3] Aristotle, *Metaphysics*, Chapter 5, 986 a, Univers Enciclopedic Gold Publishing House, Bucharest, 2010; p. 32-33.

[4] Mihai Eminescu, *Fragmentarium, Diplomatic edition. Variants, notes,* addendum and index by Magdalena D. Vatamaniuc, Bucharest, 1981.

[5] Idem p. 286.

operations with rational numbers, the order relations between them, algebraic calculus. Eminescu cites works by illustrious mathematicians, which goes to show the amplitude of his knowledge, the high level of his training reaching even into the realm of mathematics.

Up until the moment when irrational numbers where discovered at Pythagoras' School, the only thing that was available was fractions, and they were used for every possible purpose. Regarding this, we mention the ancient Egyptians, who could only accept fractions of the form $\frac{1}{n}$, and, as an exception, $\frac{2}{3}$. For example, the Rhind papyrus, acquired by Scottish Egyptologist Alexander Henry Rhind in the year 1858, in Luxor, was written by the scribe Ahmes. He copied down, in hieratic writing, in black and red, an older text, probably written around 1850 B.C. The text was deciphered and published by A. Eisenllohr, in 1877, in Leipzig.

Eminescu analysed, by bringing together many different sciences (physics, anatomy, physiology, etc.), the way they can be utilised to better comprehend mathematical notions, such as, in this quoted example, fractions. 300

For example, "if we were to take 1 and divide it into a thousand parts, $\frac{1000}{1000}$, which is to say, we were to make $\frac{1}{1000}$ the basic unit, turning it into an integer, the calculus ratios will be exactly the same and we would be unable to perceive and difference. The principles of the independence of the absolute and the beginnings of the infinitesimal calculus".

Another subject to be tackled is the analysis of co-adaptability and correlation in mathematics. "The principle of growth correlation is none other than Galilei's second law: *Any action is equal to its reaction*". "What is co-adaptability but moving one's own centre of gravity and the direction of the outside force at work? What is the correlation of growth, but the increase in every organ situated close to the centre of gravity, once it has moved, even in the absence of a direct correspondence between them and the respective degeneration in organs that are situated far away from the centre of gravity, in a direction that is transversally opposite?"

For example, analysed Eminescu, let us consider $\frac{300}{300}$. The central balance point is at $\frac{150}{300}$. This mass, once in motion, creates a central power of $\frac{160}{300}$ as well as two wings of $\frac{70}{300}$, Since $\frac{300}{300} = \frac{70}{300} + \frac{160}{300} + \frac{70}{300}$.

"And herein lies the entirety of the correlation of subtraction. The body is headed towards $\frac{160}{300}$.

But you take away 10 more from 160. That 10 can't be added to 70, cause that would leave us with no proportion. One wing would be larger than the other. What happens, however, if $\frac{75}{300} + \frac{160}{300} + \frac{75}{300} = \frac{300}{300}$".

We've chosen this example to better expound on the clarity of the exposition, the flawless sequence of ideas realised by means of a superior understanding of sciences. There are quotes from Darwin, Laplace, G.W. von Leibniz, Luigi Guido Grandi, Diophantus of Alexandria, René Descartes (better known under the Latinised name of Cartesius), Abraham Kästner.

Within the pages we've analysed, M. Eminescu dedicates himself to extracting the square and cubic root of a given positive number: "If we could but trace, in nature, the play between basic mechanical laws, then maybe we would see the embryo as the root, from which, subsequently there sprout whatever new potentials, by means of self-replicating".[6]

The reasoning then continues: "for these characteristics are laws of our own intellect and calculus but a toy of said laws, the reason of which it is unreasonable to enquire about"[7].

"Mathematics is but an abstraction of mechanics". The laws of our mind being ancient and having worked ever in accordance with the same order, it is why, reasoned Eminescu, "mathematics and logic are ancient - for that which is granted to the mind and the senses is immediate, but our level of physiological and anatomical knowledge was slow and painstaking to achieve".[8]

Hidden connections are also pointed out in psychology. For instance, having, ourselves, a point of gravity within us, by its sway on account of an external force, access to the basic unit of every psychical and physical phenomenon.[9]

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[6] Idem, p. 277.
[7] Idem, p. 278.
[8] Idem, p. 286.
[9] Idem; p. 293.

Raising a number to the second power, or squaring it, or the third power, is directly tied to geometry, it being the means of calculating the area or the volume. Extracting the root represents the reversed process of raising to different powers. In Antiquity, such methods of calculus were used. For example, ancient Babylonians were able to solve second degree equations, and, therefore, were implicitly intimate to extracting the root. Babylonian tablets (clay tablets) uncovered and interpreted now, show us how they used to solve practical problems. They had specific step by step instructions for solving them, not merely general methods.

The ancient Greeks invented geometrical methods of solving cubic equations or even equations of the fourth degree, by means of intersecting conics.

Arabs developed methods of solving algebraic equations. Methods for solving equations are presented in the work mathematician Muhammad ibn Mūsā al-Khwārizmī, titled "Treaty on calculus using al-jabr w'al-muqabala" (820 A.D.).

This is where the name of "algebra" comes from. Persian Omar Khayam, working in approximately 1075, manages to classify equations into 14 different types, by means of conics.

Early 16th century Italians did not recognize negative numbers and classified third degree equations into three types. Niccolo Fontana (nicknamed the "Stammerer", after having been injured in the roof of his mouth, at the age of 12, by the tip of a French soldier's sword) is able to solve the third degree equation, in 1535. Italian mathematician Scipio del Ferro also solved the third degree equation. Ludovico Ferrari (Cardano's student) solves fourth degree equations based on third degree equations. Girolamo Cardano (1501-1576) publishes both the method of solving the third degree equation and that of the fourth degree in his treatise: "Ars Magna - the Great Art of Algebra". Here is how mathematical expressions were depicted in the "Ars Magna":

- in current notation $\left(5+\sqrt{-15}\right)\left(5-\sqrt{-15}\right)=25-\left(-15\right)=40$

- in Renaissance $5\,p:R\,m:15$

$5m:R\,m:15$

$25m:m:15qd.est\ 40$

which means p for $+$, m for $-$, R for radical.

René Descartes used the symbol $\sqrt{}$ for square roots, which was a modification of the letter r (for the Latin word "radix"= root). To depict the cube root, he used: $\sqrt{}_c$ (which today is written as $\sqrt[3]{}$).

Ways of writing powers were introduced by I. Newton and C. Gauss.[10]

Remarkably, M. Eminescu described: Just as names for potencies vary between the ancient ones and the contemporary ones, so too do their characteristic signs. The ancient ones wrote the root and the potencies that stem from it as such: 1. Root: ℞; 2. Quadrat: ʒ; 3. Cube C; 4. Quadrato-quadratum: ʒ ʒ ".[11]

In ancient Egyptian papyri there can be found an unexpected level of mathematical knowledge: arithmetical progressions, solving some linear equations, extracting the square root, using the hieroglyph for the letter "h" as a symbol for an algebraic unknown, nonlinear systems. We hereby present, regarding this, an example, following in the footsteps of the great poet.

"Divide 100 into two parts, so that the square root of one part equals $\dfrac{1}{2}+\dfrac{1}{4}$ of the square root of the other part".

The scribe proceeded thus: ia $x=1, y=\dfrac{1}{2}+\dfrac{1}{4}$, calculates that

$1^2 + \left(\dfrac{1}{2}+\dfrac{1}{4}\right)^2 = 1+\dfrac{1}{2}+\dfrac{1}{16}$, goes on to say that $\sqrt{1+\dfrac{1}{2}+\dfrac{1}{16}}=1+\dfrac{1}{4}$, $\sqrt{100}=10$

and then $x=10:\left(1+\dfrac{1}{4}\right)=8$, $y=8\cdot\left(\dfrac{1}{2}+\dfrac{1}{4}\right)=6$.[12]

We take this opportunity to remind that the ancient Egyptians only considered proper fractions of the type $\dfrac{1}{n}, n\in\Box$, $n\geq 2$, except for $\dfrac{2}{3}$.

Thus, they wrote: $\dfrac{2}{5}=\dfrac{1}{3}+\dfrac{1}{15}, \dfrac{2}{7}=\dfrac{1}{4}+\dfrac{1}{28}$, since, for multiplication they used two techniques: adding and doubling.

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[10] Van der Waerden, B.L., *A history of Algebra,* Springer-Verlag, Berlin, 1985.

[11] Mihai Eminescu, Fragmentarium, *Diplomatic edition. Variants, notes, addendum and index* by Magdalena D. Vatamaniuc, Bucharest, 1981, p. 309.

[12] Mirela Ştefănescu, *15 Lessons in the History of Mathematics,* Matrix Rom Publishing House, Bucharest, 2008, p. 11.

We will attempt to rationalise the reasoning of the scribe. We have to solve the equation system:

$$\begin{cases} x^2 + y^2 = 100 \\ y = \left(\dfrac{1}{2} + \dfrac{1}{4}\right) \cdot x \end{cases}.$$ By using the "equation in red", the scribe initially

considered the value of $x = 1$, whence, by means of using the second equation, he inferred that $y = \dfrac{1}{2} + \dfrac{1}{4}$. These values, then, inserted into the

first equation, lead to the equality: $1^2 + \left(\dfrac{1}{2} + \dfrac{1}{4}\right)^2 1 + \dfrac{1}{4} + \dfrac{1}{4} + \dfrac{1}{16} = 1 + \dfrac{1}{2} + \dfrac{1}{16}$.

Since $\sqrt{1 + \dfrac{1}{2} + \dfrac{1}{16}} = 1 + \dfrac{1}{4}$ (the formula for the square binomial was

known), we infer that $1^2 + \left(\dfrac{1}{2} + \dfrac{1}{4}\right)^2 = \left(1 + \dfrac{1}{4}\right)^2 \Leftrightarrow \left(\dfrac{1}{1 + \frac{1}{4}}\right)^2 + \left(\dfrac{\frac{1}{2} + \frac{1}{4}}{1 + \frac{1}{4}}\right)^2 = 1$. By

amplifying with 100, we equivalently write that

$\left(\dfrac{10}{1 + \frac{1}{4}}\right)^2 + \left(10 \cdot \dfrac{\frac{1}{2} + \frac{1}{4}}{1 + \frac{1}{4}}\right)^2 = 100$, whence we infer that

$$x = 10 \cdot \dfrac{4}{5} = 8, \quad y = 10 \cdot \dfrac{\frac{3}{4}}{\frac{5}{4}} = 6.$$

Currently we are aware that the system also has the solution $\begin{cases} x = -8 \\ y = -6 \end{cases}$, but that negative numbers were not taken into consideration at all, in Antiquity, and neither in the first century A.D.

In order to calculate the square and cube root of a given positive number, M. Eminescu explains the developed forms of $(a \pm b)^2$ and $(a \pm b)^3$. [13] The binomial for $n = 2$ had been known by Euclid (300 B.C.) as well, and is a part of his work, "Elements". Developments of up to $n = 8$ were known to Chinese mathematicians (Ciju Şi Ţi -1303) or to Persian mathematicians Omar Khayam şi al-Tusi. In his work "The Key to Arithmetic", mathematician and astronomer al-Kashi wrote: Know

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[13] Mihai Eminescu, Fragmentarium, *Diplomatic edition. Variants, notes, addendum and index* by Magdalena D. Vatamaniuc, Bucharest, 1981, p. 310-311.

that the element of the exponent of the square power is a single number, namely two, that for the cube there are two numbers, namely three and three, that for each exponent of the power their number increases by 1, due to the addition of numbers, and, analogously, the numbers in the extremities increase. If we add any given two elements, neighbours of the power exponent, we will obtain the medium number of the following exponent[14]. It is the first complete wording of Newton's binomial, ever to be found in history. This very same wording is also used by M. Eminescu, by means of which he explains the algorithm used when multiplying a number by another one[15]. He then continues to explain: "And what is even more beautiful is that it is the same formula as above, turned up as by magic"[16]. He explains the inferring of the square of a three-digit number and notices the use of the squared trinomial formula, then the use of the square of a multinomial. The deduced formulas are used to explain the calculations done upon extracting the second and third degree radicals.

Binomial coefficients turn up as high as $n = 17$, in the work "Arithmetica Integra", published in 1544 by Michael Stifel (1486-1567). Blaise Pascal (1623-1662) placed binomial coefficients in the shape of a triangle (in 1654), whence he deduced the recurring relation of combinations. Isaac Newton (1642-1727) Develops the binomial by directly calculating the binomial coefficients, without resorting to the recurring relations between them in 1676, Newton extends the binomial formula to cover rational exponents, thus obtaining infinite developments. The formula for demonstrating the multinomial was known to Leibniz, as it shows from his correspondence with Abraham Moivre.

Regarding ratios, Eminescu thought that "there are no ratios between finite and infinite - geometric proportions"[17]. Regarding equations, Eminescu stated: "Maybe the art of deception lies in hiding a member, or terms of a member in an equation".

Eminescu highlights the notion of permutation of a given number of elements. An interesting fact is the fact that permutations have been studied and used in the new form of algebraic study ever since the end

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[14] Markuşevici A.I., *Series*, Tehnică Publishing House, Bucharest, 1962; p. 25-26.

[15] Mihai Eminescu, *Fragmentarium, Diplomatic edition. Variants, notes, addendum and index* by Magdalena D. Vatamaniuc, Bucharest, 1981, p. 312.

[16] Idem, p. 315.

[17] Idem, p. 336.

of the 19th century, in algebraic structures. The symmetrical group of the *n* degree is one of the first important finite groups in algebra, and it was developed by the brilliant mathematician Évariste Galois.

Aspects regarding infinity.

"Everything that is possible, will eventually happen, given enough time in the world. This is why eternal changes take place within empires, traditions, arts, nations. If, out of an infinite set, only those histories that time has spared are known to us, and he who contemplates upon the scale of possibility, to him no new occurrence will seem new, no matter how peculiar it may appear".

Eminescu correctly infers that the set of a numbers located on any given non-degenerate segment or line is not a countable set, which Georg Cantor will prove in December 1873.

Conclusions:

• The nuanced poetic language that Mihai Eminescu chose to use in his science-tackling works probably went on to influence mathematician Dan Barbilian (1895 - 1961).

• The regretted member of the Academy Solomon Marcus held Eminescu in very high regard, ever since his high school years. As a grown man, he studied Eminescu's texts through the lens of statistics. The modern field of statistical stylistics of 1942-1964 influenced S. Marcus, a complete and consummate scholar, his ethos based on the balance and interaction between science and art, and manifest in his summarizing work "Poetics of Mathematics" (1970).

• Our homage-paying article aims to be an invitation for today's youth, in their approach towards artistic culture alongside or following that in the field of science possessing reference points in the history of science leads to a much more refined approach towards any form of art. Take, for example, the great men of spirit of the past, possessing a wealth of knowledge.

• Dan Barbilian (Ion Barbu) pointed out in the preface of his work "Axiomatic Algebra" that which differentiates a mathematician from a non-mathematician. The mathematician recognizes, every step along the way, the theorems and formulae used in calculus, unlike the non-mathematician.

Reading only a part of the conclusions reached by Mihai Eminescu regarding mathematics, we can already conclude that: he possessed a

wealth of precise scientific knowledge, loaded with rich explanations, which go to prove his pedagogical skill and talent. One must not forget that Eminescu wrote reviews for mathematical works in magazines such as "Timpul", III, No.205, 19 September 1878, p. 3), or "Curierul de Iaşi", IX, no 15, 20 September 1876, p. 3, which attest to his deep understanding of mathematics and his culture in mathematics.

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WILLIAM JAMES: ON THE BORDER BETWEEN SCIENCES AND RELIGION

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ABSTRACT*: "The American philosopher and psychologist William James (1842-1910) is known to the world of medicine for being the first psychologist in his country. But his influence on universal culture was much deeper. Together with the mathematician and philosopher Charles Sanders Peirce (1839-1914) he laid the foundation for pragmatism. James considers the human mind as a dynamic concept. James also contributed to functional psychology by attempting to define the subconscious in relation to the perception of personal existence. His medical studies led him to perceive psychology as a branch of biology. In the book he published only a year before he passed away, The Meaning of Truth (1909), James postulated radical empiricism. According to the American psychologist, human consciousness is a complex process, not just a data flow, but also the creation of networks and connections between these fragments, and human experience is a cumulative, non-random connection process. Numerous philosophers, sociologists, psychologists, logicians, mathematicians, and even literary writers are indebted to William James for his innovative ideas. The multidisciplinarity of this visionary man's theories is unquestionable. He managed to create a system of thinking which blended all the aspects encountered when studying human mind."*

KEYWORDS: *psychology, empiricism, religion, mysticism, medical studies, epistemology*

The aim of this article is to show how William James's outstanding personality influenced not only the field of psychology in the U.S.A but also literature and philosophy. Opposing structuralism (theory which decomposes mental processes) by Wilhelm Wundt and Edward Titchener, James forwarded the idea of functionalism which promoted a rational approach. In its turn, this theory proved its influence on occurrence of behaviourism by connecting the apprehension of the newly discovered anatomy of the human mind and its functioning. The influence of his works in psychology and philosophy can traced later on into behaviorism, psychoanalysis, humanism and cognitive psychology.

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Strongly believing in the possibility of analyzing mind in a correct manner, more analytically, James pointed out towards individual differences, contrasts which make us unique. His theories also had a profound impact on people's education. Stating that we are the product of our mind, that we can change our way of thinking and acting, based on the free will, James brought hope in an emerging society, eager for better education conditions at the turn of last century. By melting together such apparently opposing fields of knowledge (literature, medicine, psychology, philosophy, religion and mystical perspective), James managed to create a unique epistemology on how our mind and reality work, interact and, sometimes, reject each other.

Highly concerned with how our mind works and reacts towards stimuli, in *The Varieties of Religious Experience* (1902) James makes the difference between existential judgment or proposition and spiritual judgment. Physician by his vocation, James also analysis, from historical point of view, how religion promoted as "geniuses", people who clearly had some sort of emotional disorder: "have often shown symptoms of nervous instability. Even more perhaps than other kinds of genius, religious leaders have been subject to abnormal psychical visitations. Invariably they have been creatures of exalted emotional sensibility. Often they have led a discordant inner life, and had melancholy during a part of their career. They have known no measure, been liable to obsessions and fixed ideas; and frequently they have fallen into trances, heard voices, seen visions, and presented all sorts of peculiarities which are ordinarily classed as pathological."[1]

The author's interest in religious beliefs gave birth to the above-mentioned *The Varieties of Religious Experience. A Study in Human Nature.* James himself struggled with depression and melancholy. James appeals to reconciliation, to accepting all forms of religion, for the essence of the same is the same: merging with new superior forces, although there are difficulties in explaining mystical or religious experience because there are no notions in philosophy or in science that can provide a radical clarification. James's inclination to supernatural is proven by an episode of his family life. After the death of one of the sons, the fiery philosopher resorted to the services offered by Leonora Piper-a medium. Even though he was not fully aware of his powers of communicating with the

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[1] William James, *The Varieties of Religious Experience*, Longmans, Green, And Co., 1917, p. 10.

spirits, he strongly believed in the telepathic capacities of some people. James was attracted to extreme events of human consciousness. He considered that certain panic states and deep fears can lead the consciousness to a beneficial or pathological development. These devastating events, acting as a catharsis, can change a man and often appeal to "mediums to discover the world beyond our own."[2]

William James's spiritual evolution and profound influence he had in such various fields cannot be fully understood without analyzing his background. James had the chance to be born in a family open to knowledge because his brother Henry James was already devoted to dramaturgy as one of the most prominent figures of American literary realism, and his sister, Alice James, was known to literary circles for her lyrical writings and memoirs, but also for feminist articles. James William had all the strengths to become a complete intellectual. After graduating from Harvard Medical School, his medical involvement was minimal. Although, initially, he had wished to become a physiologist, James summed up the teaching of anatomy and later devoted himself to psychology and philosophy. As part of his epistemological approach, James gets closer to areas of the most diverse and not at all easy: religion, mysticism, metaphysics, psychology. The fragile state of health tended him to reverie that would occupy the central part of his intellectual preoccupations. In 1872 he founded the Metaphysics Club for ten years later his baptism to parapsychology materialized by adhering to the Theosophical Society of Occultism and Kabbalah. Transcendentalism fascinated him.

Thus, he had close contacts with Ralph Waldo Emerson and philosophers (Henri Bergson, Josiah Royce, John Dewey, Macedonio Fernández), physicists (Ernst Mach), sociologists (Walter Lippmann), writers (Horatio Alger, Mark Twain) (G. Stanley Hall, Carl Jung, Sigmund Freud). William James taught psychology, anatomy and philosophy at Harvard, but what really fascinated him and stirred his interest was the study of the human mind. During his stay in Germany, time spent with Hermann Helmholtz, James studied color perception, and in France, with Pierre Janet he came into contact with the way the human mind can dissociate as a result of a traumatic event. The latent question that James attempted to answer throughout his career as a

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[2] Tadd Ruetenik, *The Demons of William James: Religious Pragmatism Explores Unusual Mental States*, Palgrave MacMillan, 2018, p. 12.

philosopher and psychologist was the elucidation of the way the human mind operates. Being intrigued by the operations of the human brain, James was desperate to find the order behind the way consciousness builds and functions.

James permanently lived on the border between science and religion. He felt attracted equally by both and his inner turmoil gave rise to an innovative way of relating to the extremes of human mind. He regarded the two sides of perceiving the world as being diametrically opposed "The consequence is that the conclusions of the science of religions are as likely to be adverse (…)"[3] The author understands religion as a form of selfishness, a way to survive from spiritual point of view while real evolution from mind point of view is brought about by scientific knowledge "the interest of the individual in his private personal destiny. Religion, in short, is a monumental chapter in the history of human egotism. (…) Science, on the other hand, has ended by utterly repudiating the personal point of view."[4] In *The Varieties of Religious Experience* James reveals two types of people: once born (people who have an inborn predisposition towards happiness, they are untouched by depression) and twice born people (those of us who believe there is something wrong in our world; they are stigmatized by depression). Twice born people are prone to go through a crisis and are pushed by their will to make sense of existence. Born from a negative state of mind, this positive quest and thus get to a higher plane of life. It is a sort of redemption and salvation comes from inside, a kind of second birth translated by a deeper kind of consciousness. This painful process can be achieved also by religious and mystical experiences. Being happy implies choice, action, active mindset and a misleading of mind by acting "as if".

A further step is made by James when he connects acquiring knowledge with mystical part within us. The author believes that, by developing a critical mindset we can approach secret worlds within us and above us: "In those more developed minds which alone we are studying, the wrongness takes a moral character, and the salvation takes a mystical tinge."[5] This is the point at which the author relates the inner

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[3] William James, *The Varieties of Religious Experience*, Longmans, Green, And Co., 1917, p. 481.
[4] Ibidem.
[5] Ibidem, p. 499.

individual with a common higher conscious. This reality can be achieved only by those spirits who cross the border ordinary reality and step into a form existence simultaneous with the one we live in. James even goes to identifying the way one should take in order to reach the untouchable life: "He becomes conscious that this higher part is conterminous and continuous with a MORE of the same quality, which is operative in the universe outside of him, and which he can keep in working touch with, and in a fashion get on board of and save himself when all his lower being has gone to pieces in the wreck."[6] When one reaches this state of mind, one lives into parallel universes or two dimensions of existence. Religion, as James explains it, is the hope given to mind, is the chance and merely the freedom to choose salvation is the gift given to the human being.

The book that brought him notoriety *The Principles of Psychology* (1890) was the end of a hard work of twelve years. His moral judgment would influence, say the exegetes, President Jimmy Carter's speech inspired by James, *The Moral Equivalent of War*, a lecture held in Stanford University in 1906. In this essay, James advocated for a more peaceful world where violence can no longer be a common denominator. Just a few years before the first conflagration began, James had joined a wave of intellectuals who were fighting to stop a possible war. James acknowledges that war has been used throughout the history of humanity as a form of economic cohesion or impulse. But the civilized world no longer needs such mechanisms of social and economic regulation. James states that human beings carry aggression and cruelty in their gene "We inherit the warlike type. (…) Our ancestors have bred pugnacity into our bone and marrow, and thousands of years of peace won't breed it out of us."[7]

James based his reasoning on the fact that, despite the inherited instincts of our ancestors, thinking that characterizes us as finite evaluations would take over the control of some atavistic characteristics. James pleads for a fearsome and rational way of analyzing the facts, for a pacifist attitude, and arbitrarily resolving any potentially dangerous conflicts for humanity. And these can only be accomplished, according to the author, through education and knowledge, because reason can

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[6] William James, *The Varieties of Religious Experience*, Longmans, Green, And Co., 1917, pp. 499-500.

[7] Apud. Marilyn Fischer, *William James Studies*, Vol. 14, No. 1 (spring 2018), p. 95.

only be conceived in an orderly manner. Exiting poverty for most of society is, according to the author, the only effective way to get rid of violent primitive instincts and generate empathy. Human altruism can develop in the presence of a minimum of well-being that the members of society can gain. Human latent violence can be redirected towards constructive purposes, concludes the author.

Along with Charles Sanders Peirce (1839-1914), James founded a new philosophical school – pragmatism. This theory postulates that an idea gets meaning if it is sought in its practical effects. Thus, reasoning guides action, and truth can be tested by the practical consequences of belief. Even if, along the 20th century this philosophy waned, as it was supplanted by linguistic philosophy, nowadays it is enjoying a revival, and many contemporary philosophers are returning to James as the inspirer for new theories of perception, meaning, and belief. James has many theories concerning happiness, among them the central idea is that happiness consists in orienting yourself to a higher purpose, even if that purpose cannot proved to exist in rational manner. Those who suffer from a "crisis of meaning" are stronger, endowed with more enthusiasm for life than those who just go through the motions and chose the easy path.

In 1912 *Essays in radical empiricism* were published. This collection of essays emphasizes the author's concern with the gnoseological conception that considers sensory experience as the sole source of knowledge. Radical empiricism, the theory put forth by James has its foundation in believing that our world is a huge network made up of apparently unconnected things. The smaller structures of our reality, those which can be perceived by sensory perception, create a complex stream of information in which everything is interconnected and everything has causality. James links the world of perceptions one the one hand with the power of our mind on the other hand. When the two "realities" overlap, we can get the perfect knowledge: "The viscera and cells are only possible percepts following upon that of the outer body. The atoms again, though we may never attain to human means of perceiving them, are still defined perceptually. The mind-stuff itself is conceived as a kind of experience; and it is possible to frame the hypothesis (such hypotheses can be no logic be excluded from philosophy) of two knowers of a piece of mind-stuff and the mind-stuff itself becoming 'confluent' at the moment at which our imperfect

knowing might pass into knowing of a completed type."[8] James considers that the world divides into objective part and the subjective one. He is able to perform the differentiation between the two and this detachment comes from his medical studies: "Sometimes I treat my body as part of the outer nature."[9] The author makes the difference between physical and non-physical existence depending on how narrow or wide the individual chooses to perceive the world. The postulate of radical empiricism is that things are drawn from experience and among them there are connections conjunctive or disjunctive and the directly apprehended universe resides in the relationships among smaller units of reality. Human beings are part of reality but also help building it by the power of their mind "our philosophies swell the current of being, add their character to it."[10] Therefore, reality is a complex construct made up what is already given and to which we add, by our actions, thoughts and perceptions. We are a product and we produce in our turn, in other words.

