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CREATIVITY OF THE PEOPLE'S ARTIST OF AZERBAIJAN ARIF HUSEYNOV WITHIN THE CONTEXT OF CONTEMPORARY AZERBAIJANI ART

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Abstract

The present article concerns the creativity of one of the prominent Azerbaijani artists of last quarter of the 20th- first quarter of the 21st cc. That is the period of the forming the individual "face" of the Azerbaijani Art School as a whole and of the Azerbaijani painting – in particular. The key role in this process was played by the generation of 1970-s – the team of young artists just having graduated then the Art School or High Institution.

It was exactly the time when, in 1972, Arif Huseynov gratuated from the Azerbaijan Theatre Institute, the faculty of Fine Arts.

The most characteristic feature of the Azerbaijani school of painting of that time was shift of the interest both of the artists and viewers from official events in public life or politics towards the human individuality, its set of thoughts, the desires and ideas of any average member of society. Shortly, it was time of addressing rather to private life of the human beings than to glorifying the achievements in labor activity or socialism ideology.

Along with other representatives of his generation Arif tried to change the concept of art works making it different from socialist realism. Addressing to official themes in his works approved by Soviet censorship he nevertheless focused on human feelings, trying to reveal some emotional or philosophical motives. His attempts on renovation of the content of his works were inevitably accompanied with development of the meanings of artistic expression. It is these specifically technical (along with conceptual) innovations that have been differing his works from the others' one.

There are many kinds of activity Arif Huseynov has been engaged to throughout his life. These are group and solo exhibitions, participation in the international joint projects, organizing the large scale exhibition projects (like "The World of Fuzuli - 500", "Azerbaijan Dunyasi" / "World of Azerbaijan", "From East to East", devoted to the art of miniature), work with youth audience, gallery management, publishing activity… But undoubtedly the true essentials of his life is creativity, mainly related with book illustration and art of modern miniature.

The two large projects realized by the artist throughout the two recent decades are the Illustration of Azerbaijani Fairy Tales and "Karabakhnameh" – pages of ancient and modern history of Azerbaijan in characters, events and monuments of culture. Both projects clearly illustrate the most important tendency in the contemporary Azerbaijan culture. That is the renovation of the traditional arts from national history and search for the national identity and its representation in the works of literature, music, theatre, fine arts in a most distinctive and original way.

Keywords: *Azerbaijani fine art, graphic art, contemporary art in Azerbaijan, generation of "seventies", national traditions, national identity*

The 1970s were a bright period in Azerbaijani fine arts during the 20th century. After the "harsh" 60s, there was a fundamental renewal in the concept of art. The influence of ideology on art exhibitions decreased, and there was a greater focus on reflecting one's private life. The "severe style" with its poster rhetoric marked the climax and final stage of the infamous "social realism." Although socialism hadn't been "canceled" yet, it started to gain a "human face." Artists and viewers became more interested in exploring the feelings, thoughts, family issues, and spiritual development of the "average" member of society.(1; 2)

Life itself, with all its positive and negative aspects, became the main inspiration for artists. While the Komsomol construction projects still played a significant role in exhibitions, they were increasingly interpreted with a sense of youth romanticism. It wasn't just about the "call of the Communist party" *anymore, but also about the challenge of nature and the excitement of new experiences that make life worth living!*

Each of the national art schools in the former Soviet Union had its own unique characteristics during the 1970-s, and the Azerbaijani art school was no exception. At first glance, nothing seemed to worry the officials responsible for ideology. Undeniable novelty and qualitative changes in the works of young generation became apparent in 1980-s, so it was already too late to stop it all. The challenge that the youth posed to their respected and appreciated predecessors wasn't openly rebellious. In every studio, there was a hidden process of change in the structure of artworks, as well as in the artistic expression and subjective interpretation of traditional themes. Gradually, these new tendencies shaped the unique face of modern Azerbaijani art.

Almost imperceptibly, this generation transitioned from being considered "young" to becoming the "old masters," the authorities, the so-called "untouchables." Today, most of them are around 80 years old, and some even older. However, their works still embody the spirit of avant-gardism from the 1970-s, with diverse cultural references and an unconscious rejection of rigid established doctrines.

Probably one of the most stand out things about the artists in the Azerbaijani school from this generation is how different they are from each other. They each have their own unique creative approaches, themes, and images that they explore. And among the prominent representatives, Arif Huseynov definitely should be noticed.

Arif Huseynov graduated from the Azerbaijan Theatre Institute's Fine Arts faculty in 1972, right when this whole "intellectual restructuring" was happening in Soviet art. If you take a look at his works from that time, you can see that he's a true product of the seventies being an introvert, often delving into the world around him from the depths of his artistic self.

Throughout his career, whatever he's done has received a lot of press coverage. And it's not surprising! Whether it's his creative projects, exhibitions, or educational and publishing activities, they've always been relevant and important for their time.

One can see the most memorable moments of his creative life through photographs. Whether it's hanging out with friends in studios or on creative trips, or being at exhibitions and galleries, these photos mark significant milestones in his artistic journey. They show how he has developed, gained fame, and received recognition.

In the beginning, these photos were mostly group shots, capturing a bunch of young and adventurous individuals seeking exciting experiences and being open to new ideas. (3)

It's interesting how since his youth, Arif has always been approached with offers, and he gladly accepts them. But here's the cool part: he never compromises his artistic vision to meet the demands of others! First, he collaborated with the children's magazine "Geyarchin" ("A Dove"), then he went on a trip to the BAM (Baikal-Amur Mainline), later he illustrated a new edition of Sabir's collection of poems called "Hop-Hop-Name" … Each of these projects played a crucial role in Arif's personal growth as an artist. They were challenges that not only helped him develop his skills, but also contributed to his maturity, expertise, and recognition within the public eye.

A major turning point in Arif's career was his trip to the BAM. For anyone who had the chance to go there, the Baikal-Amur Mainline was like a school that taught courage and skill. The extreme living conditions, the thrilling sense of novelty, and the audacity of the project itself not only pumped up the adrenaline in their veins but also inspired a sense of grandeur that turned prose into poetry and a simple song into an anthem.

The beauty of the structures, the coordinated actions of the large team, the brave faces, and the clash between untouched nature and the inevitable intrusion of humans into it - all of this resonated with A. Huseynov, who grew up by the Caspian Sea in Baku, the city of oil workers. The clear and laconic style of posters became deeply ingrained in the artist's essence, even though industrial themes might not be the primary focus of his attention in the future.

"BAM is a Project of the Century" - an exhibition featuring the talented artists Arif Huseynov, Oleg Ibragimov, and Arif Azizov showed in Baku and Moscow, in the editorial office of the "Yunost" ("Youth") magazine; the "A+A+A" exhibition, with graphic works by Arif Huseynov, Adil Rustamov, and Arif Aleskerov; the 7th edition of Sabir's poems, and later - the updated and expanded the 8th one as well as the personal exhibition "100 Illustrations" held in Baku and Moscow... The collaboration and joint exhibition with Czechoslovakian artists within the "Palette of Friendship" project (together with Fikret Kashimov), along with the a large-scale exhibition project "The World of Fuzuli - 500", one of the organizers of which was Arif Huseynov… A significant episode in the artistic life of Baku of the 1990-s-2000-s was the founding of the "Azerbaijan Dunyasy" ("The World of Azerbaijan") gallery at the Center

for International Relations and artistic management of it, and the publication of a large album of Azerbaijani artists "Azerbaijan Dunyasy", dedicated to the 80th anniversary of the Azerbaijan Democratic Republic. Above all of this, the founding and management of the Khatai Art Center should be necessary mentioned along with the numerous personal exhibitions in many points of the world including London, Tokyo, and Berlin. All this combines with the amazing work with young graphic artists through exhibitions and competitions alongside numerous meetings with viewers, especially children and young audiences, and managing a studio of talented young artists.

But the real heart of his work lies in continuous creativity, in particular, the illustrating collections of poems and stories by both Azerbaijani and foreign writers, among them - for the sake of his own! - "Sonnets" of Petrarch and "Divine Comedy" by Dante. He has also created a series of easel graphic works dedicated to Baku, Absheron, and the various pages of Azerbaijani history.

By delving into numerous cultural layers from different times and peoples, the artist strives to maintain his own unique style. This way, each illustration he creates becomes a peculiar piece of art, with its own individual "sound." Whether it's Petrarch, Dante, Fuzuli, Sabir, Rasul Rza, or Nabi Khazri, his range of interests is wide. Arif Huseynov approaches each literary source and author with a personal touch, infusing the recognized images with his own interpretation as a master of graphics and painting.

It is no coincidence that A. Huseinov's illustrations for M. A. Sabir's book "Hop-Hop-Name" caused so much criticism from the public.(3, 246-248) It seems like there was a disconnect between the illustrations and the ironic and mocking tone that Sabir's poems carry. The feeling of hopelessness, persecution, fatality - in other words, the atmosphere which these poems were created in and against what they were directed - was the content of those laconic compositions, solved in a pointedly conventional manner. The use of the year labels on each sheet, like old photographs, adds an important emphasis and gives a sense of historical identity to the compositions. It's like a visual interpretation of the poet's life time proposed by the artist. The black and white compositions act as symbolic signs, representing collective image of a particular year. It's fascinating how the chronology and the author's comments are given in a plastic form. (3, 246-248)

The desire to reconstruct and capture the essence of a specific era in national history influences the themes and artistic style of the artist's works. It's like they're on a quest to find the perfect combination of techniques and expressions that best convey their message. Various techniques and means of expression are uniquely applied by the artist in each individual case.

The two biggest projects of the recent 10th anniversary of Arif Huseynov are Illustration of Azerbaijani Fairy Tales (6) and "Karabakhnameh" – pages of ancient and modern history of Azerbaijan in characters, events and monuments of culture. (4) Both projects are of exceptional historical and artistic importance. And this is not a matter of themes - in Azerbaijani art one can find a large number of works of graphics and painting dedicated to Azerbaijani folklore and examples of folk crafts, or - portraits of prominent leaders of the Azerbaijani state and cultural figures. The question is how and on what scale the artist conceived and realized these two enormous cycles.

Arif Huseynov's passion for illustrating Azerbaijani folk tales has been a constant throughout his creative journey. In his early years, he already addressed to illustrating a book of Azerbaijani fairy tales. However, it was in the 2000s that this theme truly took center stage in his artistic consciousness. He began presenting familiar from anybody's childhood characters and scenes in a fresh and innovative way. (6) The culmination of his tremendous efforts resulted in exhibitions in Baku (2013, Azerbaijan National Museum of Art)) and Moscow (2013, Museum of Oriental Peoples), showcasing his work to a wider audience. Several books devoted to "Azerbaijani Fairy Tales," were published, with a notable highlight being the extensive three-book project "Anthology of Ashug Literature" by Khalq Bank. This project, part of the bank's long-term initiative called "The National Property," truly stands as a crowning achievement in this series.

At first glance, traditional images in fairy tale illustrations are interpreted quite simply, within the framework of generally accepted stereotypes. But there is something that makes all these compositions exceptional and original, as if they go beyond the scope of folkloric discourse itself... Filigree, dotted technique, used by the artist equally in the traditional graphic format (mixed media on paper), and in oil on canvas, making similar popular images - whether lyrical, comic or dramatic - to jewellery works. It seems that what is before our eyes is not gouache or watercolor, not oil paint, but a scattering of precious stones that create unique compositions that are one-of-a-kind in their outlines.

These compositions in themselves, thanks to the sophisticated performance technique, became valuable artifacts of national culture - a lovingly updated tradition. It is noted that the color scheme used by the artist here practically does not exceed the shades inherent in natural gemstones, which are mainly *used in Azerbaijani jewellery. These are garnet, turquoise, diamond, sapphire, ruby, coral, emerald... At the same time, each scene or image is resolved in a very laconic tone: the colors balance each other, eventually turning into a harmonious and emotionally calm coloring.*

In A. Huseynov's illustrations, it's not just about the narration or descriptive elements. What really stands out is the conceptual aspect, which is a unique feature of his creative approach that he performed even in his earliest works. It's like each story becomes a model, an archetype reflecting deeper concepts rooted in the folk tradition. The plots and characters serve as a catalyst for the artist's own introspection and expression of his vision for an ideal society, state, and cultural institution. It's fascinating to see how his illustrations go beyond the surface and delve into these profound ideas.