James deeply studied the power of will and how volitional strength can influence reality. This will can dominate the understanding and the feelings "perception and thinking are only there for behavior' s sake."[11] We can build and educate our will by staying committed, focused and alert at all times. The process of building up will starts with the foundation which is purely organic: "Reflex, instinctive, and emotional. movements are all primary performances. The nerve-centres are so organised that certain stimuli pull the trigger of certain explosive parts; and a creature going through one of these15 explosions for the first time undergoes an entirely novel experience." This is the first step but the next one is to create concept and even materialize them "when a particular movement, having once occurred in a random, reflex, or involuntary way, has left an image of itself in the memory, then the movement can be desired again, proposed as an end, and deliberately willed."[12] Once the concept is shaped, action is the next phase "the bare idea is sufficient, but sometimes an additional conscious element, in the

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[8] William James, *Essays in radical empiricism*, Longmans, Green and Co., New York, 1912, p. 200.

[9] Ibidem, p. 153.

[10] Ibidem, p. 317.

[11] William James, *The Will to Believe and Other Essays*, Longmans, Green and Co., London, 1897, p. 114.

[12] William, James, *Principles of Psychology*, New York, 1890, vol. II, p. 487.

shape of a fiat, mandate, or express consent, has to intervene and precede the movement."[13] Build like a pyramid, the reality we live in is first a construct of our mind and then of our actions put in practice. This is the leading idea in all his treatises and essays. Reality is a multi-layered structure which begins in us "Every pulse of feeling which we have is the correlate or some neural activity that is already on its way to instigate a movement. Our sensations and thoughts are but cross sections, as it were, of currents whose essential consequence is motion, and which no sooner run in at one nerve then they run out again at another."[14]

The author's medical studies brought along depression. As his father had had the same mental issues, James strongly believed in inheritance determinism. Upon reading an essay signed by Charles Sanders Peirce, James started strongly believing in our choice "My first act of free will shall be to believe in free will".[15] Later he created a system in which the foundation is made up of reflexes, instincts, and emotions. As soon as we act according to these, the following actions come to strengthen what we achieved in the first phase. Our mind stores this pattern and next time, with each use of that thought, we reinforce it. In other words, we can train our mind what to reason. Free will, as is defined by James, is the information we chose to focus on and by repeating this pattern we create a stream of consciousness and a higher degree of control over our thoughts. Happiness is, according to James, the active role we undergo in life.

In his paper *Pragmatism: A New Name for Some Old Ways of Thinking* (1907), James presents a further step in self becoming: once you start believing strongly, you can materialize the thought. Depression installs when a person loses the faith in a more profound power in the universe, in a meaning of life. Pessimism feeds depression, anxiety and mental imbalance. Hence, there are two possibilities. Either to consider life as meaningless, point of view adopted by Camus and his existentialism and, on the other hand, the point of view adopted by the representatives of the New Age wave in which science and religion can blend-believing in an order that is beyond our understanding. Nonetheless, James

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[13] Ibidem, p. 522.

[14] Ibidem, p. 526.

[15] Ralph Barton Perry, *The Thought and Character of William James*, Vanderbilt University Press, 1996, p. 323.

adopts a third way: acting "as if" there is an ultimate meaning of life. By pretending we produce a certainty in our hearts that is denied by the rational mind. That means we trick our rational mind. Once the horizon of one's life points to something beyond it, one is opened to the possibility of achieving very high states of consciousness.

The affinity that the logical thinking has acquired materialized in the attempt to define the truth. James admits that the truth depends on the user of this notion, and the world cannot be the object of a perfectly objective study because any experience brings about change of reality. The American psychologist perceived an interconnection between the tangible world and the human mind. Both cannot only interconnect but also influence each other. In his reference work, *Principles of Psychology* (1890), James advances a new term for his era of "stream of consciousness." By this, James understood that the events to which an individual belongs, his consciousness and his thought make up an indestructible whole which first link and the most important is the inner self of the individual. This perspective would be widely exploited by writers such as James Joyce, Virginia Woolf and Marcel Proust. In the *Principles of Psychology*, James describes consciousness as a stream of thought, but in his latest *A Pluralistic Universe* (1909), the author broadens the horizon of understanding from consciousness to being. In this paper he concludes that "mental facts do function both individually and with others at the same time."[16] The hierarchy would be a simple one: consciousness fades in the form of the subconscious and, in its turn the human mind, is part of a wider consciousness. William James, the physicist and philosopher, was contemporary with psychologist Gustav Theodor Fechner (1801-1887) and was aware of his theories in the field of experimental psychology. Just like the German, James comes to the conclusion that there is a universal conscience that includes information of all people. This universal consciousness can be accessed by some of us, as a database. Pluralist pantheism is used by James to pursue the theory of radical empiricism. This common consciousness of humanity is that makes up the good and the Creator. Evil is excluded from this common consciousness.

James applies pragmatism, which he asserted in his career as a philosopher, in identifying the truth. As long as, says the author, a

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[16] James O. Pawelski, *Dynamic Individualism of William James*, State University of New York Press, 2007, p. 90.

certain idea has proven useful in the reality surrounding us, it acquires the value of truth. And in its turn, reality is made up of states of fact, existing connections between ideas and the totality of the other truths we apply. The utility of truth is the primordial one. If it proves usable and is justifiable, bringing added value, any idea can become truth. Human convictions are a sum of instinct, will, and intellect. The conclusion that emerges from *The Will to Believe* (1896) is that no one holds the absolute truth. We cannot know whether the choices we make are right or wrong. But whatever path we choose in life, any decision is better than to stand still. From the problem of truth comes another: that of free will. James has formed a two-stage model. The first is the chance (independent of us) and the second is the choice (which belongs to us and is justified by our desires, by character, by our perceptions). Once we make a choice, our brain stores the pattern of making decisions and information so that the next decision can be taken. This perspective on the functioning of human reason inspired Henri Poincaré, in his theory of probabilities, as well as the founder of critical rationalism - Karl Popper.

James believed that the mind could be more or less favorable in a certain context. Happiness is, according to James, a construct of our mind. If we take responsibility for our decisions and deeds, giving it a sense of existence, we can achieve happiness. The power of inner decision on the surrounding world seems to be the central theme of his philosophical belief. We are what we decide to be. In modern society, in which science is gaining momentum and religious belief is declining, there is a growing rotten feeling of the lack of finality of existence. If individual is allowed to experience these negative experiences, it only deepens anxiety, fears and, as our times confirm, depression. In an attempt to overcome the deadlock, people can adopt two ways: one directed toward science, denying the existence of the universal Creator, or a religious and mystical one, of accepting an order that goes beyond us. It is the power of the will that opens new horizons. But for the "magic" of optimism to function, it is not enough to believe, we must act as if we were happy. Thus, happiness is a matter of choice, those who manage to achieve this state are the one who decide that lived unhappiness is not an obstacle but an instrument to acquire wisdom.

James's original works gained attention of Carl Jung-the founder of analytic psychology and clearly influenced the field of psychology. Richard Rorty (1931-2007), the American philosopher, places William

James in a select lineage at the intersection between neurology, physiology (Pierre Janet) and medicine (Gustav Theodor Fechner and Morton Prince), on the one hand, and the art of writing (Giovanni Papini, H.G. Wells, George Bernard Shaw). The style of James's writing in his writings is an eclecticism that the author himself lived with. Aware of many foreign languages, contact with European philosophy and culture over the years spent on the old continent, his various readings and even his medical studies left deep traces not only in his personality but also in his expression and experience on the page written "across William's body of writing we see a constant movement back and forth in which the Victorian and the modern, the provincial New Englander and the cosmopolitan transatlanticist, the heroic adventurer and the introspective thinker, all jostle for our attention, sometimes with fine lines or phrases."[17] This cultural diversity that transpires from the lines written by William James is the particularity of his encyclopedic sprite. Three ideas can be found as a common denominator in what William James wrote: pluralism, pragmatism and philosophy of religion. This system of reasoning and reporting oneself to life is one of the most complex one as it mixes personal experiences, medicine, science, religious belief, philosophy and psychology in an unitary scheme that satisfies even the most futilitarian. The main idea is that we can be our own allies or enemies and we can build, in an active way, our own universe.

The freshness of James's perspective in psychology and in medical sciences is that he managed to blend psychology, epistemology and metaphysics into quite a new construct. For James, reality was itself was a mixture of features of the things around us towards which we feel attraction. Although he started his writing career as a psychologist and physician, James often leaves this path and writes as a philosopher. Therefore, he considers science only able to give partial answers. According to his system of perceiving the world, science has only a limited access and should appeal to other branches of human reasoning as well. Thus, science has the role of reminding us the causality relationships it uses in order to make use of this apparatus in a more subtle way. Postulating a higher and more complex order of things,

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[17] Martin Halliwell, Joel D.S. Rasmussen, *William James and the Transatlantic Conversation: Pragmatism, Pluralism, and Philosophy of Religion*, Oxford University Press, 2014, p. 9.

science opens the door of knowledge which should be completed with perceptions, concept and will.

James dreams of a new system of thinking which might sum up all human knowledge: "All attempts to explain our phenomenally given thoughts as products of deeper-lying entities (whether the latter be named Soul, Transcendental Ego, Ideas, or Elementary Units of Consciousness) are metaphysical. This book consequently rejects both the associationist and the spiritualist theories; and in this strictly positivistic point of view consists the only feature of it for which I feel tempted to claim originality. Of course this point of view is anything but ultimate. Men must keep thinking; and the data assumed by psychology, just like those assumed by physics and the other natural sciences, must some time be overhauled. The effort to overhaul them clearly and thoroughly is metaphysics."[18]

Although a glimpse into the universe that James proposes his readers, the present article makes room for further studying of the complex reality James unveils. The author's theories are nowadays more actual than ever before especially that we realize we are interconnected both physically and in a mental universe.

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[18] William James, *Preface* to *The principles of psychology*, Vol. I, New York Henry Holt and Company, 1890, p. VI.

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EXPERIMENTAL STUDY ON THE ORGANIZATION OF RECREATIONAL ACTIVITIES MEANING TO ACTIVELY PROMOTE HEALTH

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ABSTRACT: *The **concept** of recreational sports represents a complex of activities based on practicing free exercise in a clean and safe environment, individually or in groups, in an organized or independent manner. Alternatively called "sport for everybody", it is supported by the state, non-governmental organizations and local government structures with a view to maintaining health, as well as promoting recreation and socialization of citizens.*

*The **aim** of the research is to demonstrate the effectiveness of practicing recreational sport in actively promoting health and in improving social integration through designing sporting and leisure programs, so as to achieve positive effects in terms of somatic, functional and motor parameters.*

*The **objectives** aimed at were:*

-Identifying ways to stimulate students to become aware of, and get involved in physical education and sport activities;

-Elaboration of experimental training programs in different variants in order to validate the research hypotheses;

-Developing differentiated modular programs, taking as a priority body modeling and the improvement of the physical condition, according to the individual particularities.

The research was conducted on a sample that was then investigatively surveyed, which included 240 female students, 18-23 year-old, of the University of Pitești, from the 1st, 2nd, 3rd and MA years, included in an organized system of participation in the physical education course.

Conclusions: *We consider that the programs developed and subjected to experimentation were effective, namely through the specific exercises aimed at improving the student's physical condition. Thus, practicing recreational sports during the time one has at one's disposal is one of the most beneficial solutions in today's society to promote health through this type of activity; recreational*

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sport therefore represents a means of directing and controlling the social phenomenon.

KEYWORDS: *sports education, recreational sports, physical exercise, social integration, promoting health.*

Introduction. The range of issues covered by the concept of recreational, sporting and leisure activities

Sporting activities, or else athletic and recreational activities represent a necessity that greatly conditions the performance required of individuals, regardless of their age or profession. Through their role in society, recreational and sporting activities go well beyond the scope of mere recreational activities, coming under the umbrella of the vast program meant to train and shape the citizens for work and social life.

The whole range of sporting and recreational activities, organized for the purpose of fortification, compensation, relaxation and recreation, is becoming increasingly widespread. Being integrated into the life of contemporary humans, such activities are a constant concern for all the actors involved in sports training, creating the appropriate framework to ensure and maintain a balance in the development of the human being.

By creating a new vision of recreational sport and the exclusively positive aspects that it involves, we are trying to ensure a primordial prophylaxis, which has been so little exploited, yet having such a major importance in maintaining the health of the population.

The importance and topicality of the theme

The value of the movement for the human body, the necessity to practice it systematically and consistently by both men and women, are unanimously recognized in our times.

The issue of maintaining or improving health through sport is a topic of constant and topical relevance, which continues to concern the specialists in the field of youth education, as well as an issue determining the somatic and functional as well as motor potential of the population in the university education. At the same time, it adds substance to approaching physical education and sports, sports medicine and other related fields.

The topicality, opportuneness and timeliness of the topic are

essentially given by the fact that, over the last few years, there have been concerns for health assessment in this segment of the population, on the one hand, and on the other hand, an interdisciplinary assessment from the health perspective allowed the drawing of a set of concepts regarding the role of practicing physical exercises as far as the state of health is concerned[1].

The studies and researches conducted so far have highlighted the fact that the lack of space and conditions necessary for the pursuit of recreational and recreational activities induces a state of inactive tolerance that prevents finding solutions to turn physical exercises into a means of recreation and leisure.

The general *objectives* are:

Studying the way in which this range of issues is addressed in the literature.

Drawing up questionnaires, through which the efficiency of research is appreciated.

Identifying how students prefer to spend their free time, and the place of practicing sport as part of that group of concerns;

Identifying the main reasons that lead the students to practice sports;

Identifying the main reasons that could motivate students to practice sport more often (or regularly);

Determining students' degree of satisfaction with the conditions in which they practice sport and how physical education classes are conducted;

Identifying the types of sporting activities practiced and preferred;

Identifying the frequency of student participation in physical education and sports classes;

Determining the frequency of the students practicing sports during as part of their leisure activities;

Better knowledge of the impact that practicing physical exercise and sports has on the process of enhancing student socializing, developing his/her personality as a whole, and stimulating their interest in the continuous and systematic pursuit of sports activities;

Assessing the subjects' state of health recording and processing their responses to the questionnaire on lifestyle and risk factors.

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[1] Damian, M., *Aerobic Gymnastics for Students*, Constanţa, "Ovidius" University Press, 2005, p. 172.

Conducting the research process on two groups was done as follows:

- the *group under experimentation* – is the group subject to a regular program of sporting and recreational activities, of the aerobic type, for over 40 minutes, 3-5 times a week, combining several methods and means of training;

- the *control group* – the group that only takes part in the physical education course, i.e. one lesson per week, in which the traditional, frontal type of training was used;

Processing and comparing the data obtained in the two stages of the research (the initial and final phases), in order to ascertain the changes produced during the working period;

Verification of the working hypotheses and improving the experimental training program;

Identifying the anatomical and physiological particularities encountered, as well as the possible physical deficiencies, in order to differentiate the students and individualize the content of the lessons, in both a formal and an informal way, the theme of which is part of aerobic gymnastics, society dancing and swimming.

Application of the independent variable to the experimental group; Adaptation and application of the intervention plan, in addition to the classical means, while observing the curriculum.

Identifying the positive effects of implementing individualized programs on improving physical and mental health.

Highlighting the evolution of a number of significant somato-functional and motor parameters.

Determining the degree of significance of the positive or negative differences resulting from the comparison of the results.

The issue of maintaining or improving health through sport is a constantly topical issue, which continues to concern the specialists in the field of youth education.

Physical exercises, and especially recreational sports, are of particular importance and they are the very basis of the state of well-being that defines the concept of health. Moreover, the physical effort as practiced in a group plays a special role in social integration.

In order for young people to be willing to broaden systematically practicing physical exercise outside of physical education and sports classes in the faculty curriculum, it is necessary to form and inculcate a

"sporting education", which implies the formation of positive attitudes and beliefs regarding the practice of sport through its multiple forms[2].

There are multiple forms and modes of movement that humans can practice in their spare time, each having its own inner particularities. Athletics in all its forms, football/soccer, gymnastics, jogging, table tennis, lawn tennis, swimming, basketball, (European) handball, martial arts, (figure) skating, (tourist) hiking, biking, bowling, badminton, skiing – these are some of the sports that can be practiced by people of all ages and under various conditions.

-Landmarks concerning the design of free time sporting programs;

Irrespective of the age or socio-professional age involved in such free-time sporting programs, it is absolutely necessary to adhere to several methodological benchmarks formulated by Ruskin H. (1981), and completed by Bota A. (2006):

-the program must be balanced and quite varied;

-the program will emphasize lifelong recreation elements;

-the program should enable counseling by specialists and contribute to education of the subjects for their spare time;

-the program will emphasize positive personality traits; the leisure activities will promote the competitor in a controlled manner;

-the program must serve the entire community;

-it is desirable that the program should contribute to family solidarity, social integration, prevention of harmful leisure and the culture of society as a whole;

-the minimum workload recommended is 30 minutes of moderate or intense exercise (for advanced practitioners), and it is recommended that it be exercised daily;

-it is recommended that 65-75% of free time programs be directed to long-term (aerobic) activities, and 25-30% to force exercises;

-the aerobic exercises will be designed in such a way as to engage the great muscle groups;

-an essential condition for engaging in free time programs is the assessment of health.

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[2] Ganciu M., *Aerobic Gymnastics*, Bucharest, University of Bucharest, 2009 p. 162.

-Recommendations for practicing leisure activities;

In order for anyone to practice sporting and recreational activities, specialists recommend:

-Detailed medical check-up and doctor's advice.

-Enrollment in a group and branch of aerobic sport that are consistent with the age and level of training of future practitioners.

-Initial and then periodic assessment of cardio-pulmonary adaptive capacity for extended exercise.

-Regularly performing heart rate control during programs.

-Adequately applying the programs and guidelines of the specialists.

-Correlation of the activity with rational nutrition and adequate relaxation.

The sample that was surveyed comprised 240 female students, 18-23 years of age, of the University of Piteşti, from the 1st, 2nd, 3rd BA, and the MA study years, included in an organized system of participation in the physical education course.

- The *experimental group*, comprising 120 subjects, participated in the two weekly physical education classes and in an independent physical activity program, 3-5 times a week, the duration of which was 40-60 minutes, by practicing a recreational sport.[3]

The members of the experimental group participate in individualized programs using means specific to: aerobics, dancing, swimming, jogging, running, all practiced as independent activities, as well as sports and recreational programs, including the items in the following list: "The Run for Health Programme", "Relax Yourself by Dancing", "The Sports for All Week in Our University", "Better physical condition by cycling", "Prevention of obesity through swimming", "Gymnastics for a beautiful body", "Excursions and hikes during the weekend".

- The *control group*, consisting of 120 subjects, will limit their activity to one lesson per week, 2 hours, as part of the physical education course.

- Both the control group and the experimental group will work, during the physical education course, in keeping with a joint program.

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[3] Bota, A., *Physical Exercises for Active Life – Free Time Activities,* Bucharest, University Book Publishing House, 2006, p. 126.

Planning the way the psycho-pedagogic experiment is conducted

Period	Activity	Group
7–15 Oct. 2018	Applying the tests of somatic, functional and motor evaluations. Initial testing	Experimental group
15–20 Oct. 2018	Applying the tests of somatic, functional and motor evaluations. Initial testing	Control group
20 Oct. 2018– 20 May 2019	Applying the program "Sports for Health and Recreation"	Experimental group
20–25 May 2019	Applying the somatic, functional and motor evaluation tests. Final Testing	Experimental group
25–30 May 2019	Applying the somatic, functional and motor evaluation tests. Final Testing	Control group
15–20 May 2019	Applying stress evaluation and social integration questionnaires	Experimental group
15–20 May 2019	Applying stress evaluation and social integration questionnaires	Control group
1–30 June 2019	Processing and interpreting the data	Experimental group Control group
1July – 30 August 2019	Drawing up the final report of the research	
June 2019	Dissemination of results	

The tests and trials applied were:

a) *Testing the morphological indices:*

We performed the following anthropometric measurements: height; body weight; thoracic (rest, inspiration and forced expiration); abdominal perimeter; hip perimeter; the perimeter of the thigh; body mass index BMI; Lorentz Index; Adiposity Index.

b) *Testing the functional capacity* (the Ruffier Exercise Capacity Test, a test meant to explore the capacity of effort)

c) *Tests for assessing the level of development of motor skills* Assessing fitness by the "HETTINGER SYSTEM" (Sbenghe, T., 2005), which tests the mioarthrokinetic apparatus, and includes: joint mobility testing,

balance testing and muscle strength testing (the ten tests of the Hettinger system).

d) The stress assessment test was conducted through a sociological inquiry based on the "Cohen Williamson Self-Assessment Test" (Derevenco, P., 1992)

e) The *assessment of the social integration capacity* was achieved through the questionnaire survey "Know yourself", (Pavelescu V., 1982)

f) The *survey based on a guided conversation* sought to obtain information about the motivation to practice recreational sports.

The program applied to the experimental group was developed after evaluating the results obtained in the preliminary study.

Applying the programs for the psycho-pedagogic experiment was done in:

- the physical education lesson, by sport disciplines;
- the independent program;
- sporting and recreational activities;

The intervention plan represents the formative phase of the experiment, which was carried out after a didactic project realized through the participation of the students in the programs of the Federation for Sport for All ("Week of Sports for Everybody in Our University" "Run for Health" "Walking Day"), and also as part of the project "Sports for health and recreation", conducive to the formation of sports skills and life skills; what is learned in the sport field should be transferred to other non-sporting contexts.

The program runs for 12 weeks, once a week; the student acts as a coach, he/she leads parts of the lesson, demonstrates, corrects, gives methodical guidance. Participating in these sports programs helps our students to obtain their diploma of animator or sports instructor in recreational sports with the issuance of attestations by the Sport for All Federation. Among these leisure activities are included: "Relax by dancing", "Better physical condition by cycling", "Weekend trips and hikes".

These programs, which we are conducting at Bucharest University, encourage students to incorporate physical activity into their everyday lives, thus creating a balanced way of life, which does not lack physical

exercise[4].

The strategies used also refer to the methods, means and forms of organization used in the training the students.

The exercise programs and routines performed as independent activities included:

-12 aerobics gymnastics programs;
-12 swimming programs;
-12 society dance programs;
-12 running programs;

Table no. 2

Planning the program "Sports for Health and Recreation"

No.	Name of the activity	Month and year	Venue
01.	Launching the project "Sports for Health and Recreation" within the framework of the "Health, Sports, Success" Conference	October 2018	University in Piteşti
02.	International Walking Day	October 2018	"Lunca Argeşului" Park
03.	"Week of Sports for Everybody in Our University"	October 2018	University in Piteşti
04.	"Better physical condition by cycling"	October 2018	"Strand" Park
05.	"Prevent obesity by swimming"	November 2018	Piteşti
06.	Gymnastics for a beautiful body	December 2018	Swimming pool
07.	"Relax by dancing"	January 2019	Piteşti
08.	"Week-end trip"	February 2019	University in Piteşti
09.	Aerobic gymnastics for good physical shape	March 2019	University in Piteşti
10.	Relaxation by mountain hiking	April 2019	Făgăraş
11.	"Run for Your Health" May 2019	May 2019	Faculty of Sciences, Physical Education and Computer Science

- The results of the final testing of the somatic parameters;

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[4] Raţă G., "Leisure Management Strategies", Master's Course, Iaşi, PIM Publishing House, 2007, p. 124.

INDEX OF BODY MASS MEASUREMENTS

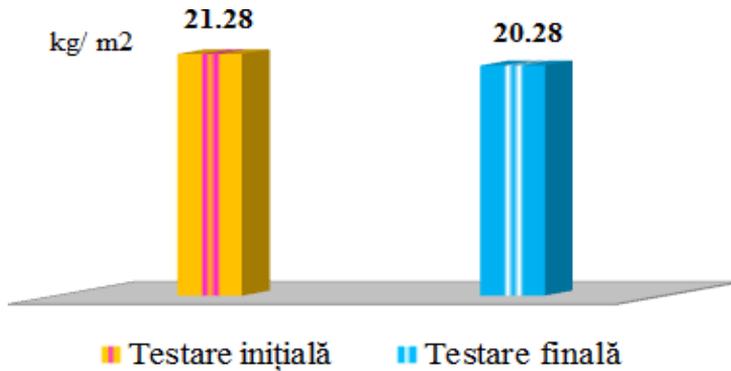| TESTING	Mean	Median	Deviation from standard	Minimum	Maximum	Amplitude	Variation coefficient
Initial	21.28	20	3.69	16	36	21	17.4%
Final	20.28	19	3.13	16	33	18	15.4%

Fig. 1 Body mass index – Mean values

Table no. 4

THORAX ELASTICITY

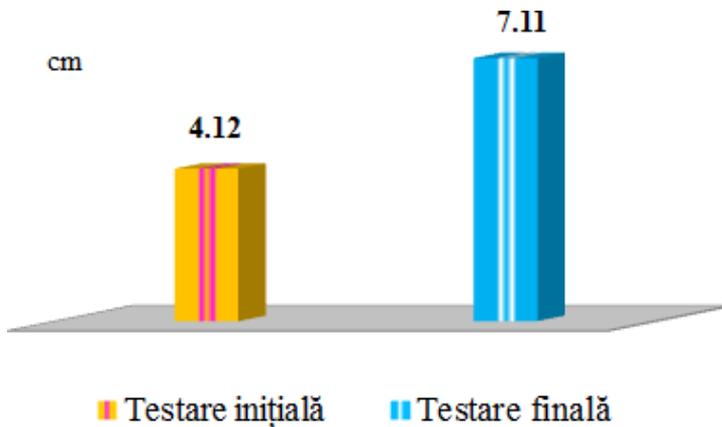| TESTING	Mean	Median	Deviation from standard	Minimum	Maximum	Amplitude	Variation coefficient
Initial	4.12	4.0	1.78	1	8	7	43.2%
Final	7.11	7.0	1.84	4	13	9	25.8%

Fig. 2. Thorax elasticity – Mean values

ADIPOSITY INDEX

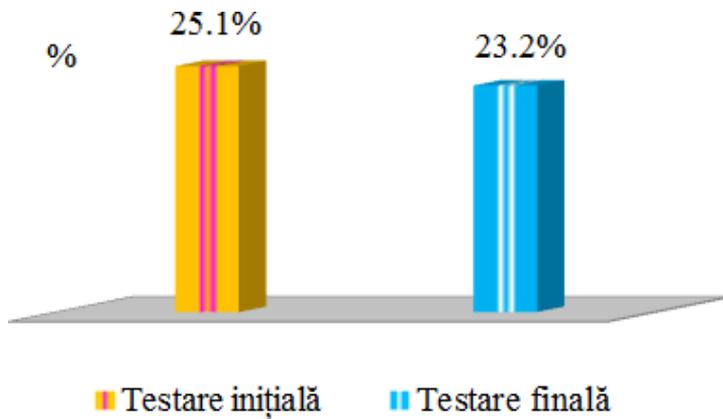| TESTING	Mean	Median	Deviation from standard	Minimum	Maximum	Amplitude	Variaon coefficient
Initial	25.1%	25.0%	3.5%	17.0%	35.0%	18.0%	14.0%
Final	23.2%	23.0%	2.3%	18.0%	28.0%	10.0%	9.9%

Fig. 3. Adisposity index – Mean values

- Results of the final testing of functional parameters;

RUFFIER INDEX

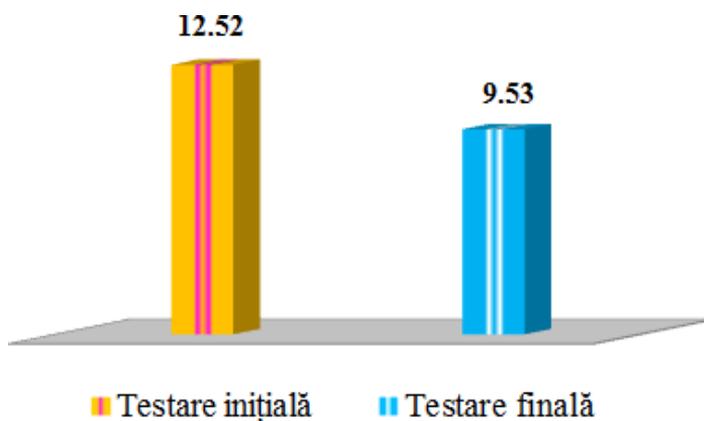| TESTING	Mean	Median	Deviation from standard	Minimum	Maximum	Amplitude	Variation coefficient
Initial	12.52	12	3.50	6	22	16	28.0%
Final	9.53	9	3.86	3	20	17	40.5%

Fig. 4. Ruffier Index – Mean values

- Results of the final testing of motor parameters;

TOTAL SCORE OF THE FITNESS INDEX

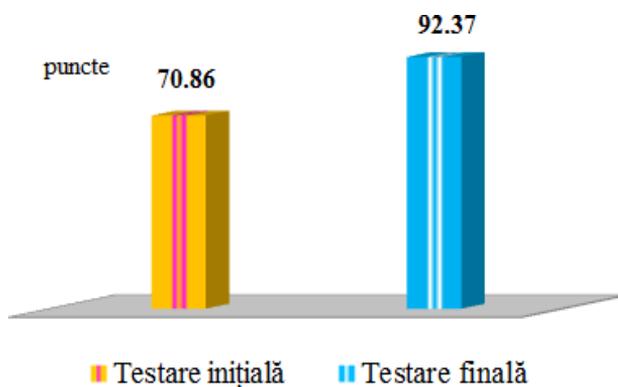| TESTING	Mean	Median	Deviation from standard	Minimum	Maximum	Amplitude	Variation coefficient
Initial	70.86	70	5.68	55	81	26	8.0%
Final	92.37	93	5.68	72	100	28	6.1%

Fig. 5. Fitness testing – total score of the fitness index – Mean values

- The results of the "guided talk"

Following the conversations with a total of 20 female participants, we found that aerobic gymnastics practiced systematically contributes to creating a state of optimism and positive thinking. The statement belongs to some young women who regularly attend routine gymnastics lessons.

In terms of affection, aerobic gymnastics makes its full contribution by producing endorphins in the brain; aerobic exercise also helps to overcome stress, and a state of calmness sets in the body, which, in case of stress, makes it possible for the heart rate to not increase, thus reducing the effects of adrenaline on the body[5].

Aerobic gymnastics also improves relationships with the other people; a beautiful self-image leads to choosing the right partners, thus developing healthy, positive relationships.

After the statistical and mathematical processing of the results obtained concerning the students of the two groups, we can report the following finds:

a. when assessing the somatic indices

Both of the groups subject to observation made improvements due to the program applied; however, significant improvements were found in the experimental group in almost all the indicators used compared to the control group.

• The somatic measurements made showed a decrease in weight, and improvement in BMI and abdomen circumference, which proves the effectiveness of the program applied to the experimental group.

• The average body mass index is equal to 20.28 kg/m^2 in the experimental group, respectively 20.74 kg/m^2 in the control group. The means indicate a normal weight for both groups. The mean of the experimental group is smaller than the other mean by 0.46 kg/m^2 (i.e. 2.2%).

• The independent t test with $p = 0.273 > 0.05$ and df = 238 indicates, in this case, a statistically insignificant difference between the two groups with respect to the average body mass index. The null hypothesis is accepted.

Table no. 8

BODY MASS INDEX

GROUPS	Mean	Mean diff. (E-C)	Median	Dev. from standard	Minim	Maxim	Amplitude	Variat. coeff.
Experiment	20.28	-0.46	19.4	3.13	15.6	33.4	17.8	15.4%
Control	20.74	(2.2%)	19.9	3.41	16.4	35.8	19.4	16.4%

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[5] Sabău, G., *The Effects of Organized Physical Movement on Quality of Life*, Doctoral Thesis, Bucharest, 2010, pp. 101-103.
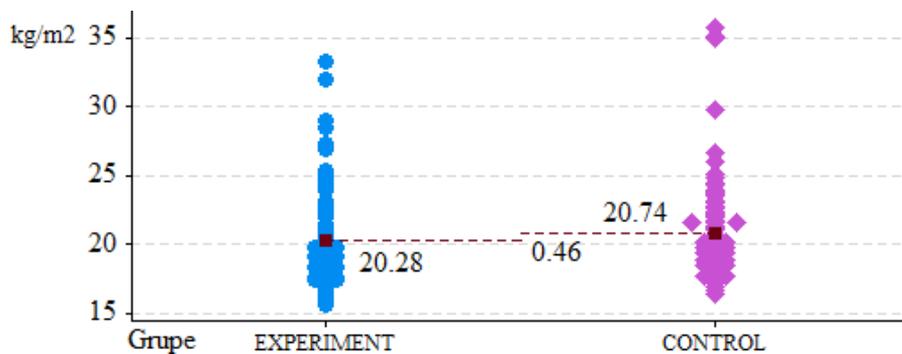
Fig. 6. Body mass index

• An improvement in the "adiposity index" is achieved by the experimental group (the mean, or average being equal to 23.2%). Subjects of this group manage to remain within the category of subjects with optimal adiposity (15-25%);

• The mean of the experimental group is lower by 1.0% (4.3%), the average adiposity index being equal to 23.2% in the experimental group, and 24.2% in the control group, which mean values indicate optimal adiposity. The magnitude of the effect (0.38) shows a small to medium difference between the means or averages of the two groups.

• The independent t test with $p = 0.004 < 0.05$ and $df = 216$ indicates, in this case, a statistically significant difference between the two groups with respect to the average adiposity coefficient. The research hypothesis is accepted.

Table no. 9

ADIPOSITY INDEX

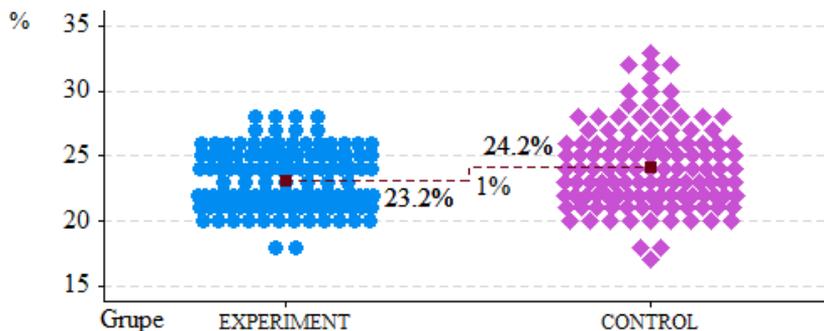| GROUPS	Mean	Mean diff. (E-C)	Median	Dev. from standard	Minim	Maxim	Amplitude	Variat. coeff.
Experiment	23.2%	-1.0%	23.0%	2.3%	18%	28%	10%	9.9%
Control	24.2%	(4.3%)	24.0%	3.2%	17%	33%	16%	13.2%

Fig.7. Adiposity index

• The experimental group gets superior improvements for "chest elasticity". The mean or average of the experimental group is higher by 2.36 cm (49.6%). The magnitude of the effect (i.e. 1.52) shows a large difference between the averages of the two groups. The independent t test with p <0.001 <0.05 and df = 204 indicates, in this case, a statistically significant difference between the two groups.

Table no. 10

THORAX ELASTICITY

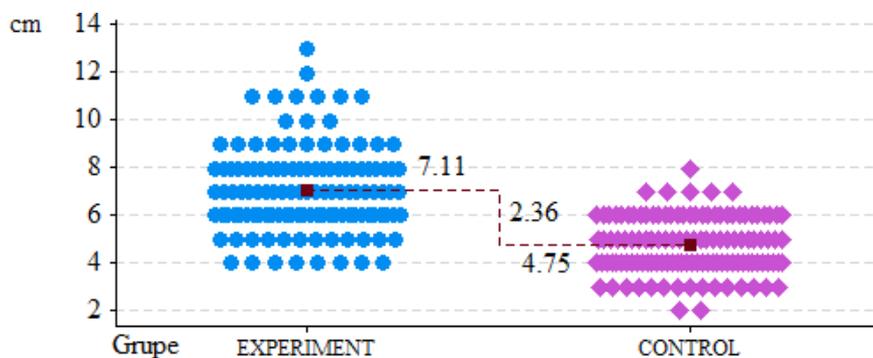| GROUPS	Mean	Mean diff. (E-C)	Median	Dev. from standard	Mini m	Maxi m	Amplitu-de	Variat. coeff.
Experiment	7.11	2.36	7.0	1.84	4	13	9	25.8%
Control	4.75	(49.6%)	5.0	1.19	2	8	6	25.1%

Fig. 8. Thorax elasticity

- Considering I. Lorentz, in the final test weight is bigger than the ideal average weight by 0.97 kg (1.7%), the difference being statistically insignificant – the significance threshold p = 0.2678> 0.05

- It follows from this record of values that the didactic project experimented had greater instructional efficiency than traditional designing.

b. when evaluating the functional indexes:

- In both groups the final results are better than the initial results, which were recorded at the beginning of the experiment. In the Ruffier test, the mean index is equal to 9.53, which indicates a mean exercise capacity in the experimental group, respectively, 12.25 in the control group, which is a satisfactory effort capacity. The average of the experimental group is less than 2.72 (i.e. 22.2%).

- The independent t test, with $p < 0.001 < 0.05$ and $df = 238$, indicates, in this case, a statistically significant difference between the two groups relative to the average Ruffier test index. The research hypothesis is accepted.

- The systematic self-control of the pulse (in each lesson) was an objective evaluation criterion for the effects of the efforts.

Table no. 11

FUNCTIONAL INDEX
THE RUFFIER TEST

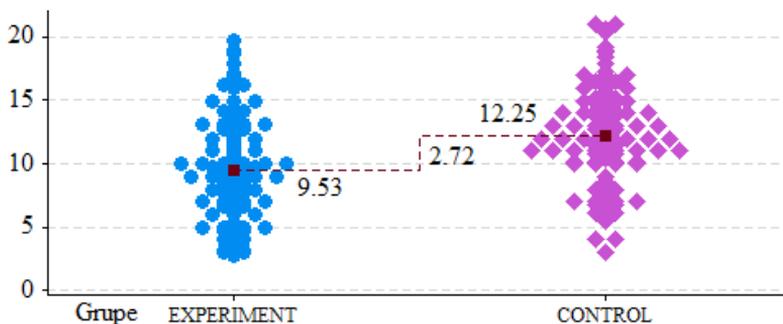| GROUPS	Mean	Mean diff. (E-C)	Median	Dev. from standard	Minim	Maxi m	Amplitu -de	Variat. coeff.
Experiment	9.53	-2.72	9.1	3.86	2.7	19.8	17.1	40.5%
Control	12.25	(22.2%)	12.0	3.84	3.0	21.0	18.0	31.4%

Fig. 9. The Ruffier test

c. when assessing the fitness level

i.   The average total fitness score is 92.37 for the experiment group and 79.31 for the control group. The average of the experimental group is higher by 16.5%. This shows a very good fitness level, while the average of the control group indicates a good fitness level. The magnitude of the effect (2.09) shows a large difference between the averages of the two groups[6].

ii.   The independent t test with p <0.001 <0.05 and df = 231 indicates, in this case, a statistically significant difference between the two groups. The research hypothesis is accepted.

iii.   The programs proposed were a good way to improve anatomical joint mobility, balance and muscle strength;

iv.   The significant gains in the experimental group confirm the hypothesis formulated at the beginning of the experiment.

Table no. 12

FITNESS TEST

TOTAL SCORE OF THE FITNESS INDEX

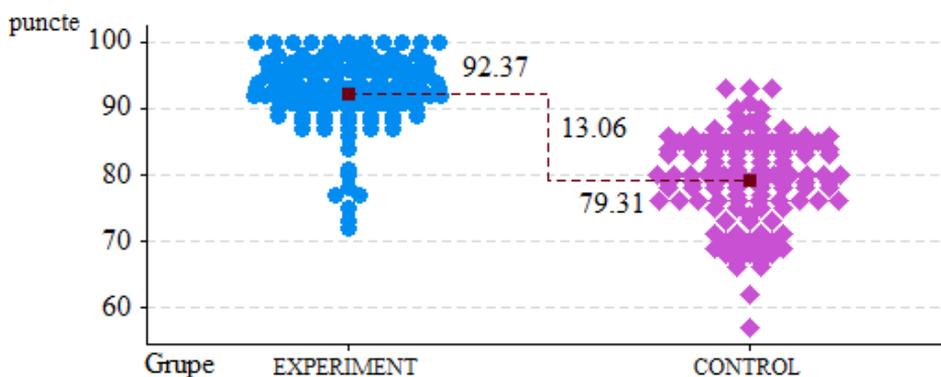| GROUPS	Mean	Mean diff. (E-C)	Median	Dev. from standard	Minim	Maxim	Amplitu-de	Variat. Coeff.
Experiment	92.37	13.06	93.0	5.68	72	100	28	6.1%
Control	79.31	(16.5%)	80.0	6.80	57	93	36	8.6%

Fig.10 Fitness – Total score index

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[6] Kiss I., *Physiotherapy and medical reward,* Bucharest, Medical Publishing House, 2007, p. 125.

d. when assessing the stress level

• In the initial testing, the subjects of both groups had a higher level of stress, and after applying the intervention program in the experimental group, we found a higher decrease of the score in the final testing (E = 25,30, versus C=36.37), which demonstrates the appropriateness of this type of intervention for prophylactic purposes.

• The average stress self-assessment score is 25.3 in the experiment group and 36.37 in the control group. The mean of the experimental group is less than 11.07 (30.4%) and shows a low stress level. The level of stress for the control group is medium. The magnitude of the effect (1.35) shows a very large difference between the averages of the two groups[7].

• The independent t test with $p<0.001<0.05$ and df=173 indicates a statistically significant difference between the two groups. The research hypothesis is accepted.

• Both at the level of the group of subjects in the experimental group and in the control group, there was an improvement in the level of stress, and an important tension relief at the level of the main risk factors.

• Practicing sporting and recreational activities by the experimental group determines the significant decrease of the score ($p<0,001$) in the final testing.

Table no. 13

STRESS SELF-ASSESSMENT

GROUPS	Mean	Mean diff. (E-C)	Median	Dev. from standard	Minim	Maxim	Amplitude	Variat. coeff.
Experiment	25.30	-11.07	24.0	5.10	20	42	22	20.1%
Control	36.37	(30.4%)	38.0	10.43	21	53	32	28.7%

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[7] Dragulin, I., Pelin, R., *Gymnastic Guidance for Students,* Bucharest, Printech Publishing House, 2006, p. 162.
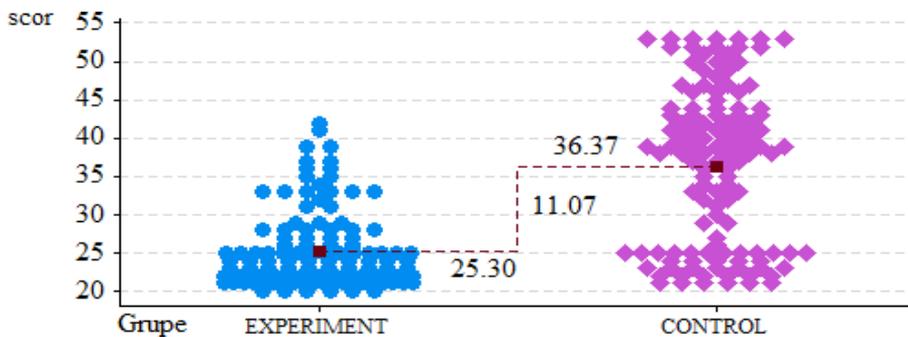
Fig. 11. Scores of stress self-assessment

e. in assessing the level of social integration

• The experimental group clearly achieves a more significant social integration than the control group. This is especially evident from the averages of points obtained in variants "a" of the answers, from the average of the total results and from the social integration marks – E = 8.37 as compared to C = 7.25, where p<0.001

• The average value for social integration scores is 8.37 for the experiment group, and 7.24 for the control group. The average of the experimental group is higher by 1.13 (15.6%). The magnitude of the effect (1.37) shows a large difference to very large between the averages of the two groups.

• The independent t test with p<0.001<0.05 and df=238 indicates in this case a statistically significant difference between the two groups relating to the average of the social integration marks. The research hypothesis is accepted. In reality, the subjects of the experimental group achieve a meritorious level of social integration.

SOCIAL INTEGRATION
NOTES

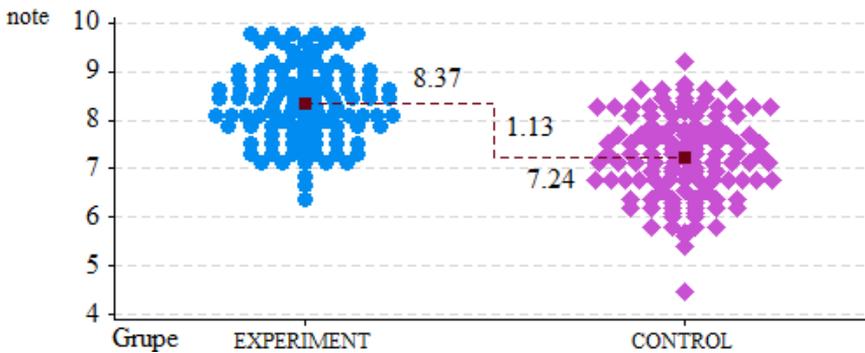| GROUPS	Mean	Mean diff. (E-C)	Median	Dev. from standard	Minim	Maxim	Amplitude	Variat. coeff.
Experiment	8.37	1.13	8.5	0.77	6	10	3	9.1%
Control	7.24	(15.6%)	7.3	0.88	4	9	5	12.1%

Fig. no. 12. Notes

Conclusions on the "Somatic Indicator Testing"

Following the application of the experimental research intervention plan, the following conclusions can be drawn:

-Interpreting the statistical data shows that both groups subject to observation make remarkable improvements as a result of the training process conducted. However, in order to reveal the significant changes in the somatic indicators, we present the improvement parameters for the most significant indicators[8].

-We notice in the experimental group that the body mass index fell by 4.7% on average. This decrease is statistically significant, with the significance threshold at $p < 0.001 < 0.05$. The null hypothesis is rejected, and the research hypothesis according to which the average decrease in the body mass index is statistically significant is accepted.

-The experimental group achieves superior improvements for "chest elasticity" and "adiposity index". From this record of values, it is evident that the didactic project experimented has more instructional

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[8] Popescu, M., *Physical Education and Sports in Students' Training,* Bucharest, Didactics and Pedagogy RA, 1995, p. 162.

efficiency than traditional design[9].

-The adiposity index decreased in the experimental group from an average of 25.1%, in the intial/baseline testing, to 23.2%, in the final testing. The value of the media shows a shift from a moderately increased adiposity to an optimal adiposity. This decrease is statistically significant, with the significance threshold $p < 0.001 < 0.05$.

-The training/instructional strategies applied (especially those requiring cardio-respiratory functions) have led to increased chest/thorax elasticity, thus improving the respiratory system)

-The experimental group achieves superior improvements for "chest elasticity". The average of the experimental group is higher by 2.36 cm (49.6%). The magnitude of the effect (1.52) shows a large difference between the averages of the two groups. The independent t test, with $p < 0.001 < 0.05$ and $df = 204$, indicates, in this case, a statistically significant difference between the two groups[10].

-Considering I. Lorentz, weight is bigger the final test than the ideal weight by 0.97 kg on average (i.e. 1.7%), the difference being statistically insignificant – the significance threshold $p = 0.2678 > 0.05$

-The complex system of improving somatic indicators produced favorable effects on both the health state and the body's flexibility in motion. These beneficial effects that we could find, or that could found by the students, triggered the transformation of extrinsic motives (the aspiration to look nice in order to be attractive to other people) into intrinsic motivations (the desire to look beautiful and healthy – *Mens sana in corpore sano*), as well as the radical change of opinions and attitudinal features (opinions about the importance of body education, self-confidence, interest in understanding, and awareness of the effects of physical exercise.)

Conclusions on Functional Testing

Following the statistical and mathematical processing of the results obtained by the students of the two groups, the following conclusions can be drawn:

-The female students managed to improve their physical condition,

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[9] Baciu, M., *Sport and Quality of Life,* Cluj-Napoca, Napoca Star Publishing House, 2009, p. 201.

[10] Vințanu, N., *Lectures on sports education,* Bucharest, ANEFS Publishing House, 1998, p. 78.

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an improvement seen through the results of the final test

-In both groups the final results are better than the initial results recorded at the beginning of the experiment; In the Ruffier test, the mean index is equal to 9.53, which indicates a mean exercise capacity in the experimental group, respectively, 12.25 in the control group, i.e. a satisfactory effort capacity. The average of the experimental group is lower by 2.72 (i.e. 22.2%).

-The independent t test with $p < 0.001 < 0.05$ and df = 238 indicates, in this case, a statistically significant difference between the two groups relative to the average Ruffier test index. The research hypothesis is accepted.

-The systematic pulse self-control (during each lesson) was an objective evaluation criterion for the effects of the efforts.

-Practicing sporting and recreational activities, according to a certain program that is rigorously elaborated, along with an individualized program (3-5 times per week of independent activity), led to the development of higher levels of aerobic capacity. It can therefore be appreciated that the hypothesis in the spirit of which the research was carried out was confirmed.

-Based on the conclusions of the data obtained, programs are designed to increase the efficiency of physical education lessons in this age group.

-In this social category, work by objectives, paralleled by raising awareness of the effects of this type of effort, as well as creating a referential benchmark of one's own aerobic, and indirectly, of one's own functional status, favors increasing the motivation to practice body activities in general, for their independent practice in particular.[11]

-The systematic practice of aerobic physical activities by the students of the University of Pitesti had beneficial effects on the exercise capacity or better adaptation of the body to aerobic physical demands. In fact, the Ruffier test provides objective indicators for assessing cardiovascular and respiratory functional capacity. The fact that the cardiovascular device – which is characterized by high sensitivity and is relatively easy to measure – performs important roles in physical effort, has a high functional lability, and responds quickly even to low stresses, recommends it as an instrument in the research of cardiovascular and

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[11] Bocu, T., *Physical activity in the life of modern man*, House of Sciences, Cluj-Napoca, 2007, p. 186.

respiratory regulation processes. It is advisable to take into account the impact of the physical condition on the health of young people, and these in turn should exercise in particular for the components of their fitness proper, which is much more accessible to long-term practice, even up to advanced ages.

Conclusions on the fitness level assessment

Fitness assessment was done by testing the mioarthrokinetic apparatus, which includes: articulation mobility testing, balance testing, and muscle strength testing (the ten Hettinger test trials).

After the study, the following conclusions can be drawn:

-The average score of the total fitness score is 92.37 in the experiment group and 79.31 for the control group. The average of the experimental group is higher by 16.5%. This shows a very good fitness level, while the average of the control group indicates a good fitness level. The magnitude of the effect (2.09) shows a large difference between the averages of the two groups. The significant increases obtained by the experimental group confirm the hypothesis formulated at the beginning of the experiment;

-The programs proposed were a good way to improve joint mobility, balance and muscle strength, and a means of creating fitness;

-The means selected, the number of series, the number of repetitions, the breaks between repetitions and between the series, respectively training every week, five times or at least three times a week, are very effective, and so the results suggested by the study are relevant.

-The mean values recorded in the initial test did not show significant differences between the control and the experimental group ($p > 0.05$), but the final testing showed statistically significant differences between the control and the experimental group ($p < 0.05$)[12].

-The data of the experimental investigation conducted can be a starting point for further research into improving fitness levels.

-The significant improvement obtained by the experimental group confirm the hypothesis formulated at the beginning of the experiment.

-Following the experiment, it was possible to determine a system of means of action, which are effective in improving the mioarthrokinetic

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[12] Bota, A., *Kinesiology*, Bucharest, Didactic and Pedagogical Publishing House, 2007, p. 162.

apparatus, which was one of the objectives of this paper.

-Knowing how to periodically assess your fitness can be an effective means of tracking your own motor skills for this age category.

Conclusions on stress assessment

From the conversations conducted throughout the research with the trainees, as well as from the survey carried out, the following conclusions can be drawn:

- In the initial testing, the subjects of both groups had a higher level of stress, and after applying the intervention program in the experimental group, we found, in the final testing, a higher decrease of the score (E = 25.30 versus C = 36.37), which demonstrates the appropriateness of this type of intervention for prophylactic purposes.

- In both the group of subjects of the experimental group and the control group, there was an improvement in the level of stress and an important stress relief at the level of the main risk factors.

- Practicing sporting and recreational activities by the experimental group determines the significant decrease of the score (p <0.001) in the final test.

- The most important psychic effects of recreational sports are: increasing self-confidence, increasing self-control, reducing anxiety.

- The practice of recreational sport improves many aspects of life: health, self-confidence, social life, relaxation, enjoyment and fun.

- The practice and constant exercise of sporting and recreational activities by the experimental group determines the drop in the final test score of the stress self-evaluation questionnaire. We can conclude that recreational sport is an effective means of stress prevention[13].

- Recreational sport not only shapes the body, but also makes an important contribution to human mood. Endorphins (the hormones of happiness) released from sports activities improve mood.

- Physical exercise performed daily has a lot of physical and mental benefits, and can improve stress and depression. In addition to physical exercise, a number of relaxation techniques can be helpful in dealing with stress: breath control, meditation, autogenous treatment, visualization of quieting, reassuring images, listening to relaxation music.