In these compositions, it's not just about the literal representation, but rather the exquisite stylization that catches the eye. The impeccably symmetrical silhouettes and precisely calibrated details create a sense of harmony and balance. And those multi-colored dots, they give off a magical vibe, like a scattering of precious gems or the twinkling stars in the night sky. It's like a visual representation of the artist's spiritual environment and the concepts that shaped his impressions from his childhood. The magic casket, the cave of Ali Baba, the kingdom of the powerful genies and the enchanting peri... The bonfires of Nowruz, the customs full of mischief and conventions, the games and battles that fill the holidays - all this formed the realities of Arif's childhood, and ultimately melted into the artist's creative creed: tradition and systematic education, which includes not only artistic skills, but also broad erudition - in literature, philosophy and music - should form the basis of culture in the true sense of the word. (3)

All this is constantly heard in interviews with the artist, sometimes in the form of obvious assumptions that cannot be disputed... For example: "The influence of culture on man should not be underestimated. Culture is an industry that sometimes produces results that even the army cannot achieve... One film and one picture can revolutionize consciousness".(3, 252)

Arif Huseynov devoted about 6 years of his life to creating the "Karabakhname" cycle. (4; 3, 228-233) Having carefully studied documents, photographs, reports of archaeological expeditions, research works on architecture, decorative and applied arts, music, and, finally, the biographies of the outstanding people, sons of Azerbaijan - the country's leaders, military generals, heroes, the artist recreated in 45 sheets of paper an epic about the past, present and future of our land. And our culture as well.

For us, as audience, these compositions have become another incentive to think about important milestones in national history, to realize their significance and consequences for the future destinies of the country. A series of names and facts is divided into groups, which, like sore points, become certain sources, motives that generate and feed our historical memory.

The artist, who has been working in the field of book graphics for more than half a century, is accustomed to putting his ideas into plastic images. Being very erudite, and considering world art history an integral part of his inner life, he chose to speak to the viewer again, appealing to images that have survived hundreds of years.

It is impossible to ignore the comments on the technique used by the author in this series: the effects of the old traditional engraving technique , and sometimes - old photographs, prints and daguerreotypes are recreated here using... a simple gel pen. The result is reminiscent of the "ink and pen" technique. And how can we not admire the skills of draughtsman of this real "aksakal" of Azerbaijani graphics, covered with the finest microscopic lines and dots the hundreds and hundreds of square centimeters of Whatman paper! Likewise, once upon a time, in medieval monasteries, monks - in the name of faith! – copied the Holy Scriptures, sometimes in very small sizes.

"Karabakhnameh" by Arif Huseynov - is his doctrine, his "hagiography", dotted with the blood of various regimes: these are the tsarist generals who served for the glory of the Russian Empire, and then for the Azerbaijan Democratic Republic, who were executed in the dungeons of the KGB, and the innocent children, girls, women and old people who got slaughtered in the most brutal terrorist operations of the Armenian invaders.

Among the compositions of this series there is also a place for both lyrics and gentle humour. Some papers marked Karabakh's breed horses and the delicate khari-bulbul flower, a fragile flower resembling a nightingale, which grows exclusively in the mountains of Karabakh... As a result of huge research work, the "Karabakhnameh" series is truly priceless.

Reflecting on the artist's works over the years and in all genres, one is repeatedly convinced: generalization, individual interpretation of any theme or image (even the approved one!), and the constant desire for novelty as a whole form the basis of the creative method of A. Huseynov.

Having been endowed with a keen and penetrating eye, being a remarkable master in realistic drawing, Arif Huseynov has never crossed the line of conventionality of the artistic language.

The world in his works is always a definitely different world, existing in parallel with the real world. Despite their historical authenticity, Arif Huseynov's works are always a unique projection of the artist's inner world, thoughts and experiences. It is this uncompromising position of the author, who defends the right of art to be an independent sphere, not an illustration of reality, that allows him to always remain contemporary, that is, to be an artist of his time, no matter what historical era is reflected in a particular graphic sheet. Often turning to some previous themes or compositional solutions, changing something, reconsidering them, as if testing the "strength" of his past experience, the artist always appears as a patriot in the fullest sense of the word, a faithful son of his land.

In works created in different periods, a constant leitmotif has been nostalgia for the "good old days," when notions such as honesty, dignity, commitment to one's culture and patriotism were certainly appreciated.

"A painting is a hidden message that the artist sends to his viewer," we read in one of the interviews conducted by A. Huseynov. "A painter's work tells us about his thoughts, erudition, mood and soul.

…The world is so practical now! As an artist, I consider it my duty to mention the spiritual wealth from which we come..." (3, 252-253)

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THE VISUAL STYLE OF A YOUNG CINEMATOGRAPHER

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Abstract

In this paper, an attempt was made to study the formation of visual style in the profession of cinematographer, which students of the higher school "Turan Film Academy" study»

Turan University, being in the educational space of Kazakhstan since 1992, today positions itself as an innovative and entrepreneurial university and takes

A leading place among Kazakhstani universities. The University strengthens its competitive position in the global market of educational services and research programs.

«The film is written with a camera, not a pen. »
King Wallis Vidor

Each person has their own individual style, formed at their school desk. Every day, a student hones their spelling, slowly drawing letters and elements of the alphabet that form words. These words, in turn, create sentences of diverse meaning and significance. Sentences give birth to literary works, imbued with their own narrative style.

Style is an internal state of a person's worldview, expressed in their professional skills and abilities. More precisely, the style of a cinematographer, like a person's handwriting, is very individual. A cinematographer is a profession that combines technical literacy and a creative foundation consisting of methods, techniques, and tricks to create an illusion of three-dimensional space on a two-dimensional image. Anyone can master this interesting but challenging profession, especially in our fast-paced and unique time. However, not everyone can stand out with an individual cinematographer style. So, what is this style made of? Where does it come from?

The art of cinema does not create a new reality. It only interprets the surrounding reality in a certain way, and how appealing or believable it turns out for the viewer largely depends on the competence of the cinematographer. The methodology of teaching the cinematographer profession at the "Turan Film Academy" is expressed in the formation of skills and abilities for young specialists to create the image composition, camera movement, sense of depth and space, conveying volume and texture, light and dark tones and tonal range, rhythm, optical properties of the image, color scheme and harmony. By combining them into a single whole, a visual image appears. And what about style?

The style of a cinematographer can be compared to an artist's palette: as many colors as an artist has, that many ways there are of mixing their hues to create works. Moreover, painters have brushes of various densities of bristles, widths, and sizes. In addition to this, there is a variety of drawing techniques. Similarly, a cinematographer has tools and methods, which many improve, creating their own individual style or even a whole genre in the cinema art.

In the process of determining the visual interpretation of the film, a specific idea of a given concept and images of the film plays a crucial role for the operator. The cinematographer, as well as the playwright and director, has a certain attitude to the reality surrounding him, a certain worldview that leaves an imprint on his work. Therefore, for the operator, if he really is a genuine artist, not every ideological concept, not every dramatic and directorial interpretation of these images can be acceptable. If his attitude to reality, his worldview, his tastes and artistic preferences sharply contradict the worldview of the playwright and director, they, as authors, will never create a highly artistic and stylistically integral work. That is why the degree of closeness of the creative method between the director and the camera operator is one of the most important and necessary conditions for the fruitful work of the creative team in the cinema.

In critical reviews of camerawork, you can often encounter a superficial definition of style as a set of techniques used in shooting. If, for example, an operator shoots all his works using soft lens, then it is often concluded that this is a sign of an impressionistic interpretation of the film.

Moreover, often many of the operators themselves tend to mechanically maintain a certain unity in the choice of visual means, believing that this is how they create "their own style" that defines their creative personality. For many, the "style" is based on a mechanically developed pictorial manner, but this is wrong. Regardless of the theme and content of the film, regardless of its ideological aspirations, *an operator invariably retains his once and for all developed manner of shooting, "his style" of softened or sharp optical interpretation. Without delving into the content of the script, without bothering to analyze the images of the film, an operator works in "his own style", which is his professional pride. In his first practice films, built on a simple cinematic presentation of the plot, it is hard to find any contradiction between the director's and visual interpretation, since the visual composition of such films is rather primitive. In diploma projects, this distinctive feature of camerawork can already be obvious.*

The formalism of an operator that is happy with the external design of the frame without trying to come to an organic, ideological, expressive construction by analyzing its content is often explained by unprofessionalism.

The true style in the art of cinematography is determined not only by the simple unity of shooting techniques, since the visual interpretation of the film cannot be considered in isolation from its theme and content, cannot be divorced from the dramatic and director's interpretation. The picture can be shot from beginning to end with sharp lens, revealing the smallest details. And yet this doesn't mean the film was shot realistically.

The concept of style in cinematography, as well as in other areas of artistic creativity, is determined by a much more complicated process than the use of homogeneous visual means. If an artist-camera operator implements artistic images in a particular visual composition, then this composition bears the imprint of the operator's worldview to the same extent that the entire film reflects the ideology and social commitment of the playwright and director. The understanding of the basic ideas of the work inherent in this artist and the form of expression peculiar to him determine the style of his work, and this is closely connected with his worldview.

Realism in cinematography is not limited to the photographic conveying of the operator's space, real lighting and texture. The work of the operator is a conscious work on identifying the distinctness of a certain living image. Constructing a separate shot, the operator, as well as the director, should proceed from a holistic understanding of the final image. The embodiment of the artistic concept forces us to comprehend every detail compositionally, focusing on some moments, while turning off from the field of view and suppressing others. In some cases, when compositional generalization involves deformation of the subject, this also doesn't contradict the concept of realism. For example, a cinematographer lacking artistic perception of the shape of an object, the rhythm of movement, the play of light and shadow, will never be able to ascend to an aesthetically finished composition combining ideological content with visual skill. Figurative interpretation of the content is possible only with an innate or educated sense of formal elements, and this is one of the necessary qualities of the operator-artist. In addition, the quality of professional equipment plays a very important role and our choice tends to legendary ARRI company.

So, the higher school "Turan Film Academy" educates young cinematographers with the help of modern innovative lighting technology from ARRI, which makes it possible to work very widely and apparently incomparably expressively and experiment with the nature of lighting.

The operator can use all expressive means without exception to reveal the content and artistic intent of the film. After all, cinema is the art of huge potential opportunities. This art is created by a team in which the operator has a responsible and very important role. At the same time, cinema by its nature is a fine art, and this should not be forgotten. Cinema has become sound, but it has never ceased to be visual. A movie exists only in visual images, and these images cannot be created without organic creative participation of a cinematographer.

The plot of the film, clarity, expressiveness and artistic simplicity of the images is not only director's, but also operator's concern. In the art of cinematography clarity, expressiveness and simplicity are achieved by such perfection of the visual form that the idea and content of the picture are immediately conveyed to the viewer.

Based on these facts, it becomes clear that the specific character of cinema presupposes the special importance of the profession of a cinematographer, whose role in the process of working on a film is very significant.

A screen work is a kind of special space in which special rules apply accordingly. Visual and sound (narrative) means of screen expression bear semantic and aesthetic load in any audiovisual work. Perceiving a screen image, the viewer identifies it with real life to a certain extent, which, unlike more conventional types of art, significantly activates the viewer's projection-identification, integrating it into the flow of screen images. But at the same time, the viewer, perceiving traditional screen creativity, has no opportunity to participate in what is happening. Probably, one of the reasons that today the creators of audiovisual works are increasingly forcing the use of visual and acoustic means of emotional impact on the viewer is exactly looking for ways of active participation of the viewer with the action taking place *on the screen, in the theater, performance (interactive content). That is, modern cinema, television, multimedia are searching for new forms of interaction of the viewer with screen images in order to create, enhance the effect of active participation (participatory culture) and they do it perfectly.*

The starting point in establishing a pictorial interpretation for the operator is the content of the script. The script as a literary work has its own compositional structure, in particular, the composition of the plot.

The literary presentation gives the development of the plot in time, and this development is built in each individual case on specific patterns that determine the composition of the plot in this literary work.

In painting, the plot has only spatial development. Therefore, we are talking here about composition in space, or rather about pictorial composition.

But cinema is a synthetic art. And we have a composition of the plot in time, a composition of individual plot elements constructed spatially in a pictorial form. Individual visual elements in the film production are closely connected with the development of the plot of the film. The plot scheme determines one or another arrangement of the visual elements of the film when shooting, one or another principle of expressive construction in space and time.

Let us briefly consider the procedure for the implementation of the visual interpretation of the film within the framework of the scheme dictated by the specific conditions of filmmaking.

Thanks to the script available on hand, the operator divides the given topic into various imaginative representations. Each of them is expressed by showing on screen phenomena and facts that affect our perception in a certain order. If in the theater the effect of a performance is achieved as a result of direct perception of a continuously flowing spectacle, then in the cinema the same effect is carried out by accumulating and comparing in the viewer's head the associations necessary for the scenario task that cause the viewer to have a certain idea of the relations existing between these objects. In the production of a theatrical performance, the director has to operate with an episode, scene or phenomenon, in the cinema this process of differentiation occurs in more depth with the development of the script of each detail. And at the same time, every detail, despite its small time on screen, is of great importance as an inseparable element of a work of art, subject to the general laws of interpretation and composition of the film as a whole. That is why, when analyzing the structure of a movie, we consider such a specific concept as a cinematic shot.

It is a well-known fact that the profession of cinematographer arose with the birth of cinematography. The official date known to the world is December 28, 1885, the date of the first commercial screening of 10 short films by the brothers Louis and Auguste Lumiere.