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[13] Buiac, D., Suciu, A., *Health and Physical Activities over Time,* Bucharest, Afir Publishing House, 2007, p. 162.

- This activity, which has profound formative implications, should be understood as a solution that, through its content, achieves strengthening health, recreation and relaxation of young people.

Conclusions on the social integration test

From the talks conducted, as well as from the survey carried out, the following conclusions can be drawn:

-The experimental group certainly achieves a more significant social integration than the control group. This is especially evident from the averages of points (the scores) obtained in the "a" variants of the answers, from the average of the total results and from the social integration notes (E = 8.37 as compared to C = 7.25, where p <0.001).

-Actually and effectively, most of the subjects in the experimental group achieve a meritorious social integration: the mean values in the final testing show statistically significant differences between the control and the experimental group (p <0.05).

-The effects of practicing recreational sport also firmly and formally affect the other subfields of education (intellectual, moral, patriotic, professional, aesthetic). At the same time, we must not forget that the personality acquisitions made through aerobic sports activities are reflected, through positive transfer, to professional activities requiring precision and concentration of movements, handling of tools, machines and devices, etc., thus contributing to the increase of the labor productivity (i.e. increased efficiency), and therefore to the subjects' integration in the professional activity;

- Physical education and sports in general, and recreational sports in particular, are activities that are located in areas of intersection of physical, psychological and social determinations of man's activity. For this reason, our activity has many formative effects, such as: team spirit, cooperation, the need to become sociable, civilized behavior, fair play.

- Working in a group involves communication between individuals, through movement. From this there is a series of things that can be noticed, such as cooperation for organizing actions, helping the partners, observing the rules (norms), accepting or receiving the responsibilities, evaluating the partner, evaluating the opponent, the weak and strong sides of the opponent (or the partner) team spirit, the sacrifice for the team. It is obvious that a series of affective relationships are being set up within the group and, in particular, a set of psycho-motoring behaviors are learned, which have great resonance in our

professional activity and social life.

- The psycho-pedagogical, motor-wise and motivational consequences of the socio-motor (rather than sociometric) activity analysis refer to: actual training processes, habits in spatial conditions (hall), how to establish the teacher-student and student-student communication relationships; all that is done regardless of the organization rules of the student groups[14].

General conclusions

Recreational sports are practiced today by intellectuals, who, albeit rather few, form the vast majority of health-keeping sports lovers, i.e. of sports practiced for health.

However, an intellectual needs, more than other people, sports, movement, just to meet a biological requirement, to combat the effects of sedentary life.

- The research carried out revealed useful information regarding the level of the somatic, functional and motor indices of the students. Considering the results obtained, we considered it necessary to elaborate and implement concrete programs, adjusted and adapted to the age-specific morpho-functionalities, in order to optimize these indices to the students of our University[15].

- By implementing these programs, both in the physical education and sports activities, and in the independent activity of the students, beneficial effects have been obtained on the physical condition, having a resonance on the health status of the students.

- We could notice changes in the indicators that suggest significant changes in body constitution, posture and body status: weight, index of body mass index, adiposity index, which means awareness of goals and autotelic concerns that added the real time of training (by practicing sports for recreation), leading to much more relevant ends, confirming the hypothesis formulated at the beginning of the experiment.

- Research also proposed the task of identifying health risk factors. Some risk factors are invariable irrespective of the prevention measures: age, sex, heredity. However, others may be sensitive to preventive

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[14] Cârstea Gh., *Sociology of Sport,* Bucharest, UNEFS Publishing House, 2000, p. 221.

[15] Popescu, L., *Healthy Lifestyle – a Health Education Guide,* Constanta, Muntenia Publishing House, 2010, p. 161.

measures: sedentary status, obesity, tobacco-addiction, diabetes, stress, hypertension. Combating them can be done by promoting a balanced lifestyle that does not lack the sporting and recreational activities that are practiced on a regular basis

- Sports and recreational activities, adapted to the needs of students, can greatly influence their interest and motivation to practice sports in their spare time, but also to achieve the educational goals of a constantly changing society.

- The motivational phenomenon has a dynamic and evolutionary character in the group of students. The complex character of the motivational factors may change, at some point, the profile of the social relations between the female students and the phenomena studied, the social motivation and the concrete motivation invoked for practicing aerobic gymnastics.

- The motivations of practicing recreational sports and sporting recreational activities are multidimensional and complex, and they express the individuality of each student, uniquely and in a diversified manner. In general, the dynamics of motivations is caused by the following inward needs and movements: the need for movement, the need to demonstrate that you can do things (self-confidence), the need for competing and value (or skill) comparison, assuredness and security or safety, as well as the ambience that occurs in group relationships, social value and self-esteem.

- Diversifying sports-recreational activities will lead to a positive attitude and increased interest in practicing physical exercise, in one form or another.

- Achieving an increased biological potential will lead to an optimal state of health, permanently maintained through systematic and continuous physical effort.

- Sporting and recreational activities represent a direct, almost exclusive, stimulus of somato-functional and motivational development, as a prerequisite for achieving optimal health.

- The "Health and recreation program", practiced by young people in their spare time, is a great source of biological, psychosocial and economic benefits, and a source of health improvement solutions.

- As far as improving health is concerned, long-term actions are required, including mandatory increase in the amount of time spent on sports activities for students.

- Quantitatively and qualitatively suited practice and exercise, both

during the classes or lessons, and in the leisure time, lead to significant positive changes such as muscle toning, increased systolic and respiratory volume, decreased heart rate at rest and after effort, correct posture and body attitude, overall improvement of physical condition[16].

- Although both groups perform an improvement on all the tests administered, for the experimental group the differences between the mean values are higher than in the control group, so the null hypotheses are rejected and the experimental assumptions are accepted. The significance tests have indicated that the results are not due to sampling errors. The minimum accepted threshold was 0.05 for a trust level of 95%. The significance threshold values of the "t" test for the correlated samples provide us with the objective support to assert that the research results differ significantly in statistical terms.

- The previous conclusions are also reinforced by the parameters that show the magnitude of the ameliorative change and the "t" dependent. As can be seen from the results of the research, both groups achieve remarkable improvements of the evaluated indicators, but the experimental group is also superior to this indicator (magnitude of the increase).

- In the university environment, the practice of recreational sport, in its various aspects, largely ensures the realization of the socialization process.

- Participating in mass sporting events could surely increase the motivation to practice physical activities and, implicitly, the perceived quality of life by creating a state of well-being and social performance.

- Recreational sport, as a means of strengthening health, leads, in time, to functional improvement and psychophysical performance.

- Knowing simple ways of regularly assessing the health of the body can be an effective way of self-investigating the somato-functional potential for this age group, and will provide a concrete opportunity to monitor the progress achieved.

- All physical fitness features are interdependent with the state of health and one's physical shape, and can be improved for anyone, even if he/she does not possess any sports skills.

- Regarding the assessment of fitness, the mean values recorded in the initial testing did not show significant differences between the

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[16] Dragnea, A., coordinator, *Theory of Physical Education and Sport,* Bucharest, Fest Publishing House, 2002, pp. 132-133.

control and the experimental group (p> 0.05), but in the final testing there are statistically significant differences between the control and the experimental group <0.05), confirming the hypothesis formulated at the beginning of the experiment.

- Education for fitness is a formative component of physical education, which we want to implement, and which induces a state of well-being and an increase in the quality of life[17].

- Knowing the fitness level of students will make it possible to reorganize the means of each sport discipline so that the students are evaluated according to their interest in the physical education classes and the progress achieved, and less according to their performance.

- Daily activities generate more and more stress, tenseness and nervous overload, and energy expenditure of the body is getting smaller. The increasing psychic demand, to the detriment of the physical one, causes mutations in the biological and mental sphere, with direct (both positive and negative) effects on one's the state of health. The negative ones are, in most cases, disorders of the somatic and psychic functions that lead to a deterioration in the quality of life. Under these conditions, the prophylactic and sanogenic value of exercise increases.

- Sporting and recreational activities are ways to relieve stress and balance, and they play an important role in fighting stress.

- Aerobic gymnastics and dancing, in all their aspects, provide methods and pathways that can lead to relief and a harmony of mental life. Especially in the case of young females, the quality of psychic life and the quality of social relationships are strongly influenced by the image they have about their own body.

- Recreational sport has an important contribution to increasing the body's resistance to physical and intellectual effort, to relaxation and recreation, and is a significant part of rest, to which it gives an active character[18].

- The physical education teacher has a formative role, mainly in the higher education system. He / she is the one who stimulates the interest of the future intellectuals in the independent practice of exercise, for hygienic and relaxing purposes, the one who assures, during the lesson,

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[17] Grigore, V., et al., *Exercise, Active Factor for Preventing Aging and Installing Degenerative Diseases,* Bucharest, 2007, p. 147.

[18] Suciu, A., Dumitru, Gh., *Another way of life,* Bucharest, Afir Publishing House, 2006, p. 112.

the attractiveness meant for the students, in order for them to practice physical exercise systematically and independently, to counteract intellectual overload and sedentarism and, last but not least, to ensure a psychomotric equilibrium, and good mood through movement.

- Finally, we can conclude that the scientific approach was directed towards verifying the hypotheses proposed in the paper, namely:

a) The regular programme of mainly aerobic sporting and recreational activities, for over 40 minutes, 3-5 times a week, has produced positive effects at a morphological, functional and motor level, improving the health of the subjects involved in the research. It can therefore be appreciated that the hypothesis in the spirit of which the research was carried out has been confirmed.

b) Engaging in individual aerobic gymnastics, dancing and swimming programs, depending on the students' morpho-functional and motor peculiarities, led to the formation of independent practice of recreational sports, so the research hypothesis was validated.

c) Practicing a systematic and organized sports and recreation program by the female students contributed to their social integration and improved interpersonal and communication relations. In this case, too, the experimental research hypothesis was confirmed.

-The confirmation of the research hypothesis is a solid argument, based on scientific data, which supports the necessity of introducing physical education as a compulsory discipline in the educational syllabus of all the faculties of the University of Pitesti, given the beneficial influences that the practice of the sports and PE disciplines induces on students' health.

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THEATRICAL ACTIVITIES IN THE FOREIGN LANGUAGE CLASS

ACTIVITES THEATRALES DANS LA CLASSE DE LANGUES ETRANGERES

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ABSTRACT: *Assuming that the acquisition of a foreign language, in our case French, is much faster and easier when an effective methodology and adapted to the learning style of the students adds dynamic learning activities and fun, I proposed this new approach whose learning activities are realized through the theatre.*

By interpreting the action and the characters the students realized the issues of communication. The overcoming of the language blockages, the self-control that they demonstrated during the year and at the time of the evaluation, as well as the best results obtained at the final evaluation, allowed us to conclude that their oral communication skills and written have clearly improved. On a personal level, this active and responsive learning approach has stimulated their creativity and imagination. Regarding social relations, we have seen the creation of true solidarity and strong cohesion within the group.

KEYWORDS: *foreign language learning, communication skills, theatrical activities, intercultural approach, group work.*

Les prémisses

Pour améliorer l'enseignement et l'apprentissage des langues, de nouvelles stratégies sont constamment recherchées. Les progrès technologiques informatiques et audiovisuels ont apporté de plus en plus d'outils pratiques et faciles à utiliser pour favoriser le développement des compétences de communication en langues étrangères. Mais ces technologies créent des distances entre les étudiants et les poussent à s'isoler au détriment du partage humain et donc de la communication directe. Des études sociologiques récentes montrent que les jeunes d'aujourd'hui ont un taux d'intelligence supérieur à celui des

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générations précédentes, mais un coefficient émotionnel en baisse. En effet, on constate cette régression des relations entre les étudiants que ce soit dans le parcours éducationnel ou dans la vie quotidienne. C'est pourquoi nous pensons que l'enseignant de langues ne doit pas seulement transmettre des connaissances lexicales et linguistiques, mais il doit aussi prendre conscience de l'influence que les émotions peuvent avoir sur le processus d'apprentissage. Ainsi il est nécessaire de cultiver et de développer la composante relationnelle. De plus, l'enseignant doit être capable de prendre en compte la sensibilité et la situation personnelle de l'apprenant, éléments indispensables à la création de l'empathie entre l'enseignant et l'étudiant lors du processus d'apprentissage et par la suite, entre les individus au sein de la société.

Shakespeare affirmait « Le monde entier est un théâtre »[1]. En considérant indéniable que l'apprentissage est bien facilité lorsqu'il est associé au vécu, cet article présente le travail que j'ai réalisé au sein d'un cours de langue française en utilisant des activités théâtrales. Partant du principe que l'acquisition d'une langue étrangère, dans notre cas le français, est beaucoup plus rapide et facile lorsqu'à une méthodologie efficace et adaptée au style d'apprentissage des élèves on ajoute des activités d'apprentissage dynamiques et ludiques, j'ai proposé cette nouvelle approche dont les activités d'apprentissage se réalisent à travers le théâtre. Par théâtre nous entendons d'une part, l'art oratoire, c'est-à-dire la dimension technique et esthétique de la parole, et d'autre part, l'art dramatique, l'art de la mise en scène de soi et/ou d'une œuvre.

Les objectifs de cette approche:

1. Apprendre à utiliser une langue étrangère en situation authentique en développant ainsi des compétences communicatives,

2. Développer en plus des compétences langagières, des attitudes interculturelles,

3. Améliorer la prononciation et l'articulation ainsi que la fluidité de la parole,

4. Travailler l'écoute, la prise de parole et la concentration,

5. Se rendre compte des expressions corporelles,

6. Stimuler la créativité et la spontanéité ainsi que la confiance en soi.

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[1] Shakespeare, W., *Comme il vous plaira*, 1559, II, 7.

La structure

Pendant 3 ans avec des promotions différentes, nous avons utilisé diverses activités théâtrales pour aider nos étudiants à acquérir des compétences linguistiques et des connaissances socioculturelles, à travers trois projets de mise en scène. Ces projets se sont concrétisés dans une représentation finale à laquelle nous avons invité non seulement les camarades de l'école mais aussi la famille et les amis des étudiants. Sur le plan personnel, cette approche d'apprentissage active et adaptée aux besoins de chacun a stimulé leur créativité et leur imagination. En ce qui concerne les relations sociales, nous avons constaté la création d'une vraie solidarité et une forte cohésion au sein du groupe.

Ce module a couvert 2 semestres. Chaque séance d'une durée d'une heure ayant lieu une fois par semaine comprenait différentes activités telles que:

1. Activités dynamiques: expression corporelle en mouvement, détente, chauffage,

2. Activités de découverte: jeux théâtraux d'exploration, voix, prononciation, échange de réponses,

3. Activités spécifiques à une tâche: jeu de rôle, improvisations, définition de l'espace de jeu, du temps de jeu,

4. Ecriture des dialogues, apprentissage du texte,

5. Représentations.

La démarche

Ce qui nous a intéressé lors de cette approche a été de faire vivre l'expérience à nos étudiants, leur apprendre une langue étrangère en la vivant le plus naturellement possible. Cela en manipulant des objets et des images, en associant les gestes à la parole tout en s'imprégnant des sonorités de la langue, et au-delà de tout, en s'amusant. Nous avons trouvé que l'association d'une activité artistique à l'apprentissage d'une langue vivante répond parfaitement à nos attentes. Nous avons donc opté pour l'atelier de théâtre en adhérant à l'idée suivante « *l'affaire du théâtre a toujours été de divertir les hommes. Il n'y a aucune contradiction entre divertir et instruire car il y a un plaisir d'apprendre* »[2] décrite par Bertolt Brecht.

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[2] Brecht, B., *Petit Organon pour le théâtre*, Paris, éd. De l'Arche, 1948, 3.

Une de nos craintes lorsque nous avons proposé ce cours était que les étudiants ne veuillent pas s'impliquer. Afin que cela n'arrive pas, nous avons éveillé leur curiosité, nous les avons rassurés pour qu'ils se sentent à l'aise et qu'ils ne se sentent ni obligés de participer ni frustrés par l'échec de l'exercice. L'autre crainte présente lors de la mise en place de cet atelier était la relation qui allait s'installer entre enseignant et étudiants qui ne ressemblerait pas à celle du cours traditionnel.

L'utilisation de l'art dramatique en langue étrangère suppose quitter le cadre déterminé de la classe d'enseignement et entrer dans un espace de liberté, de détente et surtout ludique. Il a fallu veiller de faire en sorte que les étudiants ait compris dès le début que cette liberté ne signifiait pas que tout était permis, et c'est pourquoi des règles précises ont été fixées. Dans un tel cours, l'espace dans laquelle les activités se déroulent est un élément dont l'organisation est importante. Pour cela il été réorganisé en déplaçant le mobilier et en créant ainsi un espace vide que les étudiants ont pu s'approprier pour vivre la langue avec leur corps. Nous nous sommes assurés lors de chaque séance que les élèves investissaient l'espace et ne restaient pas assis comme dans un cours classique. « *De la même manière qu'un acteur ne peut absolument pas étudier un rôle assis - la compréhension commence au moment où le corps entre en action - un élève ne peut apprendre tout ce qu'il reçoit sans que le corps soit engagé.* »[3]

Malgré le fait que notre objectif n'a pas été de faire du théâtre, ni de découvrir des talents de comédien chez nos étudiants, nous avons tout de même choisi de mettre en scène un spectacle final. La réussite de la pièce n'était pas ce qui comptait le plus, mais nous avons souhaité mener une action concrète quant au parcours éducationnel de nos étudiants. Compte tenu du niveau hétérogène des étudiants, nous avons sélectionné des pièces de théâtre qui nous ont paru correspondre à leur niveau des connaissances. En ce qui concerne l'attribution des rôles, cela n'a pas été imposé parce que nous estimons que l'élève doit se sentir bien avec son personnage et nous leur avons laissé la liberté de choisir leur rôle. Cette liberté de choix n'était pas innocente, c'était dans le but de former des étudiants acteurs de leur apprentissage du fait que cela les a obligés à s'autoévaluer pour établir à la fois leur niveau de langue et leur capacité à mémoriser en français.

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[3] Brook P., *Le théâtre, un outil fantastique pour l'éducation,* Cahiers Pédagogiques 337, 1995, 18-19.

L'attribution des rôles ne s'est faite qu'à la fin du deuxième mois car avant de les pousser à choisir un rôle et donc à jouer sur une scène, il fallait d'abord construire un groupe de confiance et vaincre leur timidité et leur inhibition. Tout être humain a peur d'être jugé, mais en jouant un rôle nous apprenons à libérer nos émotions et ne plus avoir peur des erreurs car nous sommes à ce moment-là dans la peau d'un personnage, le regarde ne se pose plus sur la personne mais sur le personnage. En plus, sur la scène nous ne sommes pas seuls, nous évoluons dans un groupe dont les relations entre membres, caractérisées par la confiance et le respect, sont particulièrement fortes. Le travail en groupe dans la classe de théâtre, l'autonomie qui en découle ainsi que le sentiment de sécurité instauré sont autant de facteurs qui font de la classe de théâtre le terrain idéal pour apprendre une langue étrangère. C'est aussi un bon déclencheur d'expression; la communication, le partage entre les étudiants et le respect mutuel que le théâtre apporte renforcent la confiance dans le groupe de travail.

Habituellement nos cours débutaient par une série d'échauffements et par des exercices de relaxation. Par exemple, assis en cercle, debout, la tête droite, les bras le long du corps et les jambes légèrement écartés, on leur demandait de se détendre. À partir de cette position, l'échauffement se faisait toujours de haut en bas. Suivant nos indications, ils devaient effectuer des rotations lentes des articulations: cou, épaules, coudes, poignet, doigts, bassin, genoux, chevilles. Dans un second temps, un exercice plus vif, plus ludique et plus convivial, consistait à s'imaginer qu'ils se lavaient et se frottaient la tête, le visage, le cou, la poitrine, le ventre, le dos, les jambes. Cela en plus d'entraîner un état de détente, permettait de travailler et de mémoriser le lexique autour du corps.

Tout le long de l'année nous avons combiné les différentes activités théâtrales pour favoriser la concentration, la confiance et la cohésion du groupe. Une telle activité dont le but était de consolider la confiance dans son partenaire de jeu consistait à créer des groupes de 2 étudiants dont l'un est tour à tour guide ou aveugle. L'aveugle devait fermer les yeux, se détendre et se laisser guider par son partenaire qui, sans le toucher, devait lui indiquer les directions et le rythme à suivre (gauche, droite, tout devant, en diagonale, lentement, rapidement, plus vite, ralentir, accélérer, s'arrêter). Le guide veillait à ce que son partenaire ne se blesse pas et à ce qu'il se détende. L'aveugle devait suivre ses indications et lui faire ainsi confiance. Ce genre d'exercice vise la

compétence d'expression orale et permet de travailler la voix et la prononciation.

Afin d'ôter la contrainte de l'apprentissage nous avons utilisé des exercices d'expression corporelles et des jeux d'exploration théâtrale ainsi que quelques jeux de groupe pour leur permettre de s'accorder, s'écouter, se mettre ensemble et se retrouver dans un espace de liberté. Un exercice qui a beaucoup plu et qui s'est avéré très utile a été celui dit du « Tableau »: un étudiant sort de la salle, le reste du groupe interprète tous les personnages d'une scène, l'étudiant sorti revient et doit deviner de quoi il s'agit à partir de cette image figée. S'il ne trouve pas, nous passons à l'étape suivante, le « tableau mimé! » dans lequel les personnages s'animent pour donner plus d'indices. Si l'étudiant ne trouve toujours pas, nous passons au « tableau parlé! » et le groupe commence à parler en utilisant les phrases appropriées au lieu. Exemples des lieux joués: le supermarché, la bibliothèque, le camping, le parc d'attraction, l'usine, la forêt, la rue, la plage, la patinoire, etc. Ce genre de jeu a aidé à renforcer les relations au sein du groupe et à stimuler la créativité des apprenants, et surtout il a permis à chacun de s'exprimer selon son niveau de connaissances. Les jeux collectifs favorisent une désinhibition des plus timides qui arrivent à se sentir à l'aise.

Dans le but de développer en plus des compétences langagières, des attitudes interculturelles, nous avons introduit des exercices basés sur l'expression des émotions et le travail des attitudes. Un tel exercice consistait à diviser la classe en deux: acteurs et spectateurs. Les acteurs devaient représenter un sentiment: surprise, tristesse, peur, colère, séduction, joie, ennui, culpabilité, fierté, dégoût. Les spectateurs, auxquels nous avions donné au préalable la liste des sentiments, devaient mettre en relation le sentiment avec l'attitude et écrire sa description: yeux, sourcils, nez, bouche, visage, etc. L'objectif de cet exercice était d'une part de leur permettre d'exprimer et de décrire des sentiments différents, en leur faisant comprendre les sensations, les ressentis et les réactions physiques qui sont associés à un sentiment. En allant plus loin on pouvait utiliser des expressions très imagées où on associait à une couleur un sentiment ou un état: peur bleue, colère noire, bleu de froid, vert de peur, voir la vie en rose, voir tout en noir etc. ou même des métaphores telles que: bleu d'Auvergne, blanc de Savoy, bleu-nuit ou jaune paille. Avec un tel exercice nous avons pu impliquer tous les étudiants: timides ou rigolos, avancés ou débutants… Cet

exercice nous a permis aussi d'éviter un langage aseptisé. Il a permis de jouer avec le corps pour recréer des attitudes qui imitent la vie et qui traduisent des sentiments, donnant ainsi une dimension humaine à l'apprentissage de la langue étrangère. Ainsi nous avons pu montrer l'importance du corps et des signes métalinguistiques dans la communication, c'est là le lien entre l'art théâtral et l'apprentissage des langues étrangères.

Nous savons très bien que les étudiants d'aujourd'hui ont un temps de concentration réduit et que leur attention diminue très vite. Pour pallier à cela et les faire sortir de la passivité, il est important de ne pas s'attarder trop longtemps sur un sujet ou une activité. Pour garder leur intérêt et les motiver à apprendre nous avons varié les activités. Nous avons introduit dans cette approche théâtrale active des exercices d'improvisation afin que les élèves découvrent, par des dispositifs riches et variés, qu'il est possible de raconter une histoire de multiples façons.

En ce qui concerne le choix des pièces de théâtre pour le spectacle final, nous nous sommes assurés tout d'abord que le vocabulaire était adapté et qu'il ne présentait pas de difficultés de syntaxe. Ensuite nous avons fait attention à ce que leur thème permette d'aborder les aspects culturels et sociaux. En général nous avons choisi soit des pièces narratives soit répétitifs qui suscitent d'une part l'imaginaire et d'autre part la créativité. Les sujets des pièces traitaient de l'amitié, de l'amour, de la famille, etc… Des thèmes qui nous ont permis d'approfondir les connaissances socioculturelles de nos étudiants.

Avant de donner le script des pièces aux étudiants, nous avons travaillé sur leur compréhension orale. Tout d'abord nous avons lu nous-mêmes à haute voix le texte. Ensuite nous leur avons demandé de répondre à une série des questions plus ou moins difficiles. Celles-ci visaient à identifier à un premier niveau de connaissance le cadre spatio-temporel et les personnages, et au deuxième, les informations contenues dans le texte et d'y extraire les idées principales. A la suite de cette phase d'analyse de texte et toujours dans notre objectif d'associer l'apprentissage des notions lexicales et linguistiques, à la sensibilisation culturelles et aux règles sociales, nous avons entamé une phase de réflexion et de débat. Les sujets abordés avaient un lien avec la pièce. Ça a été le cas de la pièce « Langues de vipères » de Sylvaine Hinglais, où nous avons abordé la discrimination sur le lieu de travail et les attitudes qui y sont relatives ainsi que leurs connaissances sur le sujet dans leur propre pays ou ailleurs. La concrétisation des textes apporte

une meilleure appréhension des aspects socioculturelles leur permettant d'employer des expressions verbales et non verbales dans des situations de communication authentiques.

Lorsque les textes ont été présentés aux étudiants sur papier, leur analyse a permis de détecter les mots inconnus que nous avons expliqué, soit par définition, soit par des synonymes, soit par des antonymes. Tous les étudiants ont été impliqués dans cette étape de la lecture et nous avons constaté que les discussions sur le texte permettaient déjà à la classe de devenir plus active car ils travaillaient en groupe. Les questions, les réponses et la correction des informations étaient formulées par les étudiants exclusivement en français et l'enseignant intervenait uniquement en cas de besoin pour les mettre sur la voie sans pour autant leur donner la bonne réponse.