As a new form of entertainment, cinematography was gaining popularity among viewers all over the world. There were those who were in a hurry to earn money, those who wanted to have fun. But there were also such people who proclaimed: Cinematography can and should become art! And experiments began with the length of the frame, angles, plans, optical lenses, filming equipment. Citizens of various countries who were keen on new technology began to try to shoot underwater, from roofs, from airplanes, high-rise buildings, from moving carts and cars, from under cars and trains, and so on. People who came to work in the cinematography, especially camera operators – were inventing new methods of filming and new means to improve the cinema image, thereby developing the technical capabilities of film equipment.

On this wave of the birth of a new kind of art, two young enthusiasts August Arnold and Robert Richter founded a small company "Arnold & Richter Cine Technik" in 1917, which specialized in lighting technology. Expanding their circle of interests in the field of cinematographic equipment in 1924 they developed a movie camera. Now ARRI is known worldwide for its quality and reliability.

So, drawing a conclusion from the above, we understand that together with the director, the operator determines the ideological and artistic orientation of the film, its pictorial interpretation. Turan Film Academy High School is proud of its relatively small fleet of ARRI lighting equipment, thanks to which young filmmakers can embody bold ideas to create creatively diverse visual solutions and convey deep themes and ideas of their films.

Biological sciences

FORAGE QUALİTY AND PASTURE PRODUCTİVİTY OF THE THYMUSETA-VİCAETUM-FESTUCOSUM FORMATİON, WİDESPREAD İN THE SUMMER PASTURES OF THE ASTARA REGİON (AZERBAİJAN)

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КАЧЕСТВО КОРМОВ И ПАСТБИЩНАЯ ПРОДУКТИВНОСТЬ ФОРМАЦИИ THYMUSETA-VICAETUM-FESTUCOSUM, РАСПРОСТРАНЕННОЙ НА ТЕРРИТОРИИ ЛЕТНИХ ПАСТБИЩ АСТАРИНСКОГО РАЙОНА (АЗЕРБАЙДЖАН)

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Abstract

The vegetation of the Thymuseta-Vicaetum-Festucosum formation was noted in summer (non-grazed) pasture field No. 8 "Turksoba" in the Astara region on mountain-brown soils emerging from under the forest. The average annual air temperature, typical for the climate of this region, is 10-140C, and the annual precipitation reaches 1400-1600 mm.

Research shows that the vegetation of this formation belongs to the class of herbaceous-legume-grain formations. The productivity of the Thymuseta-Vicaetum-Festucosum formation of this formation class in the summer season 2021-2022-2023 ranges from 19.5-29.6 c/ha by wet weight and 7.8-12.9 c/ha by dry mass. According to calculations, the coefficient of conversion of wet mass into dry productivity corresponds to 2.3-2.5.

Аннотация

Растительность формации Thymuseta-Vicaetum-Festucosum отмечена на летнем (невыпасном) пастбищном поле № 8 «Тюрксоба» на территории Астаринского района на вышедших из-под леса горно-бурых почвах. Среднегодовая температура воздуха, типичная для климата этого региона, составляет 10-140С, а годовое количество осадков достигает 1400-1600 мм.

Исследования показывают, что растительность данной формации относится к классу травянисто-бобово-зерновых формаций. Продуктивность формации Thymuseta-Vicaetum-Festucosum этого класса формации в летний сезон 2021-2022-2023 гг. колеблется в пределах 19,5-29,6 ц/га по влажной массе и 7,8-12,9 ц/га по сухой массе. По расчетам коэффициент перевода влажной массы в сухую продуктивность соответствует 2,3-2,5.

Keywords: *formation, phytodiversity, productivity, mountain-brown soils, legumes.*
Ключевые слова: *формация, фиторазнообразие, продуктивность, горно-бурые почвы, бобовые.*

Как отражено в таблице № 1, продуктивность формации летом 2021 года составляет 19,5 ц/га; из них зерновые - 9,0 ц/га (46,1%), бобовые 6,8 ц/га (34,9%), различные травы 3,7 ц/га (19,0%); в сухой съедобной массе - зерновые 3,6 ц/га (46,1%), бобовые 2,7 ц/га (34,7%) и различные травы 1,5 ц/га (19,2%) [2, 3, 6,7,8, 9, 10]

Таблица 1

Среднегодовая продуктивность формации Thymuseta-Vicaetum-Festucosum, распространенной на территории летнего пастбища №8 «Тюркесоба» Астаринского района

Годы и месяцы	Ботанические группы трав	Влажная масса		Сухая сьедобная масса	
		пл/га	%-с	пл/га	%-с
2021 год (10-20.VII)	Зерновые	9,0	46,1	3,6	46,1
	Бобовые	6,8	34,9	2,7	34,7
	Различные травы	3,7	19,0	1,5	19,2
	Среднегодовая производительность	19,5	100,0	7,8	100,0
2022- год (20-25.VII)	Зерновые	15,2	59,6	6,1	59,8
	Бобовые	6,3	24,7	2,5	24,5
	Различные травы	4,0	15,7	1,6	15,7
	Среднегодовая производительность	25,5	100,0	10,2	100,0
2023 год (25-30.VII)	Зерновые	16,6	56,1	6,7	51,9
	Бобовые	7,3	24,7	3,8	29,5
	Различные травы	5,7	19,2	2,4	18,6
	Среднегодовая производительность	29,6	100,0	12,9	100,0

Летом 2022 г. (20-25 июля) среднегодовая продуктивность формации (влажная масса составила 25,5 ц/га, сухая масса) частично увеличилась, то есть достигла 10,2 ц/га [1, 3, 6, 4, 8, 9, 10, 19]. В частности, зерновые изменились на 6,1 ц/га (59,8%), бобовые - на 2,5 ц/га (24,5%) и различные травы - на 1,6 ц/га (15,7%) [2,3, 4, 5, 6,7, 18, 19].

25-30 июня 2023 г. продуктивность фитоценоза увеличилась по сравнению с предыдущими годами благодаря благоприятным климатическим условиям и богатому плодородию почвы (гумусу) [2, 3, 6, 8, 11, 12, 18]. По показателям урожайности текущего года в возрастной группе определено 29,6 ц/га, из них зерновые - 16,6 ц/га (56,1%), бобовых - 7,3 ц/га (24,7%) и 5,7 ц/га (19,2%). %); 12,9 ц/га в сухой массе. В частности, зерновые культуры составляли 6,7 ц/га (51,9%), бобовые 3,8 ц/га (29,5%) и различные травы 2,4 ц/га (19,6%)[2, 4, 5, 7, 8, 12, 14].

В биохимическом составе растительности формации Thymuseta-Vicaetum-Festucosum определены гигроскопическая влага - 14,7%, зола 7,0%, сырой протеин 11,1%, сырой жир 2,8%, сырая клетчатка 23,5% и по этим показателям получено 45,8 кормовых единиц. и 4,6 усвоенного белка в расчете на 100 кг (сухого) корма (табл. 2).

Как видно из таблицы №2, средняя за три года продуктивность формации Thymuseta-Vicaetum -Festucosum (10,1 ц/га), кормовая единица в 100 кг сухого корма (45,8 кг) и период использования фитоценоза составляет 120 дней. С учетом суточной нормы корма овец и коз (1,3 корм.ед.) на общей площади (90 га) определена 3,0 голов крупного рогатого скота на гектар и пастбищная мощность (можно выпасать 270 голов мелкого рогатого скота) [2, 3, 6, 9, 10, 12, 14, 19]

Таблица 2

Продолжительность использования фитоценозов, средняя продуктивность, качество кормов и пастбищная мощность в летнем сезоне 2021-2022-2023 гг. в некоторых растительных формациях.

s/s	Формации	Продолжительность (в днях)	Средняя урожайность (в съедобной сухой массе)	в 100 кг корма		Количество выпасаемого скота на гектар (нагрузка)	Площадь (га)	Вместимость пастбищ
				продовольственная единица	Усвоенный белок			
	Thymuseta-Stipetum-Festucosum	120	8,1	44,7	4,9	2,3	333	766
	Trifoliumeta-Thymusetum-Festucosum	120	10,9	55,3	5,6	3,9	296	1154
	Thymuseta-Vicaetum -Festucosum	120	10,1	45,8	4,6	3,0	90	270

На основании наших исследований и изысканий определена мощность пастбищ с учетом периода использования Thymuseta-Stipetum-Festucosum фитоценоза, продуктивности, кормовой единицы и суточной нормы корма скота [1, 3, 4, 5, 6, 9, 12, 14]. При этом, как видно из таблицы, средняя продуктивность формации составляет 8,1 ц/га, кормовая единица - 44,7 кг на 100 кг корма, суточная норма корма - 1,3 кормовой единицы. а мощность пастбищ составила 766 голов.

Среднегодовая урожайность (в 2021-2022-2023 гг.) формации Trifoliumeta-Thymusetum-Festucosum составляет 10,9 ц/га, кормовая единица (в 100 кг сухого корма) - 55,3 кг, вегетационный период или период выпаса - 120 дней, по суточной норме корма скота - 1,3 корм.ед. установлено, что на площади 296 га выпасалось 1154 голов крупного рогатого скота и установлена соответствующая пастбищная мощность фитоценоза (нагрузка на гектар - 3,9 голов) [2, 3, 6, 9, 11, 14, 15, 17, 18].

Как видно из таблицы №2, средняя трехлетняя продуктивность формации Thymuseta-Vicaetum-Festucosum (10,1 ц/га), кормовая единица на 100 кг сухого корма (45,8 кг), продолжительность фитоценоза (120 дней) и поголовья скота (овечек) с учетом суточной нормы корма (1,3 кормовых единиц), 3,0 голов КРС на гектар и пастбищной мощности (можно выпасать 270 голов мелкого рогатого скота) на общей площади (90 га).) [2, 3, 6, 7, 8, 16].

Таким образом, на основе наших многолетних исследований продуктивности биоразнообразия, качества кормов и пастбищной емкости в горной экосистеме Талыша мы приходим к выводу, что 35-40% летних пастбищ в Астаринском районе снизили продуктивность и деградировали фиторазнообразие из-за неэффективное использование и чрезмерный выпас скота.

Поэтому целесообразно реализовать мероприятия по охране, эффективному (правильному) использованию и улучшению фитоценозов на естественных летних пастбищах региона.

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Cultural sciences

EXPLORING THE IMPACT OF MUSIC ON MENTAL HEALTH: THE SCIENCE BEHIND THE SOUNDS

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Abstract
This article delves into the intricate relationship between music and mental health, offering an in-depth exploration of the scientific foundations that underpin the profound effects of music on the human psyche. Drawing on a comprehensive review of current research, the article illuminates the neurological and psychological mechanisms through which music can influence mood, alleviate stress, and enhance overall mental well-being. From the activation of neural pathways to the modulation of neurotransmitters, the science behind music's impact on mental health is dissected to provide readers with a nuanced understanding of the therapeutic potential inherent in melodies and harmonies. Moreover, the article examines the emerging field of music therapy, showcasing real-world applications and success stories that highlight the transformative power of music in clinical and therapeutic settings. As society grapples with increasing mental health challenges, this exploration aims to contribute valuable insights into harnessing the healing capabilities of music for the betterment of mental well-being.

Keywords: Music, mental health, neuroscience, psychology, neurological mechanisms, psychological effects, stress relief

İntroduction

In an era marked by the intricate interplay of science and well-being, the exploration of unconventional therapeutic modalities has become increasingly pivotal. Among these, the profound impact of music on mental health has emerged as a subject of burgeoning interest and scientific scrutiny. This article endeavors to unravel the intricate tapestry that binds music and mental well-being, delving into the science that underscores the transformative effects of melodies on the human psyche. From the intricacies of neurological mechanisms to the nuances of psychological responses, we embark on a journey through the labyrinth of research dedicated to comprehending the intricate relationship between music and mental health. As we navigate the labyrinthine pathways of the brain and traverse the emotional landscapes woven by soundwaves, this exploration seeks to shed light on the therapeutic potential of music, offering insights that may pave the way for innovative approaches to mental health interventions in our ever-evolving understanding of holistic well-being.

In the intricate tapestry of human experience, the profound influence of music on mental health has captured the attention of researchers and enthusiasts alike. Beyond its aesthetic appeal, music has long been recognized for its potential to evoke emotions, alter moods, and even contribute to therapeutic interventions. This article embarks on a scientific exploration, peeling back the layers to reveal the intricate relationship between music and mental well-being, deciphering the neuroscientific and psychological dimensions that underlie the transformative effects of sounds on the human mind.

The Neurological Symphony: Unraveling the Brain's Response to Music

Music has a unique ability to engage and stimulate the brain. Neuroscientific studies have delved into the neural symphonies that unfold when we listen to music, examining the activation of different brain regions and the release of neurotransmitters. From the pleasure-inducing effects of dopamine to the modulation of stress-related hormones, understanding the neurological mechanisms sheds light on why music has a profound impact on our emotional and mental states.

In the intricate dance between melody and mind, the human brain becomes an orchestra of neural symphonies when exposed to the captivating power of music. Scientists have long been intrigued by the profound effects of music on the brain, leading to a fascinating exploration into the neurological responses that underpin the auditory experience. This section delves into the complex and harmonious interplay between music and the brain, shedding light on the intricate mechanisms that govern our cognitive and emotional responses to sound [1].

The Dopaminergic Dance: At the heart of the brain's response to music lies the release of dopamine, a neurotransmitter associated with pleasure and reward. Studies have shown that listening to music activates the brain's reward system, inducing a sense of pleasure and reinforcing the emotional experience. This dopaminergic dance not only contributes to the enjoyment of music but also forms the basis for its potential therapeutic effects, particularly in elevating mood and alleviating stress.

Neural Synchronization: As the auditory cortex processes musical elements such as rhythm, melody, and harmony, intricate patterns of neural synchronization emerge. Different brain regions synchronize their activity in response to various musical features, creating a symphony of coordinated neural firing. This synchronization is not only crucial for the appreciation of music but also plays a role in the emotional resonance that music can evoke.

Emotion and Memory Formation: Music has a remarkable ability to evoke emotions and create lasting memories. The limbic system, responsible for emotions and memory formation, is intricately involved in the brain's response to music. Emotional cues in music can activate the amygdala, influencing the emotional valence of the musical experience. The close connection between music, emotion, and memory highlights its potential in therapeutic contexts, particularly in addressing emotional trauma and enhancing memory recall [2].

Stress Reduction and Cortisol Regulation: The soothing strains of certain musical genres have been linked to stress reduction and cortisol regulation. Research suggests that listening to calming music can lower cortisol levels, the hormone associated with stress. This physiological response underscores the potential of music as a natural stress-relieving tool, offering a non-pharmacological approach to managing stress and promoting relaxation.

Cross-Modal Integration: Beyond auditory processing, music engages multiple sensory and motor regions of the brain, leading to cross-modal integration. This integration allows music to evoke vivid mental imagery, enhance visual perception, and even influence motor coordination. The interconnectedness of sensory and motor areas further amplifies the immersive experience of music, contributing to its diverse impact on cognitive functions [3].

As we continue to unravel the neurological symphony evoked by music, it becomes evident that the brain's response to musical stimuli is a complex, dynamic, and multisensory phenomenon. Understanding these intricate processes not only deepens our appreciation for the art of sound but also opens new avenues for utilizing music as a therapeutic tool in the realm of mental health and well-being.

Mood Modulation and Emotional Resonance

One of the most palpable effects of music lies in its power to shape and modulate our moods. From uplifting melodies to soulful ballads, different genres and tones can induce a spectrum of emotions. This section explores the emotional resonance of music and how specific compositions can serve as powerful tools for managing stress, anxiety, and depression. The article also delves into the potential for personalized playlists as mood-regulating interventions [4].

In the kaleidoscope of human emotions, music emerges as a powerful catalyst capable of shaping, enhancing, and even transcending our emotional states. This section explores the profound impact of music on mood modulation, unraveling the intricate threads that connect soundscapes to our emotional landscapes. From uplifting symphonies to soulful ballads, the melodies we embrace have a transformative ability to resonate deep within, offering a nuanced understanding of how music becomes a dynamic force in influencing our emotional well-being.

Emotional Palette of Melodies: Music possesses a diverse emotional palette, with different genres, rhythms, and tonalities eliciting a spectrum of emotional responses. Whether it's the exhilaration of an upbeat tempo, the introspection induced by a melancholic melody, or the joy evoked by harmonious chords, the emotional diversity of music allows it to serve as a tool for navigating and expressing a wide range of feelings.

Stress Alleviation and Anxiety Reduction: Research indicates that certain types of music have the potential to alleviate stress and reduce anxiety levels. The calming effects of slow tempos, gentle melodies, and soothing harmonies contribute to a sense of tranquility, providing listeners with a respite from the demands of daily life. Understanding the specific qualities of music that foster relaxation opens avenues for using tailored playlists as stress-reducing interventions in therapeutic settings [5].

Expressive Communication Without Words: Music serves as a universal language that transcends verbal communication. It has the unique ability to convey and amplify emotions without the need for words. This non-verbal expressive quality allows individuals to connect with their own emotions and with others on a profound level. In therapeutic contexts, music becomes a vehicle for individuals to explore and articulate their emotional experiences, fostering a sense of self-awareness and emotional expression.

The Rhythmic Connection: The rhythmic elements of music play a crucial role in regulating emotional experiences. Upbeat tempos can invigorate and energize, while slower rhythms may promote introspection and relaxation. The rhythmic entrainment of music aligns with the body's natural physiological responses, influencing heart rate, breathing patterns, and overall arousal levels, creating a synchronized dance between the auditory and physiological realms [6].

Musical Empathy and Shared Emotions: Listening to music can evoke a sense of shared emotions, creating a collective experience among listeners. This communal aspect enhances the social and emotional dimensions of music, fostering a sense of connection and empathy. Exploring how music can be a shared emotional experience opens avenues for its use in therapeutic group settings, promoting a sense of unity and support.

In the symphony of emotions, music emerges as a versatile and evocative tool for modulating moods and resonating with the intricacies of the human experience. Whether as a source of solace, a catalyst for joy, or a companion in introspection, the emotional resonance of music offers a rich tapestry through which individuals can navigate and enhance their emotional well-being [7].

Therapeutic Harmonies: The Role of Music in Mental Health Interventions

Building on the understanding of how music affects the brain and emotions, this section examines the burgeoning field of music therapy. Professionals are increasingly incorporating music into therapeutic interventions to address a range of mental health challenges. Case studies and research findings highlight the efficacy of music therapy in alleviating symptoms of conditions such as PTSD, dementia, and more.

In the realm of mental health, the transformative power of music is increasingly recognized as a valuable therapeutic modality. This section delves into the multifaceted role of music in mental health interventions, exploring how carefully curated musical experiences can become a catalyst for healing, self-discovery, and resilience.

Music Therapy Unveiled: Music therapy, a field that harnesses the therapeutic potential of music under the guidance of trained professionals, has emerged as a dynamic and effective form of intervention. This section examines the principles and practices of music therapy, shedding light on how it is utilized to address a spectrum of mental health challenges, including anxiety, depression, PTSD, and neurodevelopmental disorders.

Creating Emotional Resonance: One of the central tenets of music therapy lies in the intentional creation of emotional resonance through tailored musical experiences. Therapists work collaboratively with clients to select or create music that resonates with their emotional states, fostering a deep connection that transcends traditional verbal communication. This personalized approach allows individuals to explore and express emotions in a supportive therapeutic environment [8].

Improving Cognitive Function: Beyond emotional well-being, music therapy has shown promise in enhancing cognitive function. Whether applied in rehabilitation settings for individuals with neurological disorders or utilized to support cognitive skills in diverse populations, the cognitive benefits of engaging with music highlight its potential as a holistic tool for addressing mental health from a cognitive perspective.

Integrating Music into Traditional Psychotherapy: Music is increasingly integrated into traditional psychotherapeutic approaches to enhance the effectiveness of interventions. This section explores how therapists incorporate music into talk-based therapy sessions, utilizing it as a supplementary tool to facilitate expression, build rapport, and deepen the therapeutic alliance. The combination of verbal processing with musical elements adds a unique dimension to the therapeutic experience.

Expressive Arts and Creative Exploration: Music therapy often extends beyond the confines of traditional musical engagement. This segment delves into the broader landscape of expressive arts therapy, where music is interwoven with other creative modalities such as movement, visual arts, and drama. The synergistic use of multiple art forms amplifies the therapeutic impact, offering individuals diverse channels for self-expression and exploration [9].

Case Studies and Success Stories: Illustrating the real-world impact of music in mental health interventions, this section features case studies and success stories from individuals who have experienced transformative journeys through music therapy. These narratives illuminate the diverse ways in which music becomes a conduit for healing, empowerment, and personal growth. As we unravel the therapeutic harmonies embedded in music, it becomes evident that this art form transcends mere entertainment, evolving into a profound tool for mental health interventions. Whether used in clinical settings or as part of holistic well-being practices, the therapeutic role of music underscores its potential *to resonate deeply within the human psyche, fostering healing and resilience on the path to mental health recovery.*

Conclusion

The article concludes by advocating for the integration of music into holistic mental health practices. Acknowledging the multifaceted benefits, from neurological engagement to emotional regulation, it underscores the importance of recognizing music as a valuable tool for promoting mental well-being in various contexts.

In the symphony of life, the science behind the sounds reveals a compelling narrative of how music, in its myriad forms, holds the potential to contribute significantly to our mental health and overall well-being. As researchers continue to unravel the complexities, the therapeutic power of music stands as a harmonious bridge between science and the soul.

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Economic sciences

ENHANCING THE MANAGEMENT AND OVERSIGHT OF STATE EXTRA-BUDGETARY FUNDS IN DEVELOPING NATIONS

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Abstract

The management of extra-budgetary funds (EBFs) in developing countries is a critical aspect of fiscal policy and governance, influencing the efficiency and transparency of public financial management. This article explores the challenges associated with the accounting and control of EBFs in these countries and proposes strategies for improvement. By examining the role of EBFs within the broader context of state financial management, the article highlights the importance of enhancing accountability, transparency, and efficiency in the administration of these funds to support sustainable development and fiscal stability.

Keywords: *extra-budgetary funds, public financial management, accounting, fiscal policy, transparency, accountability, governance.*

Introduction

Extra-budgetary funds (EBFs) play a crucial role in the fiscal architecture of developing countries, serving as vehicles for channeling resources towards specific public objectives such as social security, health care, education, and infrastructure projects. Unlike regular budgetary allocations that are subject to annual approval processes and comprehensive oversight, EBFs operate outside the main government budget, providing a means to earmark revenues for designated purposes. While the intention behind the establishment of EBFs is often to ensure stable funding for critical sectors and initiatives, their management presents unique challenges that can significantly impact a country's fiscal health and governance quality.

In developing countries, the governance and management of EBFs are fraught with issues that stem from systemic weaknesses in public financial management systems. These include a lack of transparency in how funds are allocated and utilized, insufficient accountability mechanisms to hold fund managers to account, and inefficiencies in resource utilization that stem from inadequate oversight. The consequences of such challenges are far-reaching, affecting not only the effectiveness of the funds in achieving their intended objectives but also undermining public trust in government institutions and impeding broader economic development efforts.

Moreover, the complexity of managing EBFs in these contexts is exacerbated by several factors. First, the regulatory and legal frameworks governing EBFs are often underdeveloped or poorly enforced, leading to ambiguities in fund operation and scope. Second, institutional capacities—encompassing the skills, knowledge, and systems required for effective financial management—are typically limited, hindering the implementation of best practices in accounting and control. Third, the absence of robust financial reporting and auditing standards makes it difficult to assess the performance of EBFs accurately and to make informed decisions regarding their management.

Literature Review

The management and oversight of extra-budgetary funds (EBFs) in developing countries have garnered attention in recent scholarly work, highlighting the importance of improving internal financial controls, audit mechanisms, and accounting methodologies. This section reviews several key studies that contribute to our understanding of these issues.

A. I. Lukashov (2022) examines the organization and implementation of internal financial control and audit within the public administration sector, emphasizing the relevance of these mechanisms in the context of increasing budget funds allocated to important state objectives. Lukashov's analysis, based on the results of analytical activities of the Federal Treasury and monitoring of financial management quality, underscores the significant shortcomings in the organization and implementation of audits by chief administrators of budgetary funds. The study proposes enhancements to the efficiency of the *internal financial control system and internal financial audit as crucial for the targeted and effective use of budget funds [1].*

Azamat Ostonokulov delves into the improvement of accounting methodologies for extra-budgetary resources of public educational and medical institutions, particularly in the context of the pandemic. The study highlights the need for systematic information about the movement of extra-budgetary resources and develops scientific proposals and practical recommendations for effective management and accounting improvement according to international standards. Ostonokulov's research underscores the significance of transparency and effective use of funds in enhancing the openness of financial information about budget execution [2].

Qi Zhong addresses the management of extra-budgetary funds that belong to non-tax income, critiquing the decentralized handling of these funds by governments and public institutions. The study advocates for unified management and the implementation of a two-line method for income and expenses to refine the public financial system and optimize resource allocation and utilization. Zhong's work calls for a gradual retreat from arbitrary fee collection and standard management of the government's non-tax income as a means to enhance the efficiency of public financial management [[3]].

I. Siradjev (2022) focuses on the mechanisms to attract budgetary and extra-budgetary funds to improve the functioning of public education institutions. Siradjev argues that the effective and targeted use of allocated budget funds, coupled with increased efforts to attract extra-budgetary resources, is essential for preventing stagnation in the educational process due to financial constraints. The study highlights the critical role of financial and administrative resources in elevating state educational institutions to modern educational standards [4].

Analysis and Results

The examination of scholarly work on the management of extra-budgetary funds (EBFs) in developing countries reveals a consensus on the need for systemic improvements in accounting, control, and oversight mechanisms. Drawing insights from the reviewed literature, this section synthesizes key findings and identifies common themes in the challenges and proposed solutions for managing EBFs more effectively.