Pour les aider à comprendre le script, mais aussi pour développer leur compétence écrite, les étudiants ont dû remplir une fiche d'une part pour décrire chaque personnage et proposer ensuite le costume approprié, et d'autre part pour décrire le lieu de l'action. Après avoir analysé leurs réponses, nous avons constaté que la plupart avait utilisé le français. Quelques-uns avaient utilisé le roumain en complément du français. Une très petite partie ne s'était exprimée qu'en roumain, n'ayant pas assez de connaissances de français. Les pièces de théâtre ne contiennent pas de descriptions détaillées des éléments de décor et des costumes adéquats, les étudiants ont donc dû les imaginer. Cette étape revêt une importance particulière car les discussions autour du décor et des costumes ont été extrêmement riches et ont permis de stimuler la créativité des élèves et de créer une véritable cohésion de groupe.

Une fois les personnages identifiés et les rôles attribués, nous avons étudié les dialogues pour décider si nous les conservons tels quels ou si nous devions les adapter. Nous sommes tout à fait d'accord avec Adrien Payet, comédien et écrivain, qui affirme qu'« *un travail d'écriture est possible et même souhaitable pour personnaliser l'œuvre* »[4]. Les étudiants travaillent ensemble soit pour inventer de nouvelles répliques soit pour modifier le texte. A ce stade, ils débattent en groupe et la décision ou la création devient collective.

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[4] Payet A., *Théâtre FLE. Activités théâtrales et conseils d'intégration dans l'enseignement du FLE,* http://www.lecafedufle.fr/2013/02/theatre-fle-activites-theatrales-et-conseils-dintegration-dans-lenseignement-fle-entretien-avec-adrien-payet, consulté en 2019.

Au cours des répétitions, nous avons constaté une forte dynamique s'installer de façon permanente au sein du le groupe. Des interactions continues et des sentiments de solidarité se sont créés entre les étudiants. Ils ont communiqué, ils ont appris à se connaître, à s'influencer et à s'entraider. Les uns après les autres, les groupes se sont rendus sur scène. Tous (acteurs et spectateurs) avaient le texte devant soi pour pouvoir suivre. Ceux qui ne jouaient pas, regardaient calmement, et quand la représentation eut été finie, les acteurs exprimaient ce qu'ils avaient ressenti et les difficultés rencontrées. Ensuite, il y eut un échange d'expériences avec ceux qui ont regardé, qui eux aussi, exprimaient leurs opinions, formulaient des observations et apprenaient à identifier les problèmes. Le fait d'être tour à tour acteur et spectateur les a poussés d'une part à réagir aux erreurs de leurs collègues, d'autre part à corriger leur propre représentation scénique.

Au début, la plupart des étudiants étaient incapables de parler fort, c'est-à-dire de manière audible, et certains parlaient rapidement pour « s'échapper ». Nous sommes donc intervenus pour corriger principalement la prononciation, l'intonation et le rythme au moment opportun tout en gardant à l'esprit qu'il est essentiel de faire attention à ne pas nuire la spontanéité. Les interventions ont été graduelles, d'abord sur l'intelligibilité de l'énoncé puis sur la bonne prononciation mais toujours après que les « acteurs » et les « spectateurs » s'aient été exprimés. Ainsi nos interventions n'ont pas découragé les élèves qui ont répété plusieurs fois les mots mal prononcés. A ce sujet, et à juste titre, J. Courtillon affirme que « *la correction au cours de la production ne sert à rien. L'élève ne l'entend pas; il concentre son attention sur le contenu de ses propos pas sur la forme* ».[5]

Notre travail s'est ensuite porté sur l'expressivité, le contact entre les acteurs et le public et la marche scénique. Peu à peu, d'une répétition à l'autre, les inhibitions ont disparu et les étudiants ont réussi à saisir leurs gestes et leur intonation. De plus, l'occupation de l'espace s'est améliorée, les étudiants sont devenus moins réticents à se disperser dans l'espace qu'ils ont fourni, ils se sont sentis plus à l'aise et en mesure de mieux jouer leur rôle.

Le plus difficile a été de se passer des textes écrits, cependant, au fil des interprétations, les étudiants ont majoritairement réussi à improviser des textes en remplacent les répliques exactes qu'ils avaient

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[5] Courtillon J., *Elaborer un cours de FLE*, éd Hachette, 2003, 66.

oubliées. En règle générale, au cours des trois années de notre activité, quelques étudiants ont été en mesure de reformuler leurs répliques en conservant le sens original. Leur capacité à improviser a confirmé que les étudiants devenaient plus spontanés et plus créatifs et donc moins inhibés par leurs limites linguistiques.

Si lors des premières répétitions, sans décor, ni costumes la mémorisation se faisait lentement, lorsque que nous avons commencé à répéter avec des décors et des costumes, nous avons constaté une véritable transformation chez les étudiants et un réel progrès dans la mémorisation des rôles et des mouvements scéniques. Cette étape a permis de confirmer l'importance du jeu en contexte dans l'expression théâtrale et en l'occurrence dans l'apprentissage des langues étrangères.

La représentation finale s'est déroulée devant des collègues d'autres classes, ainsi que des parents, des proches et des amis. A la suite de cette représentation, nous avons organisé une réunion avec les étudiants afin d'évaluer ensemble leur prestation. Le sentiment qui prédominait semblait montrer une satisfaction d'avoir réalisé un réel pas en avant vers la vie active.

Evaluation et interprétation des résultats

Nous avons fait passer un test à nos étudiants lors de la toute première journée d'apprentissage et un autre à la fin de celui-ci. En comparant les tests initiaux avec les tests finaux, nous avons pu constater un réel progrès et ce dans les trois promotions. Les moyennes obtenues étant réellement pertinentes.

Sur les 3 promotions, la dernière a obtenu de meilleurs résultats finaux comparés à ceux des évaluations initiales qui avaient similaires entre les promotions. La raison nous parait évidente. Au-delà des qualités et de l'implication des élèves, nous avons constaté une progression dans notre propre expérience, ce qui incontestablement a conduit à une meilleure maitrise des blocages survenus les années précédentes.

L'analyse globale des résultats obtenus nous permet de constater que les étudiants ont eu de meilleures performances dans la compréhension orale du texte par rapport à la libre expression. La plupart des étudiants ont répondu correctement aux questions de compréhension orale et le fait qu'aucun étudiant ne s'est trouvé dans la situation de ne pouvoir répondre à aucune question, nous a permis de considérer cette compétence comme acquise.

En ce qui concerne la compréhension écrite, l'analyse des résultats obtenus par nos étudiants, a montré qu'elle avait été maîtrisée. Les étudiants questionnés ont été en mesure d'identifier correctement les informations nécessaires dans le texte et ont fourni des réponses cohérentes en termes de pertinence et de correction de style.

Les résultats obtenus dans l'évaluation de la capacité d'expression écrite montrent que les élèves peuvent exprimer leurs points de vue et bien les argumenter correctement. Bien que les trois promotions aient obtenu de moins bons résultats dans cette évaluation, la structure cohérente du texte et l'utilisation appropriée du vocabulaire, des formes et des structures grammaticales a permis également de valider cette compétence.

Quant à l'expression orale, nous avons constaté une vraie progression. Parallèlement à la capacité des étudiants à mener une discussion, nous avons noté une réelle amélioration de leur spontanéité et de leur créativité. Les étudiants ont fait la preuve qu'ils étaient capables de s'exprimer correctement et d'énoncer leurs idées clairement et de manière concise.

Le niveau cible qui était le B1 a été obtenu, toute promotion confondue, dans une proportion de plus de 60% pour les 171 étudiants lors des tests finaux tandis qu'ils étaient 43% initialement. Quant au B2, le nombre d'étudiants l'ayant obtenu a presque triplé. En outre, par rapport au test initial, où 14,62% des 171 élèves testés ont obtenu le niveau A1, après l'évaluation finale, seulement 5,85% sont restés à ce niveau. Globalement, nous avons constaté une progression à tous les niveaux, ce qui confirme que leur performance linguistique a nettement progressé.

Le dépassement des blocages linguistiques, la maîtrise de soi dont ils ont fait preuve au cours de l'année et au moment de l'évaluation ainsi que les meilleurs résultats obtenus à l'évaluation finale nous ont permis de conclure que leurs compétences en communication orale et écrite se sont clairement améliorées.

Cette approche faisant appel à ce type d'activités présente un intérêt pédagogique indéniable du fait qu'elle met en lumière la formidable puissance de l'acquisition des compétences théâtrales dans la capacité de s'exprimer correctement et de se sentir à l'aise. En effet, apprendre à placer sa voix, s'adapter aux rythmes des dialogues, savoir énoncer, le tout en « s'amusant », imprime bien mieux une aisance de communication chez l'étudiant.

L'organisation de ces cours a tenu compte de la capacité d'apprentissage et du rythme de chaque étudiant, ce qui a favorisé une réelle convivialité et a conduit à la perception d'une image positive de la langue. Au final cela a induit un net progrès quant à son acquisition et à son utilisation.

Nous considérons donc le théâtre comme un excellent moyen de remédier aux difficultés de communication. En fournissant un espace de liberté à travers le mouvement de la scène, il devient un moyen de communication authentique et efficace.

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ANALYSIS OF INTERNAL COMMUNICATION IN HIGH SCHOOL EDUCATION IN TELEORMAN COUNTY

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ABSTRACT: *Any organization can be regarded as a set of roles and statuses, with the indication that the interaction of its members is based on communication, whether it is formal or informal, verbal or non-verbal, respectively horizontally or vertically. The functioning of an education unit is directly influenced by how its members understand and manage to communicate effectively. In order to analyze the internal communication in the high schools in Teleorman County, it was necessary to carry out an investigation, the research being carried out on the basis of the interview, to which were submitted a number of four college / high school principals from my county.*

KEYWORDS: *internal communication, communication channels, forms of communication, verbal communication, communication barriers.*

Any organization can be regarded as a set of roles and statuses, with the indication that the interaction of its members is based on communication, whether it is formal or informal, verbal or non-verbal, respectively horizontally or vertically.[1]

In order to analyze the internal communication in the high schools in Teleorman County, it was necessary to carry out an investigation, the research being carried out on the basis of the interview, to which were submitted a number of four college / high school principals from my county.

The main objective of this survey was to identify the general aspects of internal communication within the educational units that the four mentioned subjects are leading.

Also, in order to carry out a complex analysis dedicated to internal communication issues within the educational institutions, a number of

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[1] Valentina Marinescu, *Introduction to communication theory. Principles, models, applications*, Bucharest, Tritonic Publishing House, 2003, p. 110.

eight open-ended questions were included in the contents of the interview sheet.

The interview dedicated to assessing the level of communication in the four educational institutions in Teleorman County was done individually with their four managers:

- A theoretical national college in Alexandria;
- A theoretical high school from Turnu Magurele;
- A technological High School in Roşiorii de Vede;
- A technical college in Videle.

Looking at the goals that were pursued during the interviews with the four directors of the educational institutions in Teleorman County, it is remarked:

- Determine the meaning of the information and the meaning of internal communication;
- Identify the most useful forms of internal communication as well as the types of documents used;
- Identification of the content that is predominant within the messages sent in the internal environment of the analysed educational institutions;
- Identification of the most used internal communication channels at the level of the educational institutions mentioned above;
- Identification of the potential barriers found in the internal communication within the education organization.

It should be noted that the usefulness of the interview applied to the four managers of the educational institutions from different localities in Teleorman County lies precisely in the consideration that the communication process should not be perceived as an exclusive responsibility of the manager but as an instrument on which every employee of the respective education unit is required to use daily, within the interaction it has with the rest of the human resources.

The interviews were conducted between January and March 2019, the directors of the educational institutions in the localities of Teleorman County providing answers to all the questions found in the interview sheet on the internal communication reported to the educational units they lead.

In analysing the answers of the subjects interviewed in this research, it was highlighted:

1) Channels used in internal communication in the educational units of which the subjects are part and which they lead:

| Channel type used	Distribution of responses (%)
Formal	62
Informal	38

As can be seen in the educational units whose executives were interviewed on the occasion of the present research, one can notice the particular influence that is represented in the internal communication by the formal channel (almost 2/3 of the cases - 62%), the informal channel being used in a percentage of 38%:
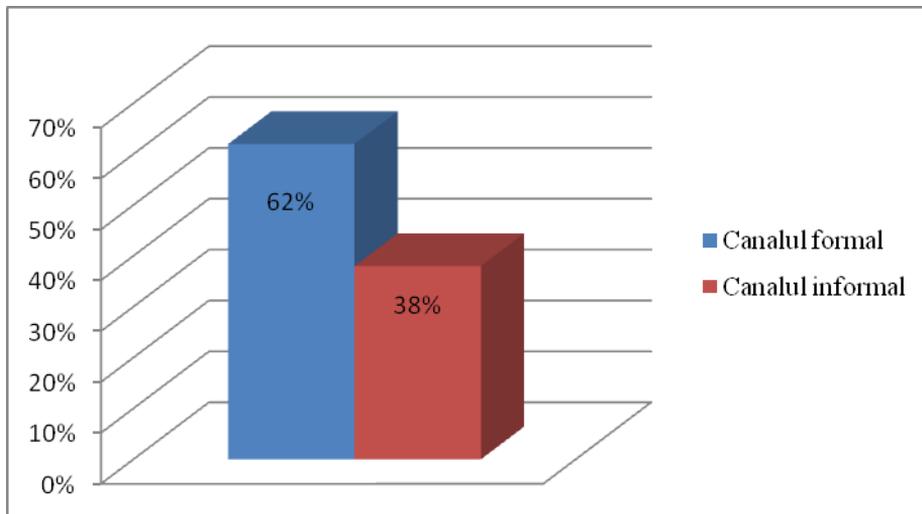
Graphical representation of the share of channels used in internal communication within educational institutions

2) Movement of information:

Transmission direction	Distribution of responses (%)
Vertical	56
Horizontally	32
Oblique	12
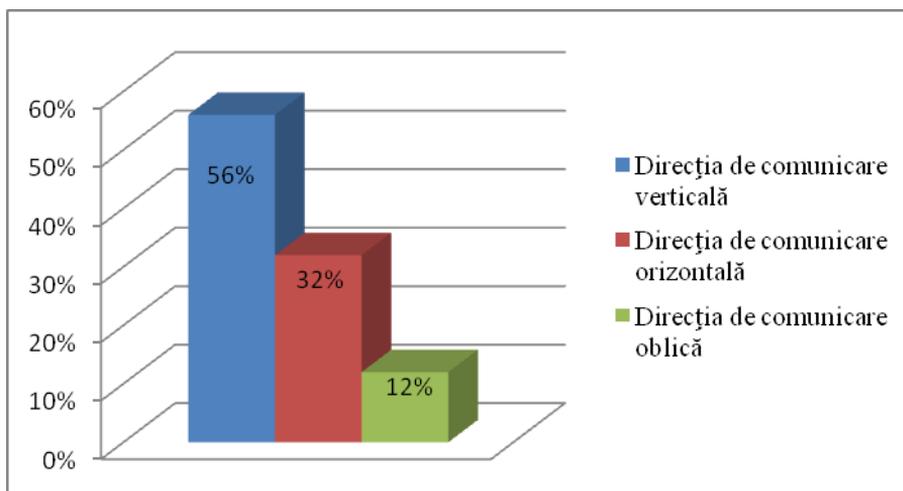
The graphical representation of the sense of movement found in the internal communication within the educational institutions whose executives were interviewed

It is known that the functioning of an education unit is directly influenced by how its members understand and manage to communicate effectively. As a result of the analysis of the answers that were recorded by the application of the aforementioned interview, it was found that in the four educational units in Teleorman County there is a predominance of the vertical communication between the positions that are in subordination or over- 56%), this being noted in two forms, namely upward vertical communication and vertical downward communication.[2]

Thus, in the educational institutions whose executives were interviewed, it is noted that the horizontal communication process is used in a proportion of 32%, the purpose of which is to coordinate the activity of the compartments that are positioned on the same hierarchical level at the level of the organizational chart education institution.

It should also be mentioned that the right of the members of the educational institution to access departmental boundaries found at an organization level in order to provide the various information necessary for the conduct of their own activities may be recognized or not by the organization.

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[2] Dumitru Iacob, *Management of organizations. Organizational Communication*, Bucharest, SNSPA Course, 2012, pp. 86-88.

Regarding the oblique communication found within the educational institutions that have been subjected to this analysis, it is noted that this is less used (only 12%), determined in the context in which, through the structure of the organizational structures of the education, as well as the Regulation of Organization and Functioning, the employees of the educational units having clearly defined tasks in the job description, strictly subordinated.

3) Vertical Communication:

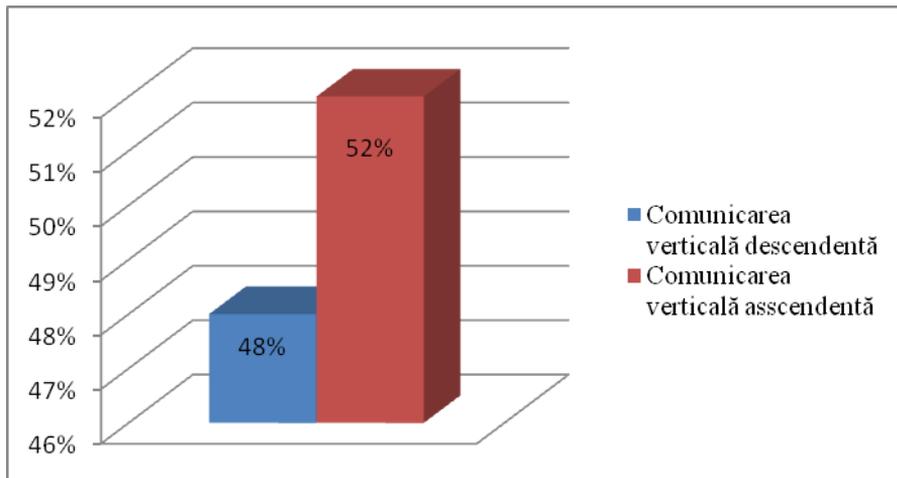| Vertical Communication	Distribution of responses (%)
Descending	48
Ascending	52

Regarding the vertical communication identified as being predominant (56% of the total internal communication) following the interviews of the four heads of the educational units, this is:

• Descendant - 48% used, following hierarchical relations and running from top management, respectively: Head of educational institution, Deputy director of educational institution to executive levels, including heads of methodological committees or commissions the heads of departments, teachers, auxiliary teaching staff, non-teaching staff. The content of this communication is given by decisions, regulations, instructions, submission of tasks, requesting information. It is noted that the main problem of this type of communication is the increased likelihood that the message will be filtered from time to time in the context of knowing that each level interprets messages according to their own needs or objectives.[3]

• Ascendant - it is used in a majority proportion (52%), this being the transmission of various messages to direct heads by their subordinates, as well as to the higher levels of the institution. The bottom-up communication within an educational unit includes: reports, information, problem reporting, performance reporting, dissatisfaction and possible sources of conflict, information on the degree of task solving. The accuracy of bottom-up communication reflects the superiors' trust in superiors, as well as the promotion aspirations of the

[3] John Fiske, *Introduction to Communication Sciences*, Iasi, Polirom Publishing House, 2003, p. 62.

subordinates, who do not want to disappoint their superiors, in the conditions of their insufficient knowledge, the experience of negative responses or the situation in which they intend to impress them favorably, cases of distortion of information:

The graphical representation of the distribution of vertical communication found at the level of internal communication within the educational institutions whose executives were interviewed

4) Content of transmitted messages:

Message content	Distribution of responses (%)
Technical, economic, administrative	52
Messages about the organization's strategy, its goals, strengths / weaknesses	22
Emotional, about the affective life of the educational unit	10
Interesting informations for employees	16
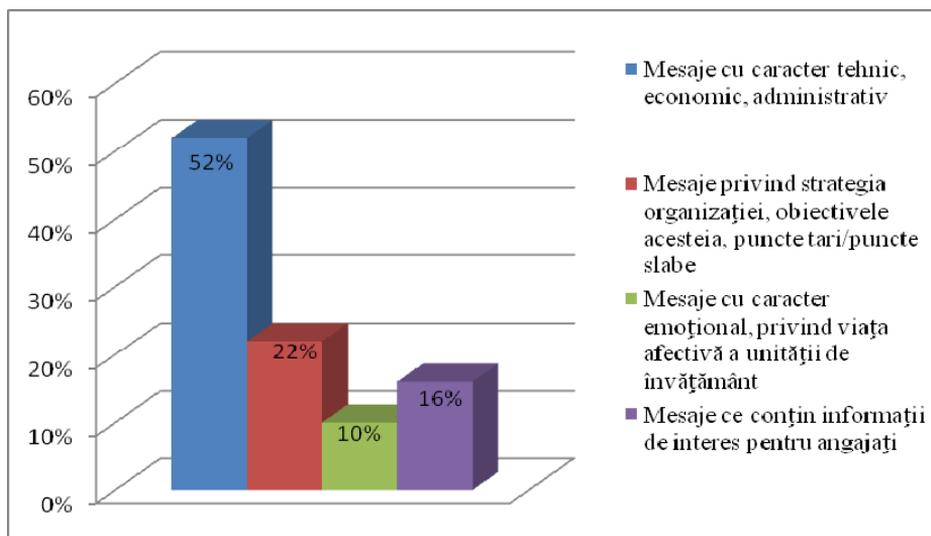
The graphical representation of the content of the messages sent at the level of the internal communication within the educational institutions whose executives were interviewed

a) As can be seen also through the analysis of graphic representation, in the light of the content of the messages conveyed in the internal communication specific to the educational institutions whose executives have been subject to this research, the vast majority of the messages transmitted are of a technical, economic nature, but and administrative (52% respectively), with the indication that the messages are operational, being indispensable to the employees of the organizations, in fulfilling their various tasks.

b) Messages that include information on the organization's strategy, its major objectives, strengths and weaknesses of the educational institutions account for 22% of the total messages transmitted in internal communication, through which they succeed -the determination of human resources on the role they have at the level of the organizations, with the conviction that they are an integral part of the educational institutions, and the determination of the constant involvement in the evolution process of the institutions.

c) Messages that have emotional content are optional and they are not indispensable for the performance of all activities specific to the post, under their technical aspects, and they succeed in supporting the affective life of the educational organizations. The content of these messages (which account for 10% of the total messages sent in internal

communication) implies a key role in communication on the social climate, as well as on the environment and, implicitly, on work satisfaction.

d) Also, the messages that include the information of high interest for the employees (the percentage represented by them being 16%) have a motivational character, in the context in which the research carried out in this field pointed out that the training of the employees from the educational institutions Teleorman County, subject to analysis and motivation, does not meet the expectations. It is noted that the information regarding the rights and duties of the employees of the analyzed organizations, the salary system, as well as the possibilities for professional development fail to reach out to the persons directly interested, not because of the lack of interest in the motivation of the human resources but due to the faulty way in which the massages are communicated, including information of particular interest.[4]

5) The forms of communication used in the internal communication conducted at the level of the educational institutions subject to the analysis

Forms of communication	Distribution of responses (%)
Scrisă	60
Verbală	40

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[4] Emilian Dobrescu, 2011, *Managerial Communication. Methodology and Efficiency*, Bucharest, Wolters Kluwer Publishing House, p. 83.
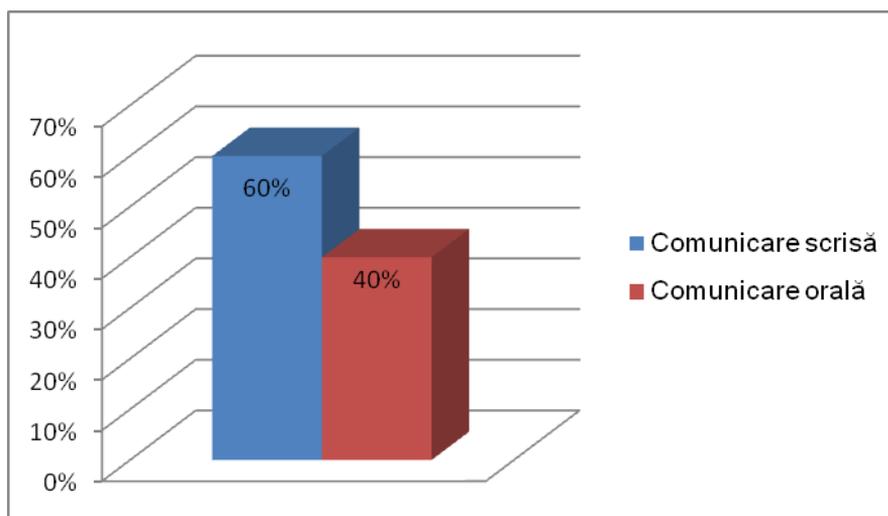
Graphic representation of the forms of communication used in the internal communication conducted at the level of the educational institutions subject to the analysis

As noted in the graph above, the written communication is used at the level of the four educational institutions analyzed in the present research in a high proportion (60%), including the requesting or transmitting internal notes, reports, decisions, plans for various human resources within educational institutions.

• Ensuring a great variety of ideas, with the printing of the concision and clarity;

• Possibility of doing so in the absence of any disturbances that might be perceived by the rest of the participants in the communication process;

• Non-involvement of the presence and simultaneous availability of the participants in the communication process carried out within the educational institutions subject to the analysis;

• Facilitating the shaping and development of existing relationships between the various human resources of organizations in the context of an upward behavior similar to the broadcaster in relation to the receiver;

In the category of disadvantages of the written communication it is worth noting:

• Depersonalization of communication as a result of the elimination of the direct relationship between the participants;

• High consumption time, which causes a whole series of implications for the multiplication of positions at the level of the organizational structures of the educational institutions;

• A high cost, which involves not only the existence of direct expenses (including paper, the means of processing, the means of printing and the transmission thereof), but also indirect costs caused by the recording in the specific files, as well as in the spaces specially arranged for them.

In terms of verbal communication (recovered in 40%), it is frequently used through language, but it is also influenced by personal opinions as well as by the values and benchmarks to which individuals relate when they transmit and receives messages. In the internal communication, the proportion of verbal communication is quite large, being mainly used in the horizontal communication process, as well as in the vertical downward communication, made between teachers who are part of the same methodical committee or working committees, as well as between human resources found in the same compartment.

In the category of the advantages of verbal communication it is noted:

• Establishing direct, personalized relationships between the heads of educational institutions and employees, giving the feeling of active participation in organizational life, as well as the sense of consideration;

• A special flexibility of communication, with the possibility of adapting the message to its reception level, by tracking the participants' reactions to the discussions;

• High rate of broadcasting and reception;

• Possibility to assemble the information in parallel with its persuasive influence

• Rapid capitalization of various situations, in parallel with the possibility of immediate action in the event of emergencies

• A reduction in specific costs compared to the cost of written communication.