*1. **Internal Financial Controls and Audits**: The study by A. I. Lukashov (2022) highlights significant deficiencies in the organization and implementation of internal financial controls and audits within the public administration sector. These deficiencies compromise the targeted and effective use of budget funds, underscoring the need for a comprehensive overhaul of internal control mechanisms to ensure fiscal discipline and accountability.*

*2. **Accounting Methodologies**: Azamat Ostonokulov's research points to the critical importance of adopting and improving accounting methodologies for EBFs, especially in the sectors of public education and healthcare. The pandemic has amplified the urgency of transparent and effective fund management, necessitating the adoption of international accounting standards to enhance the openness of financial information and budget execution.*

*3. **Unified Management of Non-tax Income**: Qi Zhong's work advocates for a unified approach to managing non-tax income, including EBFs, to address the issues arising from decentralized and arbitrary fee collection. Implementing a two-line method for income and expenses could significantly refine the public financial system, optimizing resource allocation and utilization.*

*4. **Attracting Extra-budgetary Resources**: I. Siradjev (2022) emphasizes the importance of developing mechanisms to attract both budgetary and extra-budgetary funds to bolster the functioning of public education institutions. This approach is crucial for overcoming financial constraints and ensuring the sustainability of educational processes in line with modern standards.*

The collective findings from the literature underscore the multifaceted challenges in managing EBFs in developing countries, ranging from inadequate internal controls and audits to outdated accounting methodologies and inefficient resource utilization. However, the studies also offer a roadmap for reform, highlighting the potential for significant improvements through targeted interventions such as:

- *Strengthening internal financial controls and audit mechanisms.*
- *Adopting international accounting standards for better transparency and comparability.*
- *Implementing unified management practices for non-tax income to prevent arbitrary fee collection.*
- *Developing strategies to attract and efficiently utilize both budgetary and extra-budgetary resources.*

Conclusion

The management of extra-budgetary funds in developing countries stands at a critical juncture, with significant opportunities for reform and improvement. The scholarly literature provides compelling evidence of the challenges faced in ensuring transparency, accountability, and efficiency in the administration of these funds. However, it also offers practical recommendations for enhancing the governance of EBFs through improved internal controls, audits, accounting methodologies, and resource mobilization strategies.

As developing countries strive to optimize their fiscal management and achieve sustainable development goals, the insights from these studies offer valuable guidance. By implementing the recommended reforms, these countries can enhance the effectiveness of extra-budgetary funds in financing critical public services and development initiatives. Ultimately, the successful management of EBFs requires a concerted effort from all stakeholders, including government officials, policymakers, international organizations, and civil society, to foster a culture of transparency, accountability, and fiscal responsibility.

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UNVEILING THE POWER OF MARKETING IN CORPORATE DIVERSIFICATION INITIATIVES

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Abstract

In the dynamic realm of modern business, the imperative for corporate diversification has intensified, compelling organizations to explore new avenues for growth and sustainability. This article examines the pivotal role played by marketing in the orchestration of successful corporate diversification initiatives. In the ever-evolving landscape of contemporary business, marked by rapid technological advancements, shifting consumer preferences, and global market uncertainties, the imperative for corporate diversification has taken center stage. This article, titled "Expelling the Power of Marketing in Corporate Diversification Initiatives," embarks on an extensive exploration of the symbiotic relationship between marketing strategies and the dynamic realm of corporate diversification.

Corporate diversification, encompassing a spectrum of strategic initiatives such as product expansion, market entry, and mergers and acquisitions, represents a strategic imperative for organizations seeking to navigate complexities and ensure sustained growth. At the heart of this transformative journey lies the formidable role of marketing, transcending its conventional boundaries to emerge as the linchpin in the orchestration of successful diversification endeavors.

The article navigates through the multifaceted challenges and opportunities inherent in diversification, unveiling the critical nexus where marketing strategies intersect with the organizational drive for growth and adaptability. From comprehensive market analyses and strategic brand positioning to a nuanced understanding of consumer behavior and effective communication strategies, marketing emerges as a strategic architect, actively shaping the contours of diversification initiatives.

Through an in-depth synthesis of theoretical insights and real-world case studies, this article aims to showcase the transformative power of marketing in fostering innovation, adaptability, and resilience within organizations. It sheds light on how marketing not only adapts to the challenges presented by diversification but actively contributes to the strategic evolution of businesses in the face of uncertainty and change.

The exploration extends beyond theoretical frameworks, providing a rich tapestry of practical applications and lessons learned from diverse industries. By unraveling the mysteries of unleashing the power of marketing in corporate diversification initiatives, this article seeks to offer valuable insights to business leaders, marketers, and academics alike, fostering a deeper understanding of the pivotal role marketing plays in shaping the destiny of organizations navigating the ever-expanding horizons of possibilities and challenges in the modern business landscape.

Keywords: *Corporate diversification, marketing strategies, business growth, innovation, market dynamics, resilience*

İntroduction

In the ever-evolving landscape of business, the pursuit of corporate diversification has become a pivotal strategy for organizations seeking sustained growth and resilience. As industries continue to undergo rapid transformations, the role of marketing in shaping and driving diversification initiatives has emerged as a critical force in navigating these dynamic market environments. This article delves into the intricate interplay between marketing strategies and corporate diversification, exploring how marketing serves as a catalyst for unlocking new opportunities, mitigating risks, and ultimately propelling organizations toward multifaceted success. Join us on a journey to unravel the nuanced ways in which marketing not only adapts to diversification but actively contributes to the strategic evolution of businesses in an era where adaptability and innovation are paramount. Together, we will uncover the *indispensable power of marketing in shaping the future of diversified corporate landscapes. The term "corporate diversification" itself encompasses a spectrum of strategies, from expanding product lines and entering new markets to mergers and acquisitions, all driven by the common goal of achieving sustained growth, mitigating risks, and ensuring long-term viability.*

Within this dynamic context, marketing emerges not merely as a functional arm but as a strategic architect, actively shaping the contours of diversification initiatives. We delve into the critical nexus where marketing strategies intersect with the multifaceted challenges and opportunities inherent in diversification. From market analysis and brand positioning to consumer behavior studies and communication strategies, marketing becomes the catalyst for organizations seeking to navigate uncharted territories and capitalize on emerging trends.

In the following pages, we will dissect the nuanced ways in which marketing not only adapts to diversification but actively contributes to the strategic evolution of businesses. Through a synthesis of theoretical insights and real-world case studies, we aim to showcase the transformative power of marketing in fostering innovation, adaptability, and resilience-qualities indispensable for navigating the complexities of a rapidly evolving business environment. Join us on this intellectual journey as we unravel the mysteries of unleashing the power of marketing in corporate diversification initiatives. Together, we will explore the pivotal role of marketing in shaping the destiny of organizations seeking not only to survive but to thrive in the midst of change, disruption, and the ever-expanding horizons of possibilities.

Relationship of marketing and diversification

The relationship between marketing and diversification is intricate and symbiotic, playing a crucial role in the strategic evolution and success of businesses. Diversification, broadly defined as the expansion of a company into new products, services, markets, or industries, represents a response to the dynamic nature of markets, changing consumer preferences, and evolving economic landscapes. Marketing, as a multifaceted discipline, is not only integral to this process but actively shapes and drives diversification initiatives in several key ways:

Identification of opportunities: Marketing research and analysis help identify emerging opportunities in the market. By understanding consumer needs, preferences, and trends, marketers can uncover untapped areas for diversification. This proactive role ensures that diversification efforts are aligned with market demands and potential growth areas.

Strategic positioning: Marketing is essential in positioning a company strategically within the competitive landscape. Through effective branding, messaging, and differentiation strategies, marketing ensures that a company's diversification efforts are communicated clearly and positively to target audiences, enhancing its competitive edge in new markets or with new products.

Consumer behavior understanding: Diversification often involves entering new consumer segments or markets. Marketing's insights into consumer behavior provide invaluable guidance in tailoring products or services to meet the specific needs and preferences of different target audiences. This understanding is crucial for the success of diversified offerings.

Communication and brand management: Effective communication is paramount during diversification initiatives. Marketing develops and executes communication strategies that not only introduce new products or services but also convey the strategic rationale behind diversification. Consistent and compelling messaging helps manage stakeholders' perceptions, including customers, employees, and investors.

Product development and innovation: Marketing collaborates closely with research and development teams in the creation of new products or services. By incorporating market insights, customer feedback, and competitive analysis, marketing ensures that diversified offerings align with market expectations and have a strong value proposition.

Mitigation of risks: Diversification inherently involves risks, such as market uncertainties and operational challenges. Marketing strategies can be instrumental in risk mitigation by conducting thorough market assessments, scenario planning, and developing agile strategies that adapt to changing conditions.

Long-term brand building: Diversification is not just about immediate gains; it's a long-term strategic move. Marketing plays a pivotal role in building and sustaining the brand image over time. A strong brand presence contributes to the success of diversified ventures by fostering customer loyalty and trust.

Adaptability to market changes: Markets are dynamic, and successful diversification requires adaptability. Marketing continuously monitors market changes, consumer trends, and competitive *landscapes, providing crucial insights that enable organizations to adjust their diversification strategies in real-time.*

In essence, marketing is not merely a supportive function in the diversification process; it is an active and strategic partner, driving innovation, managing perceptions, and ensuring that diversified initiatives align with the organization's overall business objectives. The success of diversification is often intricately linked to the effectiveness of marketing strategies in navigating the complexities of the evolving business environment [1].

Marketing as a catalyst for innovation

Marketing serves as a catalyst for innovation by playing a pivotal role in identifying opportunities, shaping product development, and fostering a culture of creativity within organizations. Here are key ways in which marketing acts as a catalyst for innovation:

Market research and insights: Marketing teams conduct extensive market research to understand consumer needs, preferences, and emerging trends. These insights form the foundation for innovative product or service development, ensuring that new offerings resonate with target audiences.

Identifying unmet needs: Through market analysis, marketing identifies gaps or unmet needs in the market. This understanding enables organizations to develop innovative solutions that address specific pain points or provide unique value propositions, setting them apart from competitors.

Consumer-centric innovation: Marketing places the consumer at the center of innovation efforts. By leveraging consumer feedback, behavior data, and preferences, marketers guide product development teams to create offerings that align with customer expectations and enhance the overall user experience.

Brand positioning and differentiation: Marketing strategies contribute to brand positioning and differentiation. Innovative features or unique selling propositions highlighted through marketing campaigns help products stand out in the market, attracting attention and driving consumer interest.

Creative communication strategies: Innovative products require innovative communication strategies. Marketing teams develop creative and compelling campaigns to introduce new products, emphasizing their innovative features and benefits. Effective storytelling enhances the perception of innovation among consumers.

Agile marketing and adaptability: In rapidly changing markets, marketing's agility is crucial. The ability to adapt to evolving trends and consumer preferences ensures that innovation efforts stay relevant. Marketing teams often act as early detectors of shifts in the market landscape, guiding organizations toward timely adjustments [2].

Cross-functional collaboration: Marketing collaborates with various departments, including research and development, design, and sales. This cross-functional collaboration facilitates the exchange of ideas and perspectives, fostering an environment conducive to innovation where diverse skills and expertise converge.

Launching and scaling innovations: Marketing is instrumental in the successful launch and scaling of innovative products or services. From creating buzz during pre-launch to developing post-launch strategies, marketing ensures that the innovation gains visibility, acceptance, and market share.

Feedback loops and iterative improvement: Marketing establishes feedback loops with consumers, collecting valuable data on how innovations are received. This information guides iterative improvements, allowing organizations to refine and enhance their offerings based on real-world usage and feedback.

Competitive edge and market leadership: Innovations, when effectively marketed, provide a competitive edge. Marketing positions organizations as industry leaders, influencing consumer perceptions and building a reputation for being at the forefront of industry trends and advancements [3].

In summary, marketing catalyzes innovation by bridging the gap between consumer insights and product development, fostering a culture of creativity, and ensuring that innovative solutions are not only conceived but effectively communicated and embraced in the market. The dynamic interplay between marketing and innovation is integral to an organization's ability to stay competitive and responsive to the ever-changing demands of the business landscape.

The role of marketing in diversification initiatives

The role of marketing in diversification initiatives is multifaceted and critical to the success of organizations seeking to expand into new markets, products, or services. Marketing serves as the driving force that shapes the strategic direction, communicates the value proposition, and establishes a strong market presence throughout the diversification journey. Here are key aspects of the role of marketing in diversification initiatives:

Market Research and Opportunity Identification: Marketing conducts in-depth market research to identify opportunities for diversification. This includes analyzing market trends, consumer needs, competitor landscapes, and emerging opportunities. By understanding the market thoroughly, marketing guides organizations in making informed decisions about where and how to diversify [4].

Strategic Vision and Planning: Marketing plays a crucial role in defining the strategic vision for diversification initiatives. Through a combination of market insights and organizational goals, marketing professionals contribute to the development of a comprehensive diversification strategy. This involves setting clear objectives, defining target markets, and outlining the positioning and differentiation strategies.

Consumer-Centric Approaches: Diversification initiatives are consumer-driven, and marketing ensures that strategies are aligned with the needs and preferences of the target audience. By adopting consumer-centric approaches, marketing tailor products, services, and communication strategies to resonate with the specific expectations and behaviors of diverse consumer segments.

Brand Positioning and Messaging: Marketing is responsible for positioning the brand effectively in the new markets or with new offerings. This includes developing compelling messaging that communicates the unique value proposition of the diversified products or services. Consistent and coherent brand messaging helps in building trust and recognition among the target audience.

Communication and Promotion: Effective communication is paramount during diversification initiatives. Marketing develops and executes communication strategies that introduce the new products or services to the market. This involves utilizing various channels such as advertising, public relations, digital marketing, and social media to create awareness and generate interest.

Adaptation to Cultural and Regional Differences: Diversification often involves entering new geographical areas with distinct cultures and preferences. Marketing plays a key role in adapting strategies to fit local contexts, ensuring that the brand is culturally sensitive and resonates with the diverse backgrounds of the target audience.

Mitigation of Risks and Challenges: Marketing strategies are designed to mitigate potential risks and challenges associated with diversification. By conducting thorough risk assessments and scenario planning, marketing helps organizations anticipate challenges and develop contingency plans. This proactive approach minimizes the impact of uncertainties in new markets.

Innovation and Product Development: Marketing collaborates closely with research and development teams to drive innovation in product or service offerings. By identifying gaps in the market and understanding consumer needs, marketing ensures that diversified offerings are not only innovative but also meet the evolving demands of the target audience.

Measurement and Analytics: Marketing employs various metrics and analytics tools to measure the performance of diversification initiatives. Key performance indicators (KPIs) related to market share, brand awareness, customer acquisition, and ROI are tracked to evaluate the success of marketing strategies and make data-driven adjustments [5].

Long-Term Brand Building: Beyond the initial launch, marketing plays a vital role in building and sustaining the brand image over the long term. This involves continuous engagement with the target audience, monitoring feedback, and adapting marketing strategies to evolving market conditions.

Stakeholder Management: Marketing manages relationships with various stakeholders, including customers, employees, investors, and partners. By effectively communicating the benefits and progress of diversification initiatives, marketing helps build trust and support from these stakeholders.

Agile Adaptability: The dynamic nature of markets requires an agile approach. Marketing continuously monitors market changes, consumer trends, and competitive landscapes, enabling organizations to adapt diversification strategies in real-time.

In essence, the role of marketing in diversification initiatives is to provide strategic direction, align efforts with consumer needs, build brand equity, and navigate the complexities of entering new markets. It is a dynamic and integral function that ensures the successful integration of diversified elements into the overall business strategy, fostering sustained growth and market relevance [6].

Conclusion

In conclusion, as we have traversed the multifaceted landscape of corporate diversification initiatives, it is abundantly clear that marketing stands as the linchpin in expressing and unleashing their true power. The synergy between marketing prowess and diversification efforts has been unveiled as a dynamic force shaping the destiny of organizations in an ever-evolving business ecosystem. Diversification, whether through entering new markets, expanding product lines, or engaging in strategic mergers, is no longer a strategic choice but a necessity for organizations aiming to secure sustained *growth and adaptability. Within this strategic imperative, marketing emerges not merely as a supporting function but as a transformative catalyst, influencing every phase of the diversification journey.*

Through strategic visioning, consumer-centric strategies, and innovative communication, marketing has proven its ability to navigate the complexities of diversified landscapes. The power of marketing lies not only in identifying opportunities and mitigating risks but also in building strong, resonant connections with consumers and stakeholders across diverse markets.

Moreover, marketing has showcased its adaptability and responsiveness, acting as the eyes and ears of organizations in the ever-shifting market dynamics. By fostering innovation, managing perceptions, and steering brands through the intricacies of globalized markets, marketing becomes the driving force that propels diversified ventures toward success.

In the grand tapestry of corporate strategy, marketing paints the strokes that transform diversification from a strategic concept into a tangible, dynamic reality. The power of marketing in corporate diversification initiatives is not a one-size-fits-all approach but a nuanced, strategic art form that demands creativity, adaptability, and a relentless commitment to understanding and serving the diverse needs of consumers across the globe. In expressing the power of marketing in corporate diversification initiatives, organizations find not only the key to unlocking new horizons but also a compass for navigating the challenges and opportunities that lie ahead. As businesses chart their courses in the ever-expanding landscape of possibilities, the role of marketing remains central, guiding them towards sustained growth, innovation, and multifaceted success in the dynamic business environment of today and tomorrow.

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THE IMPACT OF FOREIGN INVESTMENT ON THE ECONOMY OF DEVELOPING COUNTRIES

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Introduction

The role of foreign investment in shaping the economic landscapes of developing countries is a topic of significant importance and complexity. In the era of globalization, the flow of foreign capital across borders has intensified, making it a critical element of economic strategy for nations seeking to accelerate their development processes. Foreign investment, which includes both foreign direct investment (FDI) and portfolio investments, is often heralded for its potential to bring about economic transformation through various channels. These channels include the infusion of capital, the transfer of cutting-edge technologies, the enhancement of human capital through skill development, and the integration of local businesses into the global marketplace.

However, the impact of foreign investment on the economies of developing countries is not uniformly positive and can vary widely depending on a multitude of factors. These factors encompass the sectoral distribution of investments, the policy environment of the host country, the nature of the investment (whether it is direct or portfolio investment), and the socio-economic conditions prevailing in the host country. For instance, while FDI in the manufacturing sector might spur job creation and technology transfer, portfolio investments in financial markets might be more volatile, potentially leading to financial instability if not properly managed.

Moreover, the debate on foreign investment also touches upon issues of sovereignty and economic independence, as the influx of foreign capital can sometimes lead to significant foreign influence over domestic economic policies and priorities. This complex interplay between the potential benefits of foreign investment and its associated risks and challenges necessitates a nuanced analysis to understand fully its role in the economic development of developing countries.

This article aims to delve into these complexities, offering a comprehensive examination of the multifaceted impacts of foreign investment on developing economies. By analyzing empirical evidence and theoretical perspectives, it seeks to shed light on how foreign investment influences economic growth, technological advancement, employment, and socio-economic development in these countries. Furthermore, it explores the conditions under which foreign investment can lead to sustainable economic development, highlighting the importance of strategic policy frameworks, institutional quality, and governance in maximizing the benefits of foreign capital inflows while minimizing potential downsides.

Literature Review

The impact of foreign investment on the economic development of developing countries has been extensively studied, with a focus on various aspects such as capital inflow, technology transfer, employment generation, and the overall economic wellbeing of the host country. This section reviews several key studies that contribute to our understanding of these dynamics.

Kalim Siddiqui (2015) in his paper, "Foreign Capital Investment into Developing Countries: Some Economic Policy Issues," examines the role of foreign capital in the economic development of South Asian and East Asian countries post-World War II. Siddiqui argues that while foreign investment has contributed to significant economic growth, poverty reduction, job creation, and educational achievements in these regions, it has also led to challenges such as economic dependence on foreign capital and sensitivity to foreign exchange rate fluctuations. The paper emphasizes the need for a balanced approach to foreign capital investment, considering the experiences of developed countries during their early phases of industrialization and the impacts of neoliberal economic reforms and financial deregulation [1].

F. Adegboye (2014) explores the declining flows of foreign direct investment (FDI) to African regions in his study, "Foreign Direct Investment and Economic Development: Evidence from Selected African Countries." Despite high investment return rates in Africa, FDI flows have been decreasing. Adegboye's analysis, using data from thirty-nine African countries between 1993 and 2012, finds that FDI is statistically significant in relation to economic development for host African countries. The study suggests that lower flows of foreign funds might have led to lesser dependence on foreign capital, encouraging the development of the domestic sector and resulting in increased economic activities and development [2].

Laura Alfaro and Jasmina Chauvin (2016) in their review, "Foreign Direct Investment, Finance, and Economic Development," address how FDI affects the economic development of host countries and the role of local financial markets in mediating potential benefits. The paper defines FDI, discusses its types and drivers, and examines the impact of financial conditions in host countries on FDI-related capital inflows and productivity spillovers from FDI to local firms. The review highlights the importance of developing countries' financial conditions in maximizing the benefits of FDI [3].

Berhanu Mengistu and Samuel Olorunfemi Adams (2007) investigate the effects of FDI on domestic investment and economic growth in their study, "Foreign Direct Investment, Governance and Economic Development in Developing Countries." Analyzing data from 88 developing countries, they find that FDI is positively correlated with economic growth, particularly in Asia. However, the study also notes a net crowding-out effect of FDI on domestic investment, suggesting that FDI's contribution to growth is more through efficiency-inducing effects rather than augmenting domestic investment. The importance of a country's institutional infrastructure is also emphasized as positively correlated with economic growth [4].

Analysis and Results

Capital Inflow and Economic Growth*: Consistent with the findings of Berhanu Mengistu and Samuel Olorunfemi Adams (2007), foreign direct investment (FDI) has been positively correlated with economic growth, particularly in Asian countries. The infusion of foreign capital has facilitated infrastructure development, technological upgrades, and expansion of manufacturing capacities, contributing significantly to GDP growth. However, the relationship between FDI and economic growth is mediated by the quality of governance and regulatory frameworks in the host countries, underscoring the importance of a conducive policy environment for maximizing the benefits of foreign investment.*

Technology Transfer and Productivity*: The literature review highlights the role of FDI in technology transfer and its impact on productivity and innovation in host economies. Laura Alfaro and Jasmina Chauvin (2016) emphasize that the effectiveness of technology spillovers depends on the financial and institutional conditions of the host country. Developing countries with well-developed financial markets and robust legal systems are better positioned to absorb and leverage the technological and managerial know-how brought by foreign investors.*

Employment and Skill Development*: Foreign investment has been shown to create job opportunities and facilitate skill development in developing countries. However, the nature and quality of employment generated by FDI vary significantly. While FDI in sectors like manufacturing and services can lead to the creation of high-quality jobs and skill enhancement, investments in extractive industries may not offer the same level of benefits in terms of human capital development.*

Environmental and Social Impacts*: The reviewed literature also points to the potential negative environmental and social impacts of foreign investment. Without adequate regulatory oversight, FDI can lead to environmental degradation and exploitation of labor. The experiences of some African countries, as discussed by F. Adegboye (2014), illustrate the importance of aligning foreign investment with sustainable development goals and ensuring that economic gains do not come at the expense of environmental and social well-being.*

Recommendations

Based on the analysis, the following recommendations are proposed to maximize the benefits of foreign investment while mitigating its potential drawbacks:

1. Enhancing Governance and Regulatory Frameworks: Developing countries should focus on strengthening their governance structures and regulatory frameworks to create a conducive environment for foreign investment. This includes ensuring transparency, protecting property rights, and establishing clear rules for foreign investors that align with national development goals.

2. Fostering Financial Market Development: To enhance the capacity for technology transfer and productivity spillovers from FDI, developing countries need to invest in the development of their financial markets. This involves not only improving the regulatory and institutional framework but also promoting financial inclusion and literacy to broaden access to financial services.

3. Promoting Sustainable and Inclusive Growth: Policies should be designed to ensure that the benefits of foreign investment are broadly shared across the economy. This includes supporting sectors that have a high potential for job creation and skill development, as well as implementing measures to protect the environment and promote social welfare.

4. Leveraging FDI for Domestic Investment: To counter the potential crowding-out effect of FDI on domestic investment, governments should implement policies that encourage the reinvestment of profits generated by foreign investors within the host country. This could include tax incentives for reinvestment, *support for joint ventures between foreign and local firms, and initiatives to enhance the competitiveness of domestic industries.*

5. Building Human Capital: Investing in education and vocational training is crucial to maximizing the employment and skill development benefits of foreign investment. Developing countries should focus on aligning their educational systems with the needs of the modern economy, emphasizing STEM education, digital literacy, and soft skills to prepare the workforce for high-quality jobs created by foreign investors.

Conclusion

The extended analysis and recommendations underscore the multifaceted impacts of foreign investment on the economies of developing countries. While foreign investment can be a powerful engine for economic growth, technology transfer, and job creation, its benefits are not automatic and depend significantly on the quality of governance, regulatory frameworks, and the socio-economic conditions of the host country. By adopting strategic policies and investing in human capital and sustainable development, developing countries can better harness the potential of foreign investment to achieve long-term economic prosperity.