In the category of the disadvantages of verbal communication it is noted:

• The need for simultaneous presence of the interlocutors, multiplying the allocated time;

• Successive transmission is a cumbersome and difficult one, through hierarchical steps, and in the communication there are also substantial losses of the information substance.[5]

6) Forms most commonly used in verbal communication in educational establishments

Transmission direction	Distribution of responses (%)
Direct talk	37
The phone call	35
Meeting	28
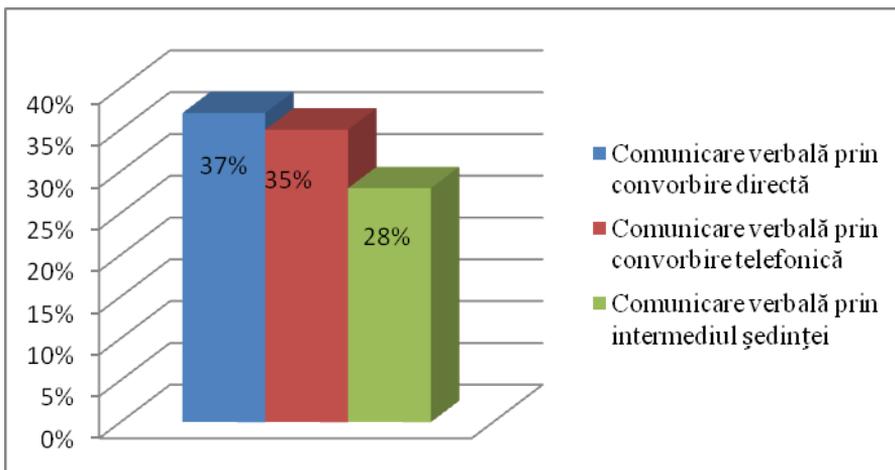
The graphical representation of the forms commonly used in the verbal communication that is carried out at the level of the educational institutions subject to the analysis

As can be seen from the graphical representation, the most used form in the oral communication in the educational institutions whose executives were subject to this research is the one of the direct conversation (a 37% percentage) as a result of it being proved to be not only effective but also recommended to solve the various work tasks specific to the human resources of the analyzed organizations (including positive aspects but also negative aspects) as well as any problems related to the activity of the educational organization. It is noted that socializing, learning processes as well as behavioral processes could not

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[5] Eddie Kloprogge, *Communication, Mind Gliding Ltd.* (www.mind-gliding.co.uk), 2005.

be achieved without verbal communication, involving face-to-face direct encounters that are ideal in such situations.

After analyzing the answers given by the directors of the educational institutions subject to the analysis, a special weight represented by the telephone conversation (35%), which is found at all levels of the hierarchy, as a result of the proven efficiency in solving the tasks work or any other issues not only in the field of internal communication but also in external communication.

Nevertheless, direct communication (37%) is the top of the forms used in the communication within the educational organizations, while the communication through the meetings is the third place with 28%.[6]

7) Types of documents used in internal communication

Document type	Distribution of responses (%)
Informative notes	20
Reports	25
Internal notes	15
References	30
E-mails	10

Following the interview of the four heads of educational institutions included in the study group of this research, it was highlighted that at the level of internal communication within the school organization, the highest representation in the matter of papers has the papers (a percentage of 30%), followed by reports (used in 25% of all documents found in internal communication), informative notes (20 percent, and internal notes (15 percent), the last place held by -mail (10% only):

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[6] Giselle Commarmond, *The Art of Communicating and Convincing*, Iasi, Polirom Publishing House, 2003, p. 43.
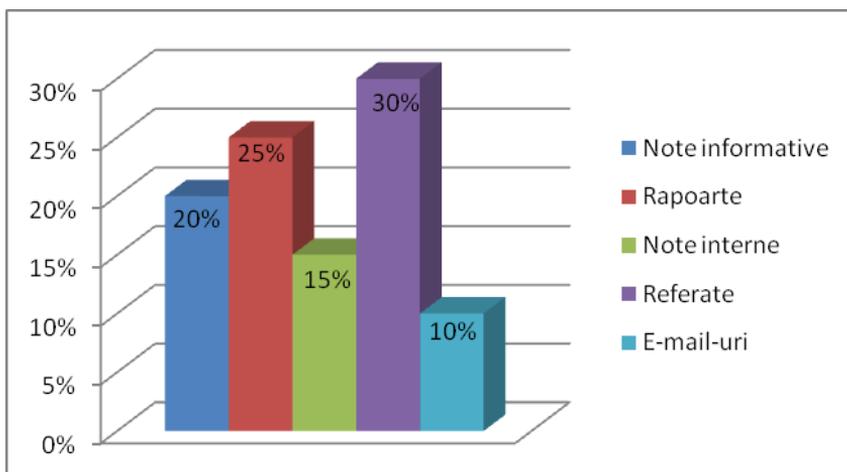
Graphic representation of documents used in internal communication reported to institutions whose executives have been interviewed

8) Barriers to internal communication in educational establishments

Barriers to internal communication	Distribution of responses (%)
Functional status effect	22
Differences in personality, culture and perception of interlocutors	10
Heavy document routing;	10
Insufficient number of employees in relation to the volume of activity;	3
The inconsistency of approaches to solving problems;	12
The tight deadlines for the solution of some works;	2
Preconceived ideas and stereotypes;	10
Insufficient knowledge of institutional objectives;	3
Insufficient development of team spirit;	15
Stratification of interests, to the detriment of common interest.	10
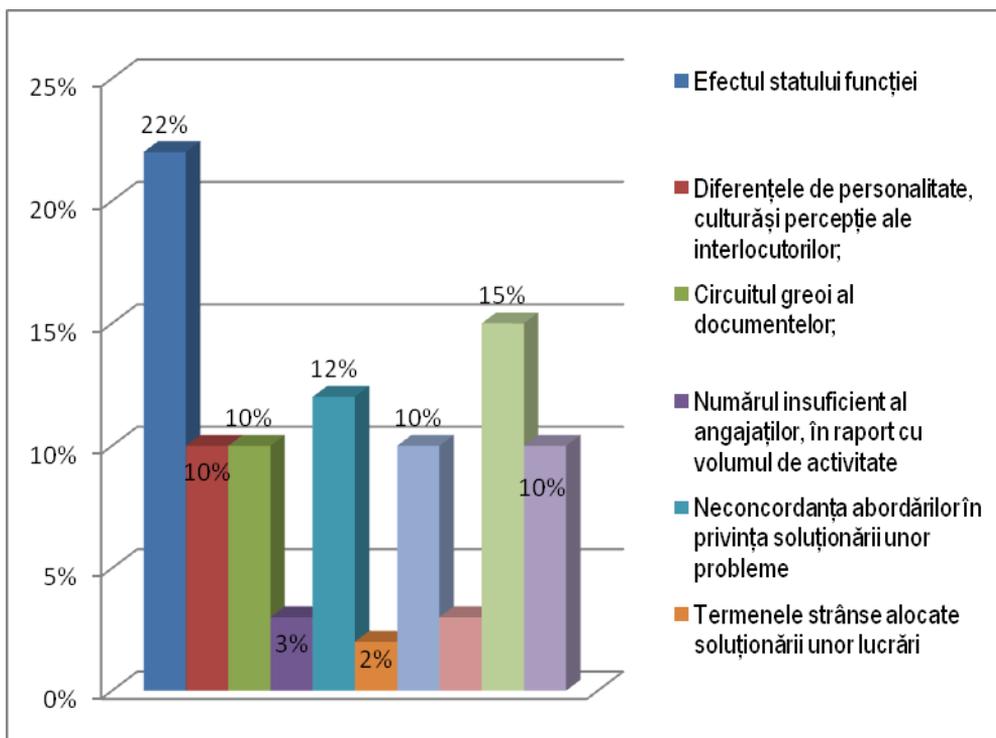
The graphical representation of the barriers identified in the internal communication reported to the research institutions subject to research

As can be seen from the graphical representation, the most important barrier at the level of internal communication in all four educational units in Teleorman County, which was analyzed, is the effect of the status of the position, namely the tendency of the heads puts little value in communicating with subordinates by virtue of the belief that they can not have ideas that can be taken into consideration, except in rare circumstances. Thus, the effect of this position is reflected mainly at the level of the position that the subordinates understand, and they begin to stop the flow of information sent to the superiors, which will cause a considerable decrease in communication.

In addition, it is often noted that the head of a committee or department within an educational unit refuses to communicate with an employee who has a lower rank, requesting the information, and transmitting it only to the employee on an identical hierarchical stage.[7]

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[7] Mucchielli Alex, *Communication in Institutions and Organizations*, Iaşi, Polirom Publishing House, 2008, p. 59.

Another significant barrier in the internal communication process in the analyzed educational institutions is represented by an insufficient development of the team spirit, along with the barrier represented by the stratification of interests to the detriment of the common interest having the capacity to determine a considerable decrease of the efficiency the internal communication process at the level of the educational organization.

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TEACHING LATIN
IN TERMS OF PROFESSIONAL LINGUODIDACTICS

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ABSTRACT: *The article deals with is a relatively new branch of knowledge – professional linguodidactics, which studies strategies for building the professional competence of a specialist in the process of foreign language teaching. The purpose of the article is to study ways to implement key concepts and specific principles of professional linguodidactics in the process of teaching Latin. In particular, the principles of selectivity, foreign language professionalization, internationalization, and advanced foreign language specialization are discussed. Many years' experience in the creation of Latin textbooks and manuals based on principles of professional linguodidactics by teachers from the National University of Life and Environmental Sciences (Kyiv) is described.*

KEYWORDS: *professional linguodidactics, Latin language, principles, textbook.*

Introduction

Professional linguodidactics is a relatively new branch of knowledge, that emerged and at the turn of the XX-XXI centuries. An impetus for the development of professional linguodidactics is the concept of "English for specific purposes" by T. Hutchinson & A. Waters.

At the present stage, it is engaged in the development of a methodology (researching, modeling, and management) of profession-oriented foreign language teaching aimed at building foreign language professional communicative competence, whose components characterize the linguistic personality of a specialist.[1] The theoretical fundamentals of professional linguodidactics are laid down in the works of A. Krupchenko and developed by N. Galskova, A. Girina, M. Druzhinina, K. Inozemtzeva, A. Kuznetsov and others.

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[1] Krupchenko, A., *The development of professional linguodidactics as a theoretical and methodological problem in vocational education.* Thesis for a Doctor's Degree, Moscow, Academy of Advanced Studies and Professional Retraining of Educators, 2007, p. 5.

According to A. Krupchenko, professional linguodidactics studies strategies for building the professional competence of a specialist (professional pedagogy) in the process of foreign language teaching (linguistics).[2]

Some scholars have put in this concept a wider meaning. For example, M. Druzhinina defines professional linguodidactics as an interdisciplinary scientific branch of the theory and methodology of vocational education, which is developed in connection with a wide range of scientific disciplines: pedagogy, psychology, didactics and teaching methods of linguistic and special disciplines, and solves problems relating to analysis, management, designing, modeling processes of language instruction (in the area of both native and non-native languages and cultures) taking into account different specialties, levels of education and conditions at the university.[3]

Depending on the interpretation of the concept of professional linguodidactics, scientists define the object and subject of this field of knowledge. A. Krupchenko believes that the object of professional linguodidactics is a studying the patterns of continuous profession-oriented teaching foreign languages, that builds language professional communicative competence of a specialist, and the subject is an organization of the process of specialist professional competence building by means of a foreign language[4]. M. Druzhinina emphasizes the need to take into account the native language component and sees the object of professional linguodidactics as studying the patterns and principles of the organization of language instruction for professional purposes, and the subject as an organization training in the native and foreign languages of future specialists.[5]

The purpose of the article is to study ways to implement key concepts and specific principles of professional linguodidactics in the process of teaching Latin at agrobiological faculties on the example of a leading Ukrainian University of life and environmental sciences.

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[2] Krupchenko, A., *The development of professional linguodidactics,* Bulletin of Chernihiv National Pedagogical University, Chernihiv, No 92, 2011, p. 153.

[3] Druzhinina, M.V., *The development of professional linguodidactics in modern pedagogy.* Internet forum Pedagogika v sovremennom mire. Available at: http://kafedra-forum.narod.ru/index/0-46, 2011.

[4] Krupchenko, A., 2007, p. 5.

[5] Druzhinina, M.V., 2011.

As noted above, professional linguodidactics stems from the concept of Language for special purposes (LSP). A. Krupchenko undertook comparative analysis of such approaches as English for Specific Purposes (ESP) and Content-and-Language Integrated Learning (CLIL) and professional linguodidactics on their objectives, definitions, concept characteristics, methodology, assessment and teacher's capacity building in the process of foreign language teaching and came to the conclusion that professional linguodidactics PLD as a new scientific branch of linguodidactics originated from ESP and has much in common with CLIL.[6]

However, famous philologist also LSP researcher V. Novradanova clarifies "The terminology has entered into the cognitive period of development and revises its traditional notions about the essence of the term, the peculiarities of scientific texts and raises new issues of language problems special purposes ... However, the classical Latin language has not changed, the Latin lexical and word-formation fund is used in modern terminology systems as it has always been".[7]

Thereby, Latin as a dead language cannot be considered in the same breath as other foreign "languages for special purposes". Issues related to the possibility of applying basic ideas and principles of linguodidactics to the teaching of the Latin language remain relevant and valid.

A. Krupchenko and A. Kuznetsov state, that professional linguodidactics based on "4-I-Concept":

- Interdisciplinary integration of language & specialism;
- Internationalization – a specialist in a globalized world is involved in a multicultural professional communication;
- Interaction with peers, teachers and professionals for successful FLT process;
- Identity – development of the specialist's linguistic identity.[8]

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[6] Krupchenko, A., Kuznetsov, A., *Professional linguodidactics as the cutting-edge advanced approach to foreign language teaching in TVET: ESP vs. CLIL.* Conference: International Technology, Education and Development Conference 11th International Technology, Education and Development Conference Valencia, Spain, 6-8 March, 2017. INTED2017 Proceedings, 2017, p. 2863.

[7] Novodranova, V.F., *Interaction of everyday and scientific knowledge in medical terminology,* Scientific Herald of the Bogomoltets National Medical University, No 3, 2003, p. 177.

[8] Krupchenko, A., Kuznetsov, A., 2017, p. 2865.

According to the research, a set of principles of teaching a foreign language for special (professional) purposes contains both general didactic and special principles of linguodidactics, which assume new meaning (such as integrative, interdisciplinary, functional, modularity, autonomy, electivity etc.) and actually specific principles of professional linguodidactics (selectivity, foreign language professionalization, internationalization and advanced foreign language specialization).[9]

Let's consider how the specific principles of professional linguodidactics are implemented in the process of teaching Latin at agrobiological faculties on the example of a leading Ukrainian university of life and environmental sciences (the National University of Life and Environmental Sciences of Ukraine, Kyiv).

An academic discipline Latin language is an integral part of the linguistic training of agro-biologists, agronomists, plant protection specialists and others. The subject goal is to introduce students to elementary Latin, help them acquire the practical skills in using professional Latin terminology in educational, scientific and professional activities. The main task is to build the professional and terminological competence of students, focused on the study of Latin biological terminology in such subterminosystems as botanical, phytopathological, and zoological.

Selectivity

The principle of selectivity "permeates" the whole system of teaching language for professional purposes. This means, that learning a foreign language takes place not in general, but selectively, based on the communicative needs of the profession and specialist's personality.[10] The theoretical teaching any foreign language is necessarily associated with its practical study, since language is a means of communication, and it involves the teaching communicative activity. Latin is a dead language, has some limitations in the formation of linguistic competence at the level of reading and writing, knowledge orthoepic, spelling, grammatical norms, basic linguistic laws and rules for terms composition.

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[9] Krupchenko, A., Inozemtzeva, K., & Prilipko, E., *Professional Development of a Foreign-Language Tertiary Teacher: Competence-Based Approach.* Mediterranean Journal of Social Sciences, Rome-Italy, MCSER Publishing, Vol 6, No 6, 2015, p. 260.

[10] Krupchenko, A., 2007, p. 22.

Students are encouraged to use selective, functional linguistic material. The Latin course at agrobiological faculties has its own specifics, which significantly distinguish it from studying at other faculties. In the subject content, the profile component (studying terminology) is more actualized and dominates the general one (studying the fundamentals of Latin grammar). The grammatical material is presented in a considerably reduced amount, which is necessary for understanding and translating the Latin names of plants, their diseases, pests, and plant protection products.

Students acquire the knowledge and skills necessary for the nomination - the designation of special concepts by terms and scientific names fixed in the international codes of botanical and zoological nomenclature. Some researchers (O. Reformatsky, V. Leychik, and others) indicate the principal differences between terms and names the functional approach dominates in educational practice, and the opposition of terms and nominations, although it is stipulated, but not determinative. Scientific names of plants and animals prevail in lexical minima (terms itself make up not more than 20%).

According to G. Hasanshina, the grammatical fund of the Latinized metalanguage of agronomy is represented by three parts of speech: nouns – 12.9%, adjectives – 65.3%, participle – 21.8%. Numerals and adverbs are also represented as terminological elements in the compounds. The metalanguage of agronomy has a substantive and attributive nature, and the dynamic terminological component is reduced.[11]

Due to the substantive and attributive nature of agrobiological terminology and nomenclature, the most attention is paid to the grammatical features of Latin nouns and adjectives. But even these parts of speech are not studied in full paradigms. As G. Hasanshina notes, the Latinized metalanguage of agronomy is characterized by the further "reduction" of the Latin derivational system. The morphological form of the nouns and adjectives (the nominative, sometimes genitive) is the most significant. In this case, the attributive units, being in postposition after the substantive, are ranked according to the degree of importance

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[11] Hasanshina, G.V., *Latinizirovannyj semanticheskij metajazyk v russkom agronomicheskom podjazyke* [Latinized semantic metalanguage in Russian Agronomy sublanguage]. Thesis for a Candidate's Degree, Ekaterinburg, Institute of International Relations, 2004, p. 6.

of the sign for the unit of this taxonomic rank.[12] Such models (substantive + adjective collocation) is a feature of the botanical nomenclature. At the same time, future agrobiologists acquire a significant amount of phytopathological and entomological scientific names. In the names of pathogens of plant diseases and insects, a model of substantive + substantive collocation is rather productive. Therefore, it is compulsory to study only four word forms of nouns and adjectives – nominative and genitive cases singular and plural. A complete derivational paradigm of nouns and adjectives is given for supplementary study.

Foreign language professionalization

The principle of foreign language professionalization determines the content of professionally oriented foreign languages learning as a holistic, complex and at the same time an integrative process of development specialist's linguistic personality, which takes place in the integration of linguistic, communicative and professionals skills based of interpenetration, interdependence and complementarity of interdisciplinary information and learning methods.[13] In the system of training bachelors in specialty "Agronomy", "Horticulture and Viticulture", "Plant protection and quarantine", "Agricultural science and food" the discipline Latin language belongs to the elective cycle and reveals interdisciplinary connections with such disciplines, as Ukrainian for professional purposes, Foreign language (English, German, French, Spanish), Botany, Chemistry, Plant Physiology, Entomology, Agricultural Zoology, Phytopathology, General mycology, Herbology, Agropharmacology, Fruit-growing, Vegetable growing, Mushroom growing, Agricultural Microbiology, Agricultural virology, etc.

Latin language is studied according to curricula of Agrobiology Faculty in the first year together with special subjects, or precedes them, being their instrumental and conceptual base and laying the foundations for further conscious perception of the international biological terminology.

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[12] Ibidem, p. 12.
[13] Krupchenko, A., 2007, p. 24.

Internationalization

Objective tendencies of integration of European education and creation of European Research Area actualize the need of modern society in highly qualified competitive specialists who are proficient not only in the native language but also in international professional language, are familiar with the scientific conceptual terminology apparatus of modern European languages.

During the Latin course, students are introduced to International Code of Nomenclature for algae, fungi, and plants, International Code of Nomenclature for Cultivated Plants, International Code of Nomenclature of Prokaryotes and International Code of Zoological Nomenclature; are acquainted with their main principles (typification, priority, independence). The principle of universality states: "Scientific names of taxonomic groups are treated as Latin regardless of their derivation".[14]

Much attention is paid to the special professional topics: systematics, taxonomy, and classification of biological objects, ranks of taxonomic categories, and especially is focused on species, as a basic unit of classification and a taxonomic rank.

Equally important is the study of the structure of the hierarchical system of taxonomic rank above species, and ways of building uninominal names of plants and animals. Precise knowledge of Latin unified final terminological elements of uninominal names, recommended by the current international codes of botanical and zoological nomenclature, and their Ukrainian equivalents is compulsory.

Advanced foreign language specialization

Students should be informed about current trends in biological sciences. The Latin course based on principles of professional linguodidactics, unlike classical one, is not a closed system, it is regularly updated with new information from the achievements of modern science. Ad example, information on principles of syntaxonomy – the theory and practice of the phytocoenoses classification, the ways of creating the Latin names of syntaxa (syntaxon) in physiognomic and floristic vegetation classification, Rules and Recommendations of

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[14] International Code of Nomenclature for algae, fungi, and plants, 2017. Available at: https://www.iapt-taxon.org/nomen/pages/main/division_i.html

International Code of Phytosociological Nomenclature were recently included in it.

The basic conditions for the implementation of advanced foreign language professionalization and specialization are:

- foreign language training should be based on professionally oriented materials;

- an interdisciplinary approach to the selection of training material;

- training should be carried out through the active involvement of students in quasi-professional activities.[15]

A. Krupchenko and A. Kuznetsov believe, that the specific linguoprofessional principles have been developed for the guidance of all categories of PLD (purpose, content, forms, methods, and tools for gaining foreign language professional goals, as well as for the teacher development purposes).[16]

So, it is very important to create and select special training materials, and textbooks manuals for teaching a foreign language.

At the National University of Life and Environmental Sciences of Ukraine, teaching Latin is based on the conceptual ideas of professional linguodidactics. The authors team of lecturers of University has many years' experience in the creation of Latin textbooks, manuals and tutorials based on linguoprofessional principles, namely: "Latynska mova dlia studentiv-ahrobiolohiv" (2006), "Latin Language for the students-agrobiologists" (2008), "Latin Language and Fundamentals of Biological Terminology" (2010), "Lingua Latina Agrobiologica" (2018).

Lingua Latina Agrobiologica

The textbook has a clear structure: the basic (elementary) course, appendices, Latin-Ukrainian and Ukrainian-Latin dictionaries, but does not limit the lecturer to regulate the material of the main course according to the curriculum.

The basic course consists of 16 lessons, each of which contains the theoretical part – grammar and lexical topics, questions for self- testing and a set of exercises for revision and systematization of material. From

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[15] Dubinina, G.A., Drachinskaya I.F., *Obespechenie operezhayuschey professionalnoy orientatsii inostrannoy podgotovki v nelingvisticheskom vuze*, Theory and practice of teaching foreign languages in a non-linguistic university: traditions, innovations, prospects, Moscow, Scientific Technology, 2015, p. 42.

[16] Krupchenko, A., Kuznetsov, A., 2017, p. 2860.

the third lesson, the theoretical part is accompanied by a lexical minimum – botanical, entomological, phytopathological terms, scientific names of plants and animals. The lecturer can combine, complement and expand the lexical minima according to the specifics of the terminology systems studied at different specialties.

The part "Phonetics" (lessons 1-2) presents theoretical material and a system of exercises aimed at the formation of pronunciation and spelling skills necessary for reading and writing Latin words: Latin alphabet, the rules for pronouncing vowels, consonants and letter combinations, rules for accent in Latin words.

In the part "Morphology" (lessons 3-16) there is a grammar material necessary for mastering the building, analysis, and translation of biological terms. Since the basis of the biological terminology and nomenclature are nouns and adjectives, the most attention is paid to the study of these parts of speech.

The textbook has a clear terminology orientation. Teaching elements of Latin grammar and word formation is consistently oriented to the study of the fundamentals of agrobiological nomenclature and taxonomy. Great attention is paid to the structure of binomial, uninominal, trinominal and compound names of plants and animals, the rules for forming names of hybrids and cultivated plants, and the informative content of the Latin biological nomenclature names.

There are exercises on revising all material, as well as historical, cultural, grammatical and terminological appendices to the basic course at the end of the textbook.

The terminology course is accompanied by a reference to the etymological information about the origin of the Latin names of plants, the familiarization of which simplifies the memorization of nomenclature names, makes it more conscious, and therefore easier.

Latin-Ukrainian and Ukrainian-Latin dictionaries contain about 4,000 terms and nomenclature names in each part. One of the main functions of this dictionary is the reference, so it contains not only the Latin names of the genera of plants and their Ukrainian equivalents but also the names of the taxa below genus.

The textbook is intended for students of the agrobiological faculties. But it could be useful for those who want to learn Latin terminology on their own, as well as for all interested professional biologists.

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THE FORMATION OF ENVIRONMENTAL TERMS IN THE UKRAINIAN LANGUAGE LEXICAL SYSTEM: THEORETICAL REVIEW

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ABSTRACT: *The aim of the study was to undertake the theoretical review of the ecological terminology formation in the Ukrainian language lexical system. To achieve the stated aim the methods of concept analysis, content analysis and discourse reflexion were used. For revealing the peculiarities of the formation of environmental terms the materials of web-based resources and official documents available on the Internet were analyzed.*

KEYWORDS: *environmental terminology, term, the Ukrainian language lexical system, environmental terms.*

Introduction

All the changes that our world is experiencing are always reflected in the linguistic view of the world. It happens because due to these changes new branches of sciences and new directions in different fields of scientific work appear, each of which need a common terminology. For instance, the rapid growth of human population, development of production technologies and intensive urbanization has resulted in the promotion of ecological awareness, the origin of environmental science and environmental movements all over the world. To solve problems relating to environmental protection a new terminology has appeared which features prominently in the linguistic world-image, remains

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dynamic and is closely related to term systems of different natural sciences. That is, the emergency of new terms in general and ecological ones in particular is explained by the fact that lexical system of any language is not static, evolves over time and is influenced by the global processes of the advancement of civilization.

Despite the fact that contemporary linguistics investigates term systems of different sciences from the point of view of their composition and structure, origin and evolution, peculiarities of formation, linguistic descriptions of some term systems are not exhaustive, do not reflect all changes and variations and demand comprehensive research. In this regard the theoretical research on the formation of environmental terms in the Ukrainian language lexical system is timely and topical.

The aim of the article

The study aims at undertaking the theoretical review on forming environmental terms in the Ukrainian language lexical system. The stated aim provides the solution of the following tasks, namely:

- to generalize approaches to understanding the essence of the concepts of "term", "environmental term" and "terminology" in the scientific literature and to developing an operational concept of "environmental terminology";

- to perform an analysis of the relevant web-based resources and official documents available on the Internet for identifying the peculiarities of the environmental terms formation in the lexical system of the contemporary Ukrainian language;

- to summarize the results of the theoretical analysis on the environmental terms formation in the Ukrainian language lexical system.

Research methods and materials

Taking into consideration the fact that the research was analytical and descriptive, the following research methods were used, namely, the method of concept analysis, the method of content analysis and discourse reflexion. We used the method of concept analysis for generalizing approaches to understanding the essence of the concepts of "term", "environmental term" and "terminology". For identifying the peculiarities of the environmental terms formation in the lexical system of the contemporary Ukrainian language we used the method of content analysis. To summarize the results of the theoretical analysis on the

ecological terminology formation in the Ukrainian language lexical system the method of discourse reflexion was used.

Web-based resources and official documents available on the Internet served as background material for our research. Web-based resources included the official site of *Ministerstvo ekolohii ta pryrodnykh resursiv Ukrainy*[1] and *Vseukrainska ekolohichna liha*[2]. Official documents available on the Internet comprised the main Laws of Ukraine concerning environmental protection, namely, *Zakon Ukrainy "Pro okhoronu navkolyshnoho pryrodnoho seredovyshcha"*[3], *Zakon Ukrainy "Pro stratehichnu ekolohichnu otsinku"*[4], *Zakon Ukrainy "Pro zatverdzhennia Polozhennia pro Derzhavnu ekolohichnu inspektsiiu Ukrainy"*[5], *Zakon Ukrainy "Pro otsinku vplyvu na dovkillia"*[6], *Zakon Ukrainy "Pro ekolohichnu merezhu Ukrainy"*[7], *Zakon Ukrainy "Pro Chervonu knyhu Ukrainy".*[8]

The analysis of the scientific literature

Although many scholars and researchers give their definitions on understanding the concept of "term", no consensus has been reached yet. Thus, Webster's New Collegiate Dictionary says that a term is a

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[1] Ministerstvo ekolohii ta pryrodnyk resursiv Ukrainy [Electronic resource], (2017), [Ministry of ecology and natural resources of Ukraine], URL: https://menr.gov.ua/

[2] Vseukrainska ekolohichna liha [Electronic resource], (2018), [All-Ukrainian ecological league], URL: www.ecoleague.net

[3] Zakon Ukrainy "Pro okhoronu navkolyshnoho pryrodnoho seredovyshcha" [Electroinc resource], (2018), [The Law of Ukraine "On Environmental Protection"], URL: https://zakon.rada.gov.ua/laws/show/1264-12?lang=uk

[4] Zakon Ukrainy "Pro stratehichnu ekolohichnu otsinku" [Electronic resource], (2018), [The Law of Ukraine "On Strategic Environmental Assessment"], URL: https://zakon.rada.gov.ua/laws/show/2354-19?lang=uk

[5] Pro zatverdzhennia Polozhennia pro Derzhavnu ekolohichnu inspektsiiu Ukrainy [Electronic resource], (2017), [The Approval of Regulation On the State Environmental Inspectorate], URL: https://zakon.rada.gov.ua/laws/show/275-2017-п?lang=uk

[6] Zakon Ukrainy "Pro otsinku vplyvu na dovkillia" [Electronic resource], (2017), [The Law of Ukraine "On Environmental Impact Assessment], URL: https://zakon.rada.gov.ua/laws/show/2059-19?lang=uk

[7] Zakon Ukrainy "Pro ekolohichny merezhu Ukrainy" [Electronic resource], (2018), [The Law of Ukraine "On Environment of Ukraine"], URL: https://zakon.rada.gov.ua/laws/main/1864-15

[8] Zakon Ukrainy Pro Chervonu knyhu Ukrainy [Electronic resource], (2002), [The Law of Ukraine "On the Red Book of Ukraine"], URL: https://zakon.rada.gov.ua/laws/show/3055-14

word or expression that has a precise meaning in some uses or is peculiar to a science, art, profession, or subject.[9] Arnold defines a term as a word or a collocation used for clarifying concepts specific for any branch or knowledge, production, or culture and meeting communicative needs in this sphere of human activity[10]. The same idea is expressed by Bourigault and Condamines who believe that a term is a terminological element that can be regarded as a linguistic expression of concepts in a specific field of knowledge[11].

Golovin and Kobrin indicate their conception of a term. The scholars explain that a term is a word or a word-combination which has a special meaning, form and presents professional notions on scientific and professional objects and relations between them[12].

An interesting point of view on defining a notion of „term" is presented by Ovcharenko who thinks that a term is a word or a collocation formed, borrowed or repurposed from the same language which expresses a scientific concept, a concept of a special field of knowledge and human activity aimed at nominating objects and processes and at the same time, serves as a means of cognition of the world, has clear semantic boundaries and is introduced into a terminological system[13].

Drawing upon different approaches to understanding the notion of "term", we define an environmental term as a terminological element that has a special meaning in the environmental science.

Taking into account the fact that terminology is believed to be a branch of vocabulary or the sum total of the terms used in a particular area of science, technology, industry, art, or public life and connected

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[9] p. 1194, Webster's New Collegiate Dictionary, (1979), Springfield, MA: A. Merriam Webster.

[10] p. 81, Arnold, I., (1991), Osnovy nauchnykh issledovaniy v lingvisitke [Fundamentals of scientific studies in linguistics], Moskva: Vysshaya shkola.

11 p. 15, Bourigault, D., Condamines, A., (1993), Terminology & Artificial intelligence, Toulouse: Université de Toulouse.

[12] p. 5, Golovin, B., Kobrin, R., (1987), *Lingvisticheskie osnovy ucheniya o terminakh*, [Linguistic basis of the theory of terms], Moskva: Vysshaya shkola.

[13] p. 173, Ovcharenko, (2010), *Teoretychni peredumovy doslodzhennia terminosystem (no materialy suchasnoi ukrainskoi terminolohiyi)* [Theoretical presonditions of investigation of the terminological systems (on the materials of contemporary Ukrainian terminology), Linguistychni studii [Linguisitc Studias], 20, 172-175.

with a corresponding system of concepts[14], environmental terminology can be regarded as a set of terms used for harmonization of various concepts in the field of environmental science.

Methods of environmental terms formation in the Ukrainian language lexical system

Theoretical analysis of the web-based resources and official document available on the Internet enables us to state that the emergency of environmental terminology in the Ukrainian language lexical system can be explained by the increase of ecological awareness all over the world, the rapid advance of environmental sciences and movements in the USA and other countries and as a consequence the need to borrow and harmonize various terms typical for environmental science and related to it sciences.

Having analyzed 2300 environmental terms found in web-based resources and official documents available on the Internet, we can state that in the contemporary Ukrainian language lexical system the environmental terminology is presented by one-word terms (one lexical unit), word combinations (several lexical units) and abbreviations. We have to add that most environmental terms borrowed from the English, Italian and French languages have Latin or Greek origin.

One-word terms which present different parts of speech make up 40% of the total number of analyzed environmental terms. According to their structure one-word environmental terms fall into three groups, namely, simple terms, derivative terms and compound terms. A simple term usually contains only one lexical morpheme which is regarded as the root. The content analysis shows that although there are many simple terms in the web-based resources and official documents available on the Internet, they do not constitute the large group of one-word environmental terms. The most common examples of one-word environmental terms consisting of one lexical morpheme are given in Table 1.

Table 1

One-word environmental terms consisting of one lexical morpheme

Environmental term in Ukrainian	Transliteration	English translation
ліс	lis	forest
степ	step	steppe
ґрунт	grunt	soil
град	grad	hail
вид	vyd	species
смог	smoh	smog
парк	park	park

The most numerous examples of environmental terms found in the web-based resources and official documents available on the Internet are presented by derivative and composite terms. The structure of derivative terms can consist of one lexical morpheme and some bounding morphemes regarded as affixes, namely, prefixes, suffixes and infixes. The following prefixes, namely, *де-(de-)*, *ди-(di)*, *гіпер-(hyper-)*, *макро-(makro-)*, *мікро-(mikro-)*, *не-*(ne-), *ре-(re-)*, *само-(samo-)* are used in the formation of derivative environmental terms. Thus, in most cases in the formation of environmental terms the prefix *де- (de-)* is used to indicate *the change for the worse, removal of something from something or opposite meaning.* Table 2 presents derivative environmental terms containing the prefix *де-(de-)* noted on the web-based resources and official documents available on the Internet.

Table 2

Derivative environmental terms containing a lexical morpheme and a bound morpheme *де-(de)*

Environmental term in Ukrainian	Transliteration	English translation
демутація	demutatsiia	demutation
деградація	dehradatsiia	degradation
депопуляція	depopuliatsiia	depopulation
детоксикація	detoksykatsiia	detoxification
деурбанізація	deurbanizatsiia	de-urbanization
дерегуляція	derehuliatsiia	deregulation

In the Ukrainian language lexical system the prefix *ди- (di)* which is of Greek origin means "two" or "twice". Examples of derivative

environmental terms containing a lexical morpheme and a bound morpheme *ди-(di)* are given in Table 3.

Derivative environmental terms containing a lexical morpheme and a bound morpheme *ди-(di)*

Environmental term in Ukrainian	Transliteration	English translation
диверсифікація	*dyversyfikatsiia*	*diversification*
дибіонти	*dybionty*	*dibiont*

In the Ukrainian language lexical system the prefix *ре-(re-)* means "anew" and "again". Table 4 demonstrates examples of derivative environmental terms containing the prefix *ре-(re-)*.

Derivative environmental terms containing a lexical morpheme and a bound morpheme *ре-(re)*

Environmental term in Ukrainian	Transliteration	English translation
рекреація	*rekreatsiia*	*recreation*
рекультивація	*rekultyvatsiia*	*recultivation*
реадаптація	*readaptatsiia*	*readaptaion*
реутилізація	*reutylizatsiia*	*reutilization*

The analysis of the web-based resources and official document available on the Internet shows that environmental terminology existed in the Ukrainian language also contains derivative terms consisting of a lexical morpheme and such bound morphemes as *макро-(makro)*, *мікро-(mikro)* and *гіпер-(hiper-)*. Derivative environmental terms containing the prefixes mentioned above are demonstrated in Table 6.

Derivative environmental terms containing the prefixes *мега- (mega-)*, *макро-(makro)*, *мікро-(mikro)* and *гіпер-(hiper-)*

Environmental term in Ukrainian	Transliteration	English translation
мікроклімат	*mikroklimat*	*microclimate*
гіперчутливість	*hiperchutlyvist*	*hypersensitivity*
макроклімат	*makroklimat*	*macroclimate*

Table 7 shows examples of derivative environmental terms containing the prefix *само-(samo-)* which means "oneself".

Derivative environmental terms containing the prefix *само-(samo-)*

Environmental term in Ukrainian	Transliteration	English translation
самоочищення	*samoochyshchennia*	*self-purification*
саморегуляція	*samorehuliatsiia*	*autoregulation*

We have to mention that in the Ukrainian language the most common interfix used for combining free lexical word-morphemes is *o-(o-)*. Table 8 presents the examples of composite environmental terms consisting of free lexical word-morphemes.

Composite environmental terms containing free lexical word-morphemes

Environmental term in Ukrainian	Transliteration	English translation
*вод**о**стійкість*	*vodostiikist*	*water resistance*
газоаналізатор	*hazoanalizator*	*gas analyzor*
біосистема	*biosystema*	*biosystem*
екосистема	*ekosystema*	*ecosystem*
лісостеп	*lisostep*	*forrest-steppe*
магнітосфера	*mahnitosfera*	*Magnetosphere*
генофонд	*henofond*	*gene pool*
деревостан	*derevostan*	*forest stand*

The largest group of environmental terms is presented by word combinations (several lexical units). It makes up 57% of the total number of analyzed environmental terms. The environmental terminology contains two-, three-, four-, five- and six-word environmental terms. In the formation of two-word environmental terms, the following patterns were noted, namely, A+N (adjective+noun) and N+N (noun+noun). The results of the content analysis are presented in Tables 9-10:

Two-word environmental terms formed according to the A+N
(adjective+noun) pattern

Environmental term in Ukrainian	Transliteration	English translation
екологічна аварія	*ekolohichna avariia*	*environmental incident*
антропогенний вплив	*antropohennyi vplyv*	*anthropogenic influence*
антропогенна ерозія	*antropohenna eroziia*	*anthropogenic erosion*
екологічна безпека	*ekolohichna bezpeka*	*environmental safety*
екологічна валентність	*ekolohichna valentnist*	*ecological valency*
водні ресурси	*vodni resursy*	*water resources*
популяційна екологія	*populiatsiina ekolohiia*	*population ecology*
дика природа	*dyka pryroda*	*wild nature*
кислотний дощ	*kyslotnyi doshch*	*acid rain*
хімічне забруднення	*khimichne zabrudnennia*	*chemical contamination*

Two-word environmental terms formed according to the N+N
(noun+noun) pattern

Environmental term in Ukrainian	Transliteration	English translation
баланс компонентів	*balans komponentiv*	*balance of components*
деструкція екосистеми	*destruktsiia ekosystemy*	*ecosystem destruction*
загроза біорізноманіттю	*zahroza bioriznomanittiu*	*threats to biodiversity*
аналіз води	*analiz vody*	*water analysis*
захоронення відходів	*zakhoronennia vidkhodiv*	*landfilling*
зона тиші	*zona tyshi*	*silence zone*
дефіцитність ресурсів	*defitsytnist resursiv*	*resources deficiency*
індикатор забруднення	*indykator zabrudnennia*	*pollution indicator*
колонія організмів	*koloniia orhanizmiv*	*colony of organisms*
міграція тварин	*mihratsiia tvaryn*	*migration of animals*
мінералізація води	*mineralizatsiia vody*	*water mineralization*
норма викиду	*norma vykydu*	*emission standard*

In the Ukrainian language environmental terminology contains three-word terms formed according to the N+A+N (noun+adjective+noun) pattern. Table 11 demonstrates examples of three-word environmental terms noted in the web-based resources and official documents available on the Internet.

Table 11
Two-word environmental terms formed according to the N+A+N
(noun+adjective+noun) pattern

Environmental term in Ukrainian	Transliteration	English translation
баланс екологічних компонентів	*balans ekolohichnykh komponentiv*	*balance of ecological components*
зона екологічного ризику	*zona ekolohichnoho ryzyku*	*zone of environmental risk*
індекс живої планети	*indeks zhyvoi planet*	*Living Planet Index*
оздоровлення навколишнього середовища	*ozdorovlennia navkolyshnoho seredovyshcha*	*environment normalization*
зона активного забруднення	*zona aktyvnoho zabrudnennia*	*zone of active contamination*
календар екологічних дат	*kalendar ekolohichnykh dat*	*ecological calendar*
виснаження природних ресурсів	*vysnazhennia pryrodnykh resursiv*	*natural resource depletion*
охорона атмосферного повітря	*okhorona atmosfernoho povitria*	*atmospheric air protection*
локалізація радіоактивних відходів	*lokalizatsiia radioaktyvnykh vidkhodiv*	*radioactive waste containment*
зберігання радіоактивних відходів	*zberihannia radioaktyvnykh vidkhodiv*	*radioactive waste storage*
очищення стічних вод	*ochyshchennia stichnykh vod*	*waste-water treatment / sewage treatment*
вартість природних ресурсів	*vartist pryrodnykh resursiv*	*value of natural assets*
утилізація забруднюючих речовин	*utylizatsiia zabrudniuiuchykh rechovyn*	*disposal of contaminants*
забруднення світового океану	*zabrudnennia svitovoho okeanu*	*marine pollution*
саморегулювання живих систем	*samorehuliuvannia zhyvykh system*	*self-regulation in living systems*

Three-word environmental terms formed according to the A+N+N
(adjective+noun+noun) pattern are given in Table 12.

Table 12

Three-word environmental terms formed according to the A+N+N
(adjective+noun+noun) pattern

Environmental term in Ukrainian	Transliteration	English translation
всесвітня хартія природи	*vsesvitnia khartiia pryrody*	*World Charter for Nature*
правова охорона природи	*pravova okhorona pryrody*	*legal environmental protection*
радіоактивне забруднення атмосфери	*radioaktyvne zabrudnennia atmosfery*	*radioactive contamination of the atmosphere*
відновлювальні джерела енергії	*vidnovliuvalni dzherela enerhii*	*renewables/renewable energy*
критичний рівень забруднення	*krytychnyi riven zabrudnennia*	*critical level of contamination*
глобальні зміни клімату	*hlobalni zminy klimatu*	*global climate change*
вікова структура популяцій	*vikova struktura populiatsii*	*the age structure of the population*
екологічна декларація продукції	*ekolohichna deklaratsiia produktsii*	*environmental product declaration*
червоний список видів	*chervonyi spysok vydiv*	*Red List of Threatened Species*
лінійна ерозія ґрунту	*liniina eroziia gruntu*	*linear soil erosion*

Three-word environmental terms formed according to the A+A+N
(adjective+adjective+noun) pattern are given in Table 13.

Table 13

Three-word environmental terms formed according to the A+A+N
(adjective+adjective+noun) pattern

Environmental term in Ukrainian	Transliteration	English translation
прибережна захисна смуга	*pryberezhna zakhysna smuha*	*coastal protective strip*
регіональний ландшафтний парк	*rehionalnyi landshaftnyi park*	*reginal landscape park*
державна лісова охорона	*derzhavna lisova okhorona*	*state forestry guards*
штучна атмосферна інверсія	*shtuchna atmosferna inversiia*	*artificial atmospheric inversion*
глобальна екологічна криза	*hlobalna ekolohichna kryza*	*Global ecological crisis*
небезпечне природне	*nebezpechne pryrodne*	*unsafe natural*

явище	*yavyshche*	*phenomenon*
глобальний екологічний фонд	*hlobalnyi ekolohichnyi fond*	*Global Environment Facility*
невідновні природні ресурси	*nevidnovni pryrodni resursy*	*non-renewable natural resources*
європейське екологічне бюро	*yevropeiske ekolohichne biuro*	*European Environmental Bureau*
всеукраїнська екологічна ліга	*vseukrainska ekolohichna liha*	*All-Ukraine Ecological League*

Three-word environmental terms formed according to the N+N+N (noun+noun+noun) pattern are given in Table 14.

Table 14

Three-word environmental terms formed according to the N+N+N (noun+noun+noun) pattern

Environmental term in Ukrainian	Transliteration	English translation
шкала сили вітру	*shkala syly vetru*	*wind force scale*
шкала сили звуку	*shkava syly zvuku*	*sound force scale*

Three-word environmental terms formed according to the N+A+A (noun+adjective+adjective) pattern are presented in Table 15.

Table 15

Three-word environmental terms formed according to the N+A+A (noun+adjective+adjective) pattern

Environmental term in Ukrainian	Transliteration	English translation
пояс зелених насаджень	*poias zelenykh nasadzhen*	*green belt*
охорона зелених насаджень	*okhorona zelenykh nasadzhen*	*green belts protection*

In the Ukrainian language lexical system four-word environmental terms are formed according to two different patterns, namely, A+N+A+N (adjective+noun+adjective+noun) and N+A+A+N (noun+adjective+adjective+noun) pattern. Table 16 presents the results of the content analysis concerning four-word environmental terms formed according to A+N+A+N (adjective+noun+adjective+noun) pattern.

Four-word environmental terms formed according to A+N+A+N
(adjective+noun+adjective+noun) pattern

Environmental term in Ukrainian	Transliteration	English translation
Всесвітній фонд дикої природи	*Vsesvitnii fond dykoi pryrody*	*World Wildlife Fund*
регіональні кадастри природних ресурсів	*rehionalni kadastry pryrodnykh resursiv*	*regional inventories of natural resources*
органолептичні властивості питної води	*orhanoleptychni vlastyvosti pytnoi vody*	*organoleptic properties of drinking water*
антропогенні зміни природних умов	*antropohenni zminy pryrodnykh umov*	*human-induced changes of natural conditions*
антропогенні зміни природних екосистем	*antropohenni zminy pryrodnykh ekosystem*	*human-induced changes of natural ecosystems*
забруднення вод світового океану	*zabrudnennia vod svitovoho okeanu*	*marine pollution*

Four-word environmental terms formed according to N+A+A+N (noun+adjective+adjective+noun) pattern are presented in Table 17.

Four-word environmental terms formed according to N+A+A+N
(noun+adjective+adjective+noun) pattern

Environmental term in Ukrainian	Transliteration	English translation
зона надзвичайної екологічної ситуації	*zona nadzvychainoi ekolohichnoi sytuatsii*	*environmental emergency area*
охорона навколишнього природного середовища	*okhorona navkolyshnoho pryrodnoho seredovyshcha*	*environmental protection*

The analysis shows that there are very few examples of five- and six-word environmental terms in the Ukrainian language lexical system. Table 18 contains an example of the five-word environmental term formed according to N+A+N+A+N (noun+adjective+noun+adjective+noun) pattern.

Table 18

A four-word environmental term formed according to N+A+A+N (noun+adjective+noun+adjective+noun) pattern

Environmental term in Ukrainian	Transliteration	English translation
охорона зелених насаджень населених пунктів	*okhorona zelenykh nasadzhen naselenykh punktiv*	*city's Green Belt protection*

Table 19 presents the results of the content analysis concerning six-word environmental terms formed according to A+N+N+A+A+N (adjective+noun+noun+adjective+adjective+noun) pattern.

Table 19

A six-word environmental term formed according to A+N+N+A+A+N (adjective+noun+noun+adjective+adjective+noun) pattern

Environmental term in Ukrainian	Transliteration	English translation
Всесвітній день охорони навколишнього природного середовища	*Vsesvitnii den okhorony navkolyshnoho pryrodnoho seredovyshcha*	*World Environmental Day*

The Ukrainian language abbreviations make up 3% of the total amount of analyzed environmental terms. The most numerous examples of environmental terms are presented by initials formed by combining initial letters or sounds of word-combinations (Table 20).

Table 20

Typical initials in the environmental terminology of the Ukrainian language lexical system

Initial in Ukrainian	Transliteration	English translation
ЄАНС	*YeANS*	*European Environment Agency*
ЄЕБ	*YeEB*	*European Environmental Bureau*
ЗКУ	*ZKU*	*The Green Book of Ukraine*

Conclusions

The primary aim of the research was to undertake the theoretical review on forming environmental terms in the Ukrainian language lexical system. The main peculiarity of environmental terminology is that it comprises the terms typical for other terminological systems, namely, biological, zoological, chemical, meteorological, agricultural etc. Moreover, most terms that constitute the Ukrainian environmental terminology were borrowed from the English language as a result of cooperation and joint operations of Ukraine and other counties aimed at environmental protection all over the world and the need to use English as the global language. The analysis of 2300 environmental terms found in web-based resources and official documents available on the Internet enables us to say that in the contemporary Ukrainian language lexical system the environmental terminology is presented by one-word terms (one lexical unit), word combinations (several lexical units) and abbreviations. One-word terms which present different parts of speech make up 40% of the total number of analyzed environmental terms. The largest group of environmental terms is presented by word combinations, which makes up 57% of the total number of analyzed terms. Abbreviations make up 3% of total amount of analyzed environmental terms.

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PREPARATION OF FOREIGN LANGUAGE TEACHERS FOR THE FORMATION OF HUMANISTIC VALUES AT FUTURE SPECIALISTS OF THE AGRARIAN AND ENVIRONMENTAL AREAS

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ABSTRACT: *The article deals with the problem of the purposeful training of foreign language teachers for the formation of humanistic values at future specialists of agrarian and environmental industries. The educational potential of a foreign language that influences the development of the person's motivational and valueble sphere was outlined. The methodology of conducting preparatory work with teachers of foreign language, which included lectures, conversations, scientific and methodical seminars using new forms and methods, namely: discussions, collective thinking, trainings, round tables, brainstorm was described.*

KEYWORDS: *values, humanistic values, future specialists, foreign language, workshop, scientific and methodical seminar.*

Introduction

Today the problem of forming the humanistic values of a future specialist acquires a special significance and actuality in the context of humanistic paradigm of the society development in all spheres of human life, especially in education. Humanistic upbringing of youth is one of the priority directions of the national education system, as mentioned in a number of documents.

Considerable attention in scientific studies is given to the education of humanistic values at future specialists of agrarian and environmental industries, since professional activity and the results of their work are extremely significant and valuable for our state.

The agrarian sector plays an important role in the development of the Ukrainian economy, improving the quality of life of the country population, ensuring high-quality environmentally friendly products, preserving the environment and rational use of natural resources. Therefore for our study it is especially important the works of K.

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Vlasenko, O. Polozenko, O. Stolyarenko, O. Tepla, O. Myshak, which emphasize the importance of the spiritual and moral education of young people and the low level of the formation of their humanistic values.

The analysis of the scientific literature

Various aspects of the problem of values, in particular in education are widely highlighted in the scientific literature. The methodological and theoretical foundations of value problems are grounded on the works of I. Bech, T. Butkivska, O. Vishnevsky, I. Zyazyun, V. Kremen, M. Nikandrov, V. Ognevyuk, O. Savchenko, O. Sukhomlynska and others. Various aspects of the problem of values, especially in education, are described in scientific studies of S. Anisimov, R. Apresian, A. Arnoldov, M. Kagan, V. Sergeantov, V. Tugarinov and others.

The importance of spiritual and moral education of young people is noted in scientific works of L. Arkhangelskyi, G. Ball, E. Bondarevska, N. Boryshevska, N. Gannusenko, K. Cherna.

The purpose of the article

The purpose of the article is to present the process of purposeful training of foreign language teachers to organize work on the formation of humanistic values among future specialists in agrarian and environmental industries.

The role of foreign language in the formation of students' humanistic values

Taking into account the semantic load of the concept of "humanistic" ("directed to man" as a value), in the context of our study of humanistic values, we understand the values that are realized in the activities and communication of personality for others. From the standpoint of humanistic ethics, person is happy only in interaction with others. He has only one way to be in unity with the world and in harmony with himself to realize their abilities. It will be good for both him and for society[1].

The most important role in the formation of the humanistic values at students belongs to the subjects of humanitarian cycle, which includes foreign language. Foreign language has a significant axiological potential

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[1] Tepla, O., *Formuvannya humanistychnykh tsinnostey u studentiv ahrarnykh vyshchykh navchal'nykh zakladiv u pozaaudytorniy diyal'nosti: avtoref. dys. na zdobuttya nauk. stupenya kand. ped. nauk: 13.00.07.*, 2008, p. 23.

and contributes to the effective formation of value orientations as a general humanistic and professional nature of the future specialist of agrarian and environmental industries.

The problem of the role of foreign language in personal development was sufficiently reflected in the scientific literature. Research by E. Myshak[2,3,4], L. Rytikova[5], M. Rychkova[6], O. Syrotin[7] and I. Tymoshchuk[8,9] prove that due to its significant axiological potential, foreign language may become effective means of forming a system of humanistic values. However, as the analysis of the experience of teaching foreign language in a modern educational institution shows, its educational opportunities are not fully utilized.

This gives grounds for concluding that the systematic formation of humanistic orientation has not yet taken root in the experience of foreign language teachers. Consequently, there is a need to develop methodological support for the process of forming value orientations at students of agricultural institutions of higher education in the teaching foreign language.

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[2] Myshak, H., *Formuvannya humanistychnoyi spryamovanosti maybutnikh biotekhnolohiv u protsesi vyvchennya inozemnoyi movy (metodychni rekomendatsiyi).* K.: Vydavnycho-polihrafichnyy dim «Format», 2014, p. 65.

[3] Myshak, E., *Educational potential of extracurricular work in foreign language.* Euromentor journal studies about education, 2018, 123.