References

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Jurisprudence

LEGAL REGULATIONS OF SOCIAL SECURITY IN ALBANIA

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Abstract

Social security in Albania is one of the components of the social welfare state, alongside health insurance, assistance and family benefits. In the Constitution of the Republic of Albania, in the social objectives, it is declared that the state, within the constitutional powers and the means at its disposal, as well as in fulfillment of the initiative and private responsibility, aims for the highest possible health, physical and mental standard, care and assistance for the elderly, orphans and disabled, health rehabilitation, specialized education and social integration of the disabled. Article 52 of the Constitution provides that everyone has the right to social insurance in old age, or when they are unable to work, according to a system determined by law.[1] Every person, when he remains unemployed for reasons independent of his will, and when he has no other means of living, has the right to help under the conditions provided by law. As mentioned above, the Constitution of the Republic of Albania has recognized the right to social insurance, but in compliance with the conditions and according to a system determined by law. Currently, mandatory social security is regulated by Law no. 7703, dated 11.05.1993 "On social security in the Republic of Albania" (amended).[1] The basic principle of the operation of the compulsory social insurance scheme is the principle of solidarity, according to which the one who works as an employee, self-employed or employer pays contributions and with the collected contributions the benefits of those who are unable to work due to age, illness, etc. While on the one hand the right to social insurance, as an individual's right to protection in case of old age, illness, etc., is a constitutional right and is part of the group of economic and social rights of the Constitution, on the other hand the right to insurance social security is an important part of the totality of rights arising from the employment relationship. Thus, by working and paying contributions, the individual takes responsibility for future risks, as he puts aside a part of the income from work to be insured. But, as long as social security acts as a mechanism for maintaining a level of income, as a means of not falling into poverty, what has been the role of the state, in terms of social security schemes, mandatory and monitored schemes, which constitutes and the connection of social security with the concept of the social state.[1] Starting from 1912, the date of the creation of the Albanian state, in parallel with the constitutional acts that have been issued in Albania (the basic act of a state and which provides for basic rights, including the right to social security), the acts have also been issued legal in the field of social security, according to an order that follows the historical developments of social security in Albania.

Keywords: *social insurance, scheme, administration, benefit.*

The period after the 1990s

The great social and economic changes that took place in the early 90s, it is natural that they had their impact and conditioned the way social security schemes operate. A significant number of enterprises were closed; many individuals became unemployed, as a result of this process. The country's economy faced the establishment of the decentralized system and many problems required deep legal adjustments. Demographic movements from rural or suburban areas to big cities, migration processes and occasional exodus of the Albanian population outside the Albanian territory began to be present. In the first years of the transition, some partial adaptations were made to the current scheme, in function of social protection, introducing the concept of early pensions. These benefits were granted to persons who had completed the appropriate period of insurance required by law, but in the period up to 5 years before reaching the age, were given the right to benefit from early old-age pension, which was calculated *to the extent of 60% of the average salary[1]. This type of benefit somewhat mitigated the social problem created in this period, as a result of the closure of many activities. With the birth and creation of the private sector of the economy, for the people who were employed in this sector, the current system with its legal spaces did not create opportunities for protection and social insurance, since in a centralized system employment in the private sector was not foreseen.*

Adaptation to the new social and economic conditions made it necessary to make legislative changes in the field of social insurance, starting from the reorganization of the responsible institution that would deal with the administration of social insurance. Until this period, the General Directorate of Social Security, which was the directorate under the Ministry of Finance, was responsible for the administration of social security. With the Decision of the Council of Ministers No. 249, dated 05.06.1992 approved the creation of the Social Security Institute as the state institution in charge of social security administration. Despite the changes that were made to the law (of 1966) according to which relations in the field of social security were regulated, it did not adapt to the new social and economic reality of the country.

With the participation and assistance of foreign experts, the law was drawn up, which would be the foundation for the establishment of the contributory social security scheme. In May 1993, the Albanian Parliament approved Law no. 7703, dated 11.05.1993 "On social security in the Republic of Albania". In support of this law, a number of by-laws that were subsequently adopted defined the methodology to be followed for the implementation of the social security law, which would be subject to occasional changes.

Decision of the Council of Ministers no. 161, dated 11.04.1994 "On the approval of the Status of the Social Insurance Institute", defined the status of the Social Insurance Institute, which would be called ISSH and would be an independent state public institution. The status of ISSH determined the entire activity of the Social Insurance Institute, the financing of the social insurance scheme, the way the Institute is run as an independent institution.

The new established scheme, although it has been implemented for over 20 years, has encountered problems both in terms of contributions and benefits, making it necessary to adapt this scheme to international standards with binding force, such as and the obligations of the Albanian state from the Stabilization-Association Agreement concluded between the Republic of Albania and the European Union, an agreement which has been ratified by becoming part of the internal legislation through Law No. 9590, dated 27.07.2006, "On the ratification of the Stabilization-Association Agreement between the Republic of Albania and the European Communities and their member states"[2].

This period of implementation of the social security scheme, which in the terminology of the social security field we call contributory schemes, has been at the center of continuous changes. The new social security system operates according to three schemes:

- Mandatory scheme;
- Voluntary scheme;
- Supplementary scheme.

The benefits provided under this system are of different categories and each of them depends on a qualifying period. A number of projects, reforms, legal changes have been undertaken, which have improved the legal conditions for calculating what the individual requires at the end of his economic activity, the pension, but have also brought problems that are mainly related to legal interpretations of special provisions.

This period of operation of the social security system is characterized by a non-standard management of what is considered the basis of a benefit system, of the archive of seniority documentation. Although there have been legal initiatives for the administration of documentation by competent institutions, there have been no such legal instruments for the obligation of the persons who managed these documentation, as well as penalizing elements against the administrations of enterprises that did not strictly adhere to their obligations. In some sporadic cases in the first years of the transition, seniority documentation, such as foundation registers or bordero, were burned. The 1997 riots also affected the damage to social security documentation, as a result of which in some regions of the country, not only the documentation of seniority at work, but also that of social and economic benefits was completely destroyed. The non-regular administration of documentation became the cause of abuses during work periods, for their alienation, phenomena that citizens suffer even today and will continue to

[1] Ligji nr. 7703, dt.11.05.1993, neni 97
[2] Ligji nr. 9131, datë 08.09.2003 "Për rregullat e etikës në administratën publike", neni 4

suffer in the future. Such a phenomenon has resulted in citizen mistrust towards institutions, regarding their legitimate rights. Any benefit derived from a social security system, whether contributory or not, the source of data is the periods of work, or the periods of contribution. Every day of work or every day of contributions translates into a future, a financial effect, which can be temporary or permanent, depending on the benefit that the individual seeks. Therefore, the management according to legal standards of the data of working periods and those contributions is a necessity. Facing the phenomena we mentioned above, the legal initiative for the creation of the Central Archive during this period is an innovation for the social security system.

In different periods of time, legal initiatives for the inclusion in social insurance schemes of beneficiaries of special categories have had a political character, causing financial importance for the social insurance scheme. Cases have been identified when people who have not met the legal conditions for benefits, have been included as potential beneficiaries in various benefit schemes.

Cases of abuse of social security funds have been identified as follows:

- Changes in the dates of birth of the beneficiaries, including as beneficiaries in the scheme persons who have not reached the legal retirement age;

- Alterations of work periods, benefiting from work pensions in relation to the state;

- Interference with seniority documentation, benefiting undeserved pensions related to seniority.

The efficient administration of the social security scheme is a priority of the time, which is also emphasized in the strategy of the international labor organization "Social security for all". Social security systems must be well managed and administered to ensure effectiveness in achieving agreed objectives, efficient in the use of resources and transparent to gain the trust of those who fund and benefit from these systems. The active involvement of all stakeholders, and in particular of workers and employers through effective mechanisms of social dialogue and tripartite supervision, is one of the important tools to ensure good management of social security systems[3].

The basic legal principles on which the social insurance legislation is based

The principle of universality is expressed in:

a) the extension of the field of action of a law throughout the territory of the RS, (territorial field of application of the law)

b) the inclusion of all economically active persons who are subject to the implementation of the law.

Through the application of the principle of universality, inclusion in the scheme is ensured and guaranteed for each subject, according to the criteria defined by law, such as age criteria, insurance period, obligation to pay contributions, income level, etc.

Through the principle of universality:

a) the opportunity is created for all the subjects of the system to become familiar with the content of the scheme, to apply the criteria and rules defined in it, and finally to benefit from it;

b) the awareness of persons who are economically active is realized, to be included in the compulsory social insurance scheme, not hiding from the obligations arising from it (compulsory social insurance scheme);

c) the subjects involved in having the possibility to control the organization and administration of the Mandatory Social Security Fund.

The implementation of the principle of universality is guaranteed by the state, through institutional mechanisms and legislation in force.

The principle of uniformity,[4] finds its expression in cases where:

a) the increase of the minimum and maximum limit payment for the effect of the payment of the social insurance contribution is determined, which is realized every year by decision of the Council of Ministers;

b) the mandatory contribution to be paid by the self-employed and employers is determined;

c) benefits increase, to the same extent for benefits within the same type (old age, family and disability pensions);

d) the same rules are defined regarding the prescription of rights, the return of the sums received in excess, etc.

The principle of sufficiency.[5]

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[3] www.ilo.org/wcmsp5/groups/public/---europe/---ro-geneva/---sro budapest/documents/publication/wcms_233227.pdf
[4] Cikel leksionesh nga A.Shtylla
[5] www.oecd-ilibrary.org/search

According to this principle, it is intended to have a distribution of benefits, in the direction of individuals in need, taking into account what is due to the individual in accordance with what he has contributed (mandatory social insurance), or the state of income he has (economic aid scheme), and what is the need to have the best possible benefit level in accordance with the existing capacities. For the realization of the distribution of benefits according to this principle, benefit criteria are defined, the mandatory social insurance scheme, the economic aid scheme, social services, from residential institutions of social care.

The principle of guarantee.[6]

According to this principle, it is required that legal and economic guarantees be established in the social protection system. The legal guarantee is expressed in the legal and by-law definitions of the rights of individuals, the criteria they must meet to benefit, as well as the sanctions that will be imposed on entities that violate the implementation of these rights. The legal guarantee is also expressed in the legal definition of the appeal procedures of the subjects, the administrative or judicial appeal. The legal guarantee ensures individuals for the continuation of the enjoyment of their rights regardless of the economic and social reforms that may occur in the future, based on the principle of non-denial of the rights previously recognized by law.

The economic guarantee aims to guarantee continuous material benefits and mandatory benefits from the state.

The state subsidizes the payment of certain benefits, if it is not possible to cover them from the income collected from the compulsory social insurance scheme. The level of economic guarantee is different in different countries and is closely related to the economic and social development of the country.

The principle of participation aims for the entities benefiting from the social protection system to have legal and economic participation.

Legal participation is the right that individuals, groups of individuals and associations have to be part of the process of undertaking legal initiatives, as well as to control the administration and activity of state bodies charged with the administration of schemes of the social protection system.

The legal participation of individuals, groups of individuals or associations should in no case be in conflict with the legal and by-law definitions for this purpose, as well as the economic and social policies of the state.

Economic participation is expressed by the concrete obligation that the subjects have for the compulsory social insurance scheme, i.e. the payment of the contribution and the right of individuals to receive benefit payments from the compulsory social insurance scheme, economic assistance, etc.

Pension system reforms and their objectives

Pension reform is one of the biggest challenges facing national governments. Current global demographic changes towards an aging population are becoming more and more apparent. This long-term trend of population aging in both developed and developing countries is mainly caused by increasing life expectancy and declining fertility rates (Munnell 2004). Due to the increased longevity as well as the very nature of unfunded PAYG systems, most governments in both OECD countries and emerging market economies have faced financial difficulties. The generosity of public pension systems has also contributed to the increase in current public pension liabilities. In this way, many countries have begun to rethink their pension systems by engaging in a reform process. Reforms of the pension system are related to changes in pension plans, in the way of management and regulation of pension funds and with the regulation of the activity of pension entities. Pension system reforms should have three main objectives:

a) The first objective is the relief of "poverty" in old age, that is, the partial compensation of the reduction in consumption due to the termination of work relations and remuneration in the form of salary.

b) The second objective is related to the pension or otherwise to the benefit at the age of retirement as a financial instrument encouraging saving, that is, for the displacement of today's consumption towards future consumption.

c) The third objective is related to financial sustainability.

These objectives must be related to each other. The plan may be financially sustainable but may not alleviate poverty or promote savings. Likewise, a pension may serve as an incentive to save, but the plan may not be financially sustainable. On the other hand, the plan may be sustainable and alleviate

[6] *https://www.scribd.com/doc/26066486/Parimet-e-Pergjithshme-Te-Sigurimeve-Shoqerore*

poverty somewhat, but it may not be an incentive for saving.[7] So all three objectives play the same role, but at different times and moments any objective can take priority compared to other objectives.

The financial stability of the pension system means a financial situation of the system, which gives it the opportunity to meet the needs of today's beneficiaries without compromising its ability to meet the needs of future beneficiaries. But in practice, a simpler definition of sustainability is made for each specific plan, for example, for the state pension plan, sustainability can be related to the reduction of the state subsidy or its elimination. Analysis of the financial sustainability of pension plans should answer three questions:

a) is the plan able to pay an ideal, standardized or satisfactory pension today, b) will it be able to pay an ideal standardized pension tomorrow

c) What are the factors that create the instability of plans.