[4] Myshak, E., *Orientation of university lecturer individual in the context of education humanization.* Naukovyy visnyk NUBiP Ukrayiny. Seriya: Pedahohika, psykholohiya, filosofiya, 2014, 199.

[5] Rytikova, L., *Aksiolohichnyy potentsial zmistu dystsypliny "inozemna mova" dlya studentiv ahrarnoho VNZ.* Naukovyy visnyk Natsional'noho universytetu bioresursiv i pryrodokorystuvannya Ukrayiny. Seriya : Pedahohika, psykholohiya, filosofiya, 199(1), 2014, P. 316-321.

[6] Rychkova, M., *Inostrannyy yazyk kak sredstvo formirovaniya tsennostnykh oriyentatsiy budushchikh spetsialistov.* Vestnik Kostromskogo gosudarstvennogo universiteta. Seriya: Pedagogika. Psikhologiya. Sotsiokinetika, 2008, P. 75-81.

[7] Sirotin, O., *Potentsial inozemnoyi movy u vykhovanni humanistychnykh tsinnostey maybutn'oho fakhivtsya ahrarnoyi haluzi.* Nauchno-praktycheskyy élektronnyy zhurnal Alley-science, 6(22), 2018, P. 38-44.

[8] Tymoshchuk, I., *Mekhanizm formuvannya humanistychnykh tsinnostey na zanyattyakh z inozemnoyi movy.* Naukovi zapysky Kirovohrads'koho derzhavnoho pedahohichnoho universytetu imeni Volodymyra Vynnychenka. Ser. : Pedahohichni nauky,150, 2017, P. 114-119.

[9] Tymoshchuk, I., *Potentsial inozemnoyi movy u vykhovanni humanistychnykh tsinnostey.* Pedahohichni nauky: teoriya, istoriya, innovatsiyni tekhnolohiyi, 8 (34), 2013, P. 153 -163.

Consultation and information work among foreign language teachers

For the scientific provision of a systematic approach to the process of formation of humanistic values at future specialists of agrarian and environmental industries to assist foreign language teachers, we have developed methodological recommendations for organizing the formation of humanistic values at students in the process of learning foreign language in order they master with a set of theoretical knowledge and practical skills in the implementation of interactive technologies, forms and methods of teaching English.

Conducting consultation and informational work among foreign language teachers to ensure a humanistic approach to the education and upbringing of students was carried out through the organization of scientific and methodological seminars, consultations and socio-pedagogical trainings (for example, in the system of postgraduate education of teachers).

We conducted scientific and methodological seminars: "The role of a foreign language in forming humanistic values of future specialists in the context of humanization education" and "Interactive technologies, forms and methods of teaching English that contribute to the formation of humanistic values of future specialists."

To identify the attitude towards the role of a foreign language in forming humanistic values of future specialists in agrarian and environmental industries, teachers of foreign language were asked to answer the questionnaire questions.

The questionnaire for teachers contained the following questions:

1. Do you think that foreign language can be an effective means of forming humanistic and value orientations (yes, something, no)?

2. What general humanistic and professional values do you think it is necessary to form at students of agrarian and environmental protection industries at university?

3. Do you set developmental goals (always, sometimes, never)?

4. Do you put general educational goals (always, sometimes, never) at classes?

5. Do you set educational goals (always, sometimes, never) at classes?

6. Are you trying to draw students' attention to humanistic values in texts and other educational materials (always, not always, no)?

7. Is it always possible to form desirable humanistic orientations at students (yes, no)?

8. Do you use a personally oriented approach to learning, communicative methodology, problem learning, other active methods (if you use, name what exactly)?

9. Do you consider individual and personality features when learning foreign language?

The results of the survey showed that teachers recognize the need to form humanistic orientations in the educational process and consider that foreign language can be an effective means for this. However, some teachers are limited only educational purposes at classes, without paying due attention to developmental, educational and educational aspects, often explaining it with a lack of study time, which is devoted to the study of the discipline "Foreign Language" (two hours per week). Despite this, most teachers use active teaching methods, but this is clearly not enough to form sustainable humanistic orientations due to the lack of systematic work on the implementation of the axiological potential of the subject "Foreign Language".

Therefore, to solve this problem, we conducted preparatory work with foreign language teachers, which included lectures, discussions, scientific and methodological seminars, consultations for the purpose of providing methodical assistance in the organization of educational activities. At the Department of English for Technical and Agrobiological Specialties, the National University of Life and Environmental Sciences of Ukraine (NULES of Ukraine), a series of scientific and methodological seminars for teachers of a foreign language were conducted. They envisaged mastering of theoretical knowledge and practical skills for carrying out activities in educational and extra-curricular work for the purpose of forming humanistic values at future specialists in agrarian and environmental industries.

It should be noted that the effectiveness of scientific and methodological seminars depends on the form of their conduct. Therefore, in addition to traditional lectures and conversations, we used the new forms and methods of work in the seminars as described below.

We held the first seminar for teachers on the problem of humanistic values formation at students in the format of the round table on the topic "The role of foreign language in forming the values at future professionals in the context of humanization education." The purpose of the seminar is

to determine the role of foreign language in the formation and becoming a humanist oriented personality in contemporary socio-cultural conditions.

The methodology for conducting the seminar covered the following stages:

- a statement by the responsible person on the relevance of the topic and the purpose of the seminar;

- creation of the analytical group for the drafting of the decision on the proposals of the participants of the seminar;

- presentation of speakers with the analysis of contemporary foreign language lessons at university in the light of the humanistic paradigm of education;

- discussion of the axiological potential of the subject "Foreign Language" and its use in the process of formation of humanistic values at future specialists;

- decision making.

Examples of topics suggested for discussion:

-Why is the question of the formation of humanistic values and linguistic identity in education in general and in vocational education in particular?

-Do you think that foreign language can be an effective means of forming humanistic and value orientations?

-What is the axiological potential of the academic subject "Foreign Language"?

-What conditions are needed to implement the educational potential of foreign language as a discipline?

-What kind of pedagogical techniques can you form humanistic values for a future specialist in the process of training the subject "Foreign Language"?

An effective method used during scientific and methodological seminars is "collective thinking". We used this method during the seminar "Interactive technologies, forms and methods of teaching English that contribute to the formation of humanistic values of a future specialist."

The purpose of the seminar is to find out the role of interactive technologies, forms and methods in activating the cognitive activity of students and the formation of humanistic qualities at them.

The workshop was conducted on the following plan:

1. Lecturer responsible for conducting a seminar with a description of interactive technologies, forms and methods of teaching English.

2. Distribution of participants to groups (at the request of teachers).

Group I - "Interactive Technologies".

Group II - "Interactive Forms".

Group III - "Interactive methods".

Each group fulfilled the following tasks: election of a leader, revealing of the most effective technologies, forms and methods of formation of humanistic values, argumentation of expediency of their use.

3. Formation of an analytical group to analyze the work of each group and approve the draft seminar decision.

4. Speeches of group leaders.

5. Exchange of ideas (everyone is invited to express ideas, comments related to this problem).

6. Statement of the analytical group on the evaluation of all proposed proposals.

7. Summarizing the workshop.

During the discussion of the mentioned problem, the participants of the seminar concluded that the strategic goal of the formation of humanistic values at the future specialist can be achieved by combining different technologies, forms and methods of training. In addition, in the course of the seminar, teachers constantly turned to their own pedagogical experience of implementing forms and methods of interactive learning during the classes.

Training of teachers and mentors of groups for the education and training of students based on the principles of humanism can be carried out through the organization of seminars and socio-psychological training (for example, in the system of postgraduate education of teachers).

Also, in order to ensure the effectiveness of the process of formation of humanistic values at future specialists, teachers of foreign languages are offered to use the possibilities of additional forms of organization of training (electives, special courses, special seminars, scientific circles, studios) and events (student conferences, competition of wallpapers, quizzes, theme nights, visiting sessions and excursions, competition of creative works and translations of texts on agrarian subjects, heuristic Olympiads).

Conclusions

Consequently, the process of forming the humanistic values at future specialists in the process of learning foreign language has been successful;

educational technologies must influence the basic knowledge, values and ideals, motives for the attribution of personal qualities as an installation for the implementation of effective professional activities.

The foregoing suggests that conducting of consultation and informational work among foreign language teachers to ensure effective work on the formation of humanistic values at future specialists is of great practical importance.

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METHODS OF THERAPEUTIC APPROACH IN BORDERLINE PERSONALITY DISORDERS – A CASE STUDY

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ABSTRACT: *The **purpose** of this study is to identify the benefits of psychotherapy in the treatment and recovery of borderline personality disorders.*

*Self-mutilation, suicidal ideation, fluctuating mood, strong rage against one's own person, mitigated by the use of alcohol, chaotic sex life, self-destructive behavior, and inner-sightedness are part of the criteria for diagnosing **borderline personality disorders**.*

Patient problems are extremely different from case to case: auto or heterogression behavior, substance abuse, eating disorders, sexual promiscuity.

*The **methods** used in the realization of the study are maieutics, dialectics, progressive relaxation, hypnotherapy.*

*The **case study** concerned a young woman, Maria G., and presents the synthesis of a number of investigations and the techniques used in the therapy because the disorder is of moderate intensity, accepting that in mild or moderate cases cognitive techniques predominate, so that in severe cases the approach is initially made behaviorally and later through cognitive techniques.*

***Results** Through the psycho-educational approach, the patient has gained better control capacity and better crisis management. Since at the time of coming into therapy she was four months prior to the bachelor's examination, she was taught about time management so she could go through the entire examination material. The outcome was favorable, with the patient becoming a BA graduate. Having left Piteşti, she asked to be transferred to another psychotherapist and psychiatrist to help her resolve crisis situations in the future.*

*Our scientific approach makes it easy to draw **conclusions** about the possible causal role and the relationship between intensely traumatic experiences and the severity of self-destructive behavior manifestations that these patients manifest. An integrated, diversified and staggered therapy is required over a longer period of time, with encouraging results for both the patient and the therapist.*

KEYWORDS: *borderline personality disorder, dysfunctional behavior, psychotherapy, emotional vulnerability, interpersonal relationships, patient personality*

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Introduction. Clinical picture of the disease

The *borderline* personality disorder is manifested in most situations predominantly in female gender subjects, through disturbances in the control of feelings, the image that the person has about themselves and interpersonal relationships. An increased instability occurs in these various segments of life, which has prompted some authors to propose the substitution name of "unstable personality disorder". The patient's mood sees intense variations, oscillating between anxiety or depression and dysphoria.

The subject has an impression of void and profound inconvenience. He/she feels a great fear of not being abandoned and not getting separated. Self-destructive behaviors are common, with self-destructive actions in tension situations.

Patients may experience transient psychotic episodes when they are in a state of stress, or after having consumed alcohol or drugs, being in an intense state of psychological disorganization. Various hypotheses have been proposed to explain this disorder, ranging from constitutional factors (difficulty in normalizing affections) to family and psycho-dynamic factors (disruptions in object relations and inadequate identification processes during early childhood).

Irrespective of their ideological orientation, the authors who have dealt with this disorder are inclined to mostly attribute a causal importance to a *disturbance of early physical-objectual relationships* that could lead to the development of unrealistic expectations about interpersonal relationships, which, expressed in terms of cognitive psychotherapy, amounts to saying that patients with a *borderline* personality structure have developed interpersonal schemes and operational models of their own relationships with the environment that are dysfunctional.

From a cognitivistic point of view, patients with such a personality disorder are among the most studied[1]. Young, for example, has already suggested for many years the hypothesis that in borderline patients the action of "early disadaptive schemes" is easily recognizable, and has noticed that such schemes cause dysfunctional behaviors. *The fundamental themes of the disadaptation schemes* postulated by Young are apparently those of *abandonment, dependence, obedience, suspicion, mistrust, fear of losing emotional control, the feeling of guilt*. In discussing the origins of such

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[1] Young, J., Swift, W., Schema-focused cognitive therapy for personality disorders. *International cognitive therapy newsletter*, 4, 1988, p. 5-7.

schemes, Young and Swift argue that, in order to grow healthy, a child has to solve some basic problems, i.e. to acquire *autonomy* and *competence*, to develop *a sense of connection with other people they trust* and to develop *a sense of their own value*. In fact, a distinguishing between the problems that the child has to resolve, such as Young and Swift did, tends to lead to overlooking the fact that "the relationship with other people that are trusted" is nothing more than a **secure attachment** which is, as already noted, the pre-requisite indispensable for solving other tasks.

The first stage of development in Erik Erikson's stage theory is the stage called "trust *versus* mistrust", the major task of this stage during the first year of life being the acquisition of the secure attachment.

Young and Swift do not discuss the development of disadaptive schemes in terms of attachment, even if it is obvious that an **insecure attachment**, especially the "disorganized/disorientated" type described by Main – who, perhaps more than other theorists of attachment, underlined the importance of the operational models of the self in relation to attachment (Main, Kaplan, Cassidy)[2] − is of decisive importance for the development of such schemes.

Also from a point of view centered on attachment, Melges and Schwartz (1989) hypothesize that the stormy relationships of patients with borderline personality express a difficulty *in adjusting the interpersonal distance*, which is considered by Melges and Schwartz, among other things, as a consequence of an insecure attachment. For these authors, the interpersonal problem experienced by these patients is the following: regardless of the fact that they have tried to approach or move away from other significant persons, they have been faced to a negative feedback (hence the fear of being totally dominated, or being abandoned).

Beck and Freeman, returning to the studies of Marsha Linehan[3] (1979 and 1987) concerning the problems of patients unable to affirm, emphasize the inability of borderline patients to adjust and regulate their own emotions. Patients with this personality disorder have been exposed, during their stages of development, to experiences that have disabled their own emotions over the relevant attachment figures, and thus they did not have the opportunity of adequately training their ability to adjust. This hypothesis

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[2] Main, M., Kaplan, N., Cassidy, J., Security in infancy, childhood, and adulthood: A move to the level of representation. *Monographs of the Society for Research on Child Development*, 50, 1985, p. 66-107.

[3] Linehan, M.M., Dialectical behavior therapy for borderline personality disorder: Theory and method. *Bulletin*, 1987, p. 182.

does not in the least contrast with the one that considers insecure attachment. John Bowlby has given a great deal of relevance to this phenomenon, highlighting the fact that children often see their impressions being discredited by adults. Bowlby (1969, 1973) concludes that the types of problems these situations generate are the tendency to not trust others, distrust in their sensations, and a tendency to seeing everything as totally unreal; those features are easily encountered in interpersonal operational models of patients with a borderline personality disorder[4].

Young – as could be seen – also lists, among the early disadaptation schemes in the borderline personality disorder, the dysfunctional cognitive scheme of "**mistrust**", which, in Young's opinion, could be expressed in personal life rules such as "the world will hurt me, attack me, deceive me, and that is why I have to protect myself." Based on the information gathered about the past of patients with borderline personality disorder, one may even ask if they have ever had the opportunity to develop other, more functional, types of operational models of interpersonal relationships. Upon a rather comprehensive literature review, most of these patients were noticed to have been victims of serious childhood abuse, even sexual abuse (68% in a study by Herman and Kolk, 1987; Zanarini and Frankenburg, 1997). Even though authors interested in severe childhood traumatic experiences of patients with borderline personality disorder are cautious about drawing conclusions regarding the possible causal role of such experiences (i.e. incestuous sexual abuse), it seems clear that there are significant correlations between these intensely traumatic experiences and the severity of self-destructive behavioral manifestations that these patients manifest.

Ways of therapeutic approach. Difficulties in the psychotherapeutic approach

From a therapeutic point of view, borderline patients are offered a wide variety of programs in the form of combined therapies. Individual and group therapies can be conducted with the same psychotherapists or others.

Psychotherapy can be done during an indefinite period or a short period of time, but intensively. A psychiatrist must by necessity be present in the therapeutic team, who undertakes medical treatment, a treatment that can take place in an outpatient or hospital setting. So, these patients

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[4] Beck, A.T., Freeman, A. *Cognitive therapy of personality disorders*. New York: Guildford, 1990, p. 162.

are prescribed psychotropic medication and, whatever the program adopted, it involves employing more than one therapist.[5].

As mental health professionals, we are consulted by patients with borderline personality disorder for a whole range of complaints or situations, but there are no cases when patients address us because they have borderline personality disorder. Their problems are extremely different from case to case: self - or hetero-gressive behavior, substance abuse, eating behavior disorders, sexual promiscuity. On the other hand, it is extremely common to have co-morbidity with DSM-IV class I disorders, especially depression. Ultimately, co-morbidity with other personality disorders is so common that most patients experience up to three coexisting personality disorders.[6]

The renowned cognitivistic psychologist and psychotherapist Arthur Freeman stated in a workshop that he chaired in Cluj-Napoca, during the "Latini Dies", in 2007, that patients with borderline personality disorder do not necessarily need psychological therapy, but rather they need education, they have to learn skills through psychoeducation. By the therapeutic approach, we need to provide them with a stable foundation, to make them feel comfortable and safe, to try to remodel certain specific behaviors, permanently having in mind that we will not treat the entire disorganization of personality, which is impossible to achieve, but perhaps we will be able to change certain parts of the personality of the patient. The same psychologist once again affirmed that in the borderline personality disturbance, dysfunctional behavior is the result of disadaptive cognitive schemes, which are all the more difficult to modify as they are present at an earlier stage of human life, since they evolve and are strengthened throughout one's existence.

Among the specific problems detected in the psychotherapeutic approach, these patients one should underlined:
• the tendency towards *acting out* "action that takes the place of a word" and *splitting* "separation, dissociation, cleavage";
• the difficulty in keeping certain limits;
• the fact that intense counter-transfers occur frequently;

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[5] Linehan, M.M., Cognitive-behavioral therapy of borderline personality disorder. New York: Guilford Press, 1993, p. 144.

[6] Freeman, A., *Cognitive therapy of personality disorders*: *General treatment considerations*. In C. Perris, I.M. Blackburn, H. Perris, (eds), *Cognitive psychotherapy. Theory and practice*. Heidelberg: Springer, 1988, p. 102.

The psychotherapeutic approaches proposed for borderline personality disorder are numerous, but the most common are:

The dialectical behavioral therapy developed by Marsha Linehan „Dialectical Behavior Therapy" (Linehan, 1987, 1993);

Dawson's *Relationship Management Program*;

Dynamic approaches, mainly represented by Kernberg or by Gunderson.

Linehan's cognitive-behavioral approach was initiated for young parasuicidal women, and was then extended to people who manifest inappropriate behaviors to solving problems due to so-called "dialectical" failures. Theoretically, the dialectical point of view refers to the need to rebalance the tensions between two extreme polarities, such as those we can see in dichotomic thinking, in the behaviors and emotions characteristic of BDL patients. For Linehan, BDLs have three bipolar behavior patterns in relation to which the dialectical approach proves to be operative:

emotional vulnerability vs. self-validation;

acute crises vs. inhibition of bitterness;

active passivity vs. apparent competence;

The need to establish a dialectical relationship is conceptualized by Linehan as lying between the need of the borderline sufferer to accept himself/herself as he/she is at one time, and its need for change, as well as between his/her need to achieve what he/she wants and the risk of losing if he/she becomes more competent[7].

For Linehan, the borderline personality disorder is an emotional disorder that, at once, results from a biological predisposition, which is not necessarily hereditary ("emotional vulnerability"), from a disruptive environmental context (the "disabling environment"), and from their transactions during the child's development.

Emotional vulnerability implies:

very high sensitivity to emotional stimuli;

intense responses to these stimuli;

slow return to the basic emotional state;

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[7] Melges, F.T., Swartz, M.S., Oscillations of attachment in borderline personality disorder. *American Journal of Psychiatry*, 146, 1989 p. 1115-1120.

An invalidating environment is characterized by a tendency to respond in an irregular, inappropriate or insensitive way to personal experience. In such an environment, the "emotionally vulnerable" child rarely has the opportunity to identify and understand his/her feelings, or to trust his/her responses to events. Inconsistent environmental responses to the child's behavioral pattern can create an intermittent strengthening situation by permanently enforcing this scheme.[8].

The psycho-educational approach for this type of bipolarized behavior consists in individual and group therapy for at least one year, centered on problem solving and training in acquiring certain abilities and skills. It emphasizes the importance of appropriation tolerance to stress, proposing the generalization of the skills acquired through outpatient psychotherapy and establishing telephone surveillance. Upon completion of the program, it provides guidance to support groups.

A case study

Maria G., a university student in Piteşti, is 24 years old. She reports to therapy because she wants to change her lifestyle once she graduates from the faculty and returns home to her home town. The patient believes that her problems started in adolescence when she had a behavioral disorder. Her parents, who are intellectuals, failed to stop her from attending the neighborhood gang[9]. She has a brother who has always been well-behaved.

Maria G. recounts the circumstances in which she has been the victim of sexual abuse for many years – during her childhood – abused by her paternal grandfather. Although her parents learned of the incest much later, it remained a taboo subject in the family. The series of abuses continues with four rapes, the first occurred at the age of 16. The aggressors, "neighborhood boys", who were part of the circle of "friends," convinced her that she was to blame for what happened. Total helplessness persisted later when, as a companion woman, she was subjected to perversion and violence without any kind of response [10].

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[8] Herman, J.L., van der Kolk, B.A., Traumatic antecedents of borderline personality disorder. In B.A.van der Kolk (Ed.), *Psychological traunâma* (pp. 111-126). Washington, DC: American Psychiatric Press, 1987.

[9] Zanarini, M.C, Frankenburg, F.R., Pathways to the development of borderline personality disorder. *Journal of Personality Disorders*. 11 (1), 1997, p. 93-104.

[10] Manea, Minodora, Gabriela, Martin, *"George Bariţiu" Institute of History, Department of Social and Human Research Studies and researches in the field of socio-human sciences,* vol. 17, Academia Română, Filiala Cluj-Napoca, 2008, p.172.

The patient remembers adolescence in keeping with the relationships with the dangerous men she kept company with; the episodes in which she inflicted herself wounds with razor blades, how she ran away from home (being in danger of being trafficked), how she draws and feels drawn like a magnet to people with dubious behaviors in the underground of society.

Self-mutilation, suicidal ideation, fluctuating mood, strong rage against one's own person, mitigated by the use of alcohol, chaotic sex life, self-destructive behavior, and inner-sightedness are part of the DSM IV-TR criteria for the presence of the borderline personality disorder.

Case Assessment

The conceptualization of the case highlights what is essential in this case, and provides us with a plan for therapy, setting specific goals in treatment. Illustrating the conceptualization was made using the SWOT analysis (see Table 1), which identified the strengths, the points that can be improved, the support group and vulnerability factors, and facilitated education for the disorder. Following the multi-level (or multivariate) analysis (see Table 2) and Clinical Scale Assessment, the psychologist revealed the presence of a depressive syndrome and sent the patient to a psychiatrist, who confirmed the presence of severe depression and a moderate intensity personality disorder.

Table 1

The SWOT analysis

S strong points /qualities	W weak points/what can be ameliorated	O opportunities/what helps you from the milieu	T threats coming from the milieu
Strong. Quick-witted. Intelligent. Responsible. *Pleasant look.* Persuasive. I manage to detachedly observe myself and other people. Mature in thinking. Realistic. Courageous.	Impulsive. I am self-destructive. I quickly quit. I'm easily influenced. I challenge threats. I am not interested if a hurt the loved ones. I push limits. I get in a temper easily. I cry easily. Strong emotions overwhelm me. I easily lose my motivations. I manipulate some people. *Very pessimistic.* Stubborn. I feel trapped. Lack of prospects. I isolate myself. I am unaware of the normal ways to relate. *Mistrust.*	My family supports me. Secure future / higher education. Secure job. Graduation thesis finished. *Pleasant physique.* Trustworthy friends.	My entourage − the suitable environment that prompts and incites me to do silly things. Brainwashing. The environment does not help me to build my own scale of values without conflicts in myself.

Table 2

Multi-level analysis

Cognitive level	Behavior level	Subjective level	Biological level
I can no longer bear to live like this. It must end once and for all. I do not tolerate being globally evaluated by people / the others.	Escapism / running away from home I am isolating myself. I get agitated. I do not face the situation. I fall asleep weeping.	Depression. Tenseness. Rage/anger. I cannot bear to be the object of compassion. Feeling frustrated from the age of 16.	Loss of appetite. Primary insomnia.

The psychological examination allowed the analysis and discussion of the results of the psychological tests and outlining the psychological profile, with the patient presenting the following results at the clinical evaluation scales:

The Beck Scale of Self-Assessment of Depression Syndrome intensity: score 38 – severe depression with suicidal ideation;

STAI-X1: score 41 − average anxiety as a state;

STAI-X2: score 54 − severe anxiety as a feature.

The scale of aggressiveness: 12/17 − above threshold; *social isolation*: 20/30 − above threshold (according to CAS)

Personality assessment: impulsivity over threshold (score 15); anxiety scale 14/19 over the threshold; type A behavior.

The inner monologue (*I cannot bear / I have to bear*) led to the following clinical picture: severe depression, severe anxiety, insomnia[11].

The psychiatric assessment, and the classical analysis (SCID II) as well as the dimensional analysis of personality (TCI Cloninger) established the following diagnosis: *Severe depressive episode. Borderline personality disturbance.*

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[11] Bowlby, J., *Attachment and loss: Volume I. Attachment*. New York: Basic Books, 1969, p. 73.

Psychiatric intervention and psycho-educational approach

The self-administering medication recommended by the psychiatrist – Cipralex 20 mg/day and Stilnox 10 mg/evening – was the behavioral prescription that was conscientiously achieved. Thus, the depressive episode remitted in 3 months.

The patient's list of problems and their hierarchy was drawn up:

1. How can I regain confidence in myself? I used to be angry with myself.

2. I cannot be consistent in doing something, I have no patience to do something for a longer period. I quickly quit for lack of motivation. Inner void – I want to get rid of this feeling.

3. What will I do when I get home? I feel trapped / former entourage.

4. I have to establish a clear scale of values, with no influences from the people around me.

5. How can I meet another "normal", balanced people.

The therapeutic approach: rational-emotional cognitive behavior has encountered difficulties such as the lack of control of the environment and the lack of a genuine scale of values. Cognitive techniques have been used in therapy because the disorder is of moderate intensity, the fact being accepted that in mild or moderate cases cognitive techniques predominate, while in severe cases the approach is initially behavioral and subsequently through cognitive techniques[12].

Methods: maieutics, dialectics, progressive relaxation, hypnotherapy.

Through the *psycho-educational approach* the patient gained better control capacity and better crisis management. Since at the time of the therapy she was four months before taking the Bachelor's degree exam, she was taught how to do time management so that she could go through the entire graduation material. The outcome was favorable, with the patient becoming a certified BA graduate. Having left Pitesti, she asked to be referred to another psychotherapist and psychiatrist to help her resolve crisis situations in the future.

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[12] Bowlby, J., *Attachment and loss: Volume II. Separation: Anxiety and anger.* New York: Basic Books, 1973, p. 120.

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