Meanwhile, it turns out that a number of factors have influenced the financial instability of the pension system, which are divided into three groups:

a) the deep character of social protection (the plan considers all those who have contributed to another economic system as beneficiaries). In our study, this is considered the most important feature of the social protection of the state pension plan.[8]

b) Factors related to the transition from a centralized economy to a fully competitive open market economy. Such an analysis is necessary to highlight whether the state subsidies of the state pension plan were and are justified or not and whether future subsidies related to the current model or models to be built should be taken into consideration. with the transition of the economy. So, in the end, it must be determined whether state subsidies should be foreseen in the PAYG system in the future as a result of various factors of the transition of the economy. Thus, for example, a factor related to the transition that has burdened the state pension plan has been the initiatives for earlier retirement age. The analysis proves that despite the impact to date, the transition currently has no impact on the state pension plan, so for this purpose the state pension plan should not be supported by the state budget. But in the meantime, due to the inheritance of beneficiaries from another system and due to informality for a very long time, the state pension plan must be supported by the state budget with significant subsidies.

Of all the most important reforms for the stability of the system, there are three:

- Reforming the parameters of pension plans

- Regulation and management of pension funds

- Regulation, management and governance of pension entities

In order to reach the fairest conclusions, different scenarios have been built based on specific changes in the parameters of the plans, but in some cases these changes have been based on several combined scenarios. Each scenario is based on macroeconomic forecasts, especially on the long-term forecast for 50-70 years of GDP, per capita income, inflation, budget deficit, budget income and others. The most important pension plan today is the state pension plan, which is a plan set up by a special law and where the parameters of the plan are also defined by law. For this purpose, this plan is often called a legislative plan. The most important reforms undertaken in the social security system are those that were approved and implemented during 2002. These reforms were aimed at further strengthening the financial sustainability of the social security system. They were dictated by several main factors, which required solutions.

First, the deficit of the pension system, reaching 1 percent of GDP, was considered high, but in the meantime, the forecasts calculated the deterioration of this situation in the following years.

Second, the high rate of contribution to the social insurance fund, which reached 42.5 percent of the salary, discouraged people from formal insurance and participation in the voluntary pension scheme. This situation was considered to stimulate the expansion of the informal labor market.

Third, the rural pensions that represented a large part of the deficit, on the other hand, play an important role in alleviating rural poverty and serve as a social security net for the elderly.

Fourth, the disturbing problems of unemployment and the relatively low percentage of the insured population in the last 10 years, will be accompanied by a decrease in the number of pensioners in the future, thus highlighting as a worrying issue of the long-term perspective, the social protection of the elderly .

[7] Official Statistics issued by Ministry of Finance, Social Insurance Institute of Albania, INSTAT, etc

[8] Anita Schwarz, Pensions-chapter 7, " Fiscal Policy and economic growth"- Lessons for Eastern Europe and Central Asia.

Fifth, the existing social insurance scheme is today the most important source, in some cases even the only one, for meeting the life needs of the country's pensioners. In the near term, there are few possibilities for raising supplementary pension funds, or for the creation of a so-called second column fund for farmers[9].

System reforms after 2005

In the years 2004-2005, several problems were identified that required solutions, among the most important of which are:

First, the unification of Albanian legislation in the field of insurance with international legislation and standards.

Second, adjustments and clarifications of the legislation, related to the calculation of the assessed base and its indexation.

Thirdly, the further reduction of the rate of contributions which continued to remain high.

In order to solve these problems, special legal provisions were formulated and approved, which determined the same treatment as the natives of foreigners for the effect of social security, the reduction of the minimum period of insurance for the partial old-age pension from 20 to 15 years, and expanding the circle of protected persons, including stateless persons.

Efforts were made to strengthen the connection between the contributions paid and the amount of individual benefits, through the legal reconceptualization and calculation of the estimated basis for the calculation of the pension, the initial amount of the pension, or the indexation of the net salary.

The contribution amount was reduced by 9%, bringing it from 38.5% to 29.5% of the salary (September 2006), as well as taking a number of measures in order to balance the financial system and increase the performance of the collection of contributions.

So, starting from September 2006, the minimum monthly contribution amount for all insurance branches was reduced to ALL 4,323, which represents 32.9% of the minimum salary of ALL 13,140.

In 2009, this rate decreased again to 24.5% for insurance branches and 3.4% for health insurance, i.e. in total to 27.9%, where the employer's share for social insurance is 15% +1.7% for health insurance and the employee's share for social insurance is 9.5% + 1.7% for health insurance.

So, as can be seen from the table above, the percentage of social security contributions has been the subject of occasional changes.

Narrowing the differences in the amount of pensions.

The analysis of the existing social security scheme, in addition to the positive evaluations, in order to achieve the general objectives, has dictated the need to undertake some other reforms, the implementation of which has led to the elimination of some deficiencies and negative phenomena that have been found.

One of the important reforms, which has already been completed, is the narrowing of the differences in the amount of certain pensions, before and after 1993, when the new social security law was approved and started to be implemented.[10] *Inequalities or differences in the amount of pensions for individuals who contributed equally to the scheme, but who received pensions in different periods and according to different legislation, arose for several reasons:*

1. while the old law that operated until 30.09.1993 granted a pension equal to 70 percent of the salary of three consecutive years in the last ten years of work, the new law sanctioned the implementation of a higher salary-pension replacement rate, of 75 percent.

2. during different periods, in an effort to reduce poverty for the layers of pensioners who received minimum pensions and in the conditions of very difficult economic transition, the unequal indexation of the amount of pensions was carried out, with the priority of increasing the minimum pensions more. This process started in 1991 when the minimum pension increased by 88 percent, while the maximum pension increased by 50 percent.

Even in later indexations, both for existing pensions and for pensions assigned after 01.10.1993, this phenomenon continued further worsening the ratio between the minimum and maximum pension. In 1996 this ratio was reduced to the level of 1:1.27, from 1:2 which was until June 30, 1991 (and which was foreseen by the law).

In order to mitigate the differences in the amount of pensions granted under the new law and those granted under the old law, the government took special measures in several stages. In the first

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[9] *Frang A.G den Butter and Udo Kock "Social Security, Economic Growth and Poverty" October 2000.*

[10] *Juan Yermo "Revised taxonomy for pension plans, pension funds and pension entities" October 2002*

phase, which was implemented through VKM no. 104, dated 09.03.2000, and VKM no. 518 dated 21.09.2000, it was possible to significantly narrow the difference in the amount of pensions related to the old law in relation to those related according to the new law of 1993. The implementation of this phase significantly narrowed the differences. Thus, the maximum pension set by the old law came close to the maximum pension set by the new law, improving the ratio between them from 68 percent to 85 percent. From the implementation of this phase since April 2000, 69,039 pensioners benefited from an increase in the amount of pensions in an escalating manner with an annual financial effect of 900 million ALL. Also, during the year 2000, the second phase in pension regulation was carried out, which aimed at mitigating the differences that had been created in early pensions set until 30.09.1993.

In December 2003, the third phase of narrowing the differences in the amount of pensions set in the period 01.10.1993 - 31.12.1996 was realized, with an annual financial effect of about 360 million ALL.

In conclusion, as a result of indexation of pensions in order to narrow the differences, increase the replacement rate, as well as improve the ratio between the minimum and maximum pension, in the period 2000 - 2003, the financial effects of these reforms are estimated at about 1 480 million ALL per year. But even after 2003, the adjustments to eliminate these differences continued, adjustments aimed not only at reducing the differences created as a result of unequal indexation of acquired rights, but also at removing other phenomena or deficiencies that have weakened the connection between the period contributions, the amount of contributions paid and the amount of pension received.

Conclusions and Recommendations

At the end of this analysis we can say: the results highlight that the current system is not sustainable and will continue to require state subsidies unless the contributory base is broadened, especially by wider participation from the private sector. For the urban scheme, the analysis concludes that a combination of parametric reforms could consist of an increase in the contribution ceiling combined with a reduction in contribution rates and an increase in the retirement age. To encourage more private sector participation, private pension funds are initially created for high-wage workers by offering supplementary old-age pensions. However, participation in these funds must be conditional on participation in the state pension fund. For the rural pension scheme, it is concluded in a union of the urban scheme of the self-employed with the rural one, and if this is not possible, then the second column of pensions should be applied. Also, financial and administrative reforms in this sector are necessary in order to strengthen the collection of income and achieve the financial stability of the system.

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Mathematical sciences

EİGENSUBSPACES OF RESONANCİNG ENDOMORPHİSMS WİTH RESONANCİNG MONOMS OF ALGEBRA CONVERGENT POWER SERİES $\sum_3$

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Investigation of spectral properties of endomorphisms, also weighted endomorphisms on different uniform algebras, usually leads to investigation these problems on the algebras formally convergent power series.

$\sum_n$ *is the algebra of convergent power series of* $n \geq 1$ *variable* $z = (z_1, z_2, ..., z_n)$ *. In this algebra researched eigenvalues of endomorphism generated by mapping which modules of all eigenvalues of its linear part (on initial point of coordinate system) at the origin less than one, nonzero, differently and nonresonancing. In this work we consider the algebra* $\sum_3$ *of series (formal or convergent series) of the form* $\sum_{n,m,k} x^n y^m z^k$ *and endomorphism* T *of this space induced by formal series* φ *, which module of eigenvalues of linear part of* φ *are less than one, i.e. we consider the operator of the form* $T: \sum_3 \to \sum_3, f \mapsto f \circ \varphi (f \in \sum_3)$ *where eigenvalues* $\alpha_1, \alpha_2, \alpha_3$ *of the linear part of* φ *holds:* $\alpha_i : 0 < |\alpha_i| < 1, (i = 1,2,3)$ *.In the resonansing case with the resonancing monoms eigenvalues and corresponding eigensubspaces of endomorphism* T *is set as follows.*

***Theorem**: In the resonancing case with the resonancing monoms every eigenvalue of endomorphism* T *has the form* $\lambda_q = \alpha^q (\alpha = \alpha_1^t \alpha_2^u \alpha_3^v (t + u \geq 2))$*, where* q *is nonnegative whole number) and corresponding eigenfunction has the form* $f_q(x, y, z) = x^q y^q$ *(or has the form* $f_q(x, y, z) = x^q z^q$ *). Consepuently, corresponding eigensubspaces are one-dimensional.*

***Keywords:** algebra, endomorphism, monom, eigenvalue, eigenfunction*

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Medical sciences

OPINIONS OF MEDICAL UNIVERSITY STUDENTS ABOUT THE RATIONALITY OF USE OF TRADITIONAL MEDICINE FOR THE TREATMENT OF ONCOLOGICAL DISEASES

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Abstract

During the teaching medical students should develop professional thinking which includes the principles of evidence-based medicine. To understand how inclined medical university students are to be guided by these principles when choosing treatment, a survey was conducted on the rationality of using various traditional medicines for the treatment of cancer.

Keywords: students, questionnaires, evidence-based medicine, traditional medicine, oncological diseases.

Introduction. *In the process of studying at a medical university, it is necessary to develop in students professional thinking based on the principles of evidence-based medicine.*

Evidence-based medicine is an approach to medical practice in which decisions about the use of preventive, diagnostic and treatment interventions are made on the basis of available scientific evidence of their effectiveness and safety, and such evidence is assessed, compared, summarized and widely disseminated, and then used for the benefit of patients. The difference between evidence-based medicine and traditional medicine is the use of reliable scientific evidence of the effectiveness of drugs and medical procedures. The term was originally used to describe an approach to teaching the practice of medicine and improving decisions by individual physicians about individual patients [1]. To assess whether students are guided by the principles of evidence-based therapy when choosing treatment, a survey was conducted to determine the degree of trust of future doctors in drugs of biological origin (primarily of plant origin). It is known that interest in such herbal remedies has been and remains high among the population, especially in poorer regions of the world with an abundance of little-known plants [2].

The purpose of the work *is to study the opinions of medical university students on the rationality of using traditional medicine for the treatment of cancer.*

Research materials and methods*. An online survey of 100 students of the Medical University (GrSMU) of both sexes aged 17 to 23 was conducted with the use of the Google Forms website. The majority of them (82%) were junior (1-3) year students. For the survey, email addresses were first collected and a questionnaire was sent to randomly selected addresses. Statistical processing of the obtained data was carried out on a personal computer using the Excel and Statistica 10.0 programs.*

Results and discussion*. The majority of students (61%) were not aware about the treatment of oncological diseases with the help of traditional medicines (TM), while a minority (16%) consider* *themselves to be completely informed about such treatment methods, the remaining students (23%) are partially informed ("they have heard something about this "). Only a small minority (4%) of the surveyed students believes that TM can achieve a complete cure for cancer, 20% believe in the significant adjunct effect of TM, and another 40% believe in the insignificant therapeutic effect of TM. The remainder of the students surveyed (36%) do not believe in the effectiveness of such treatment. At the same time, students from medical families are more likely (29%) than students from non-medical families (17%) to recognize the possibility of achieving a significant additional therapeutic effect when using TM. In the questionnaire, students were offered a list of plants and biological products that are most often attributed antitumor properties in the available popular Russian-language literature. The students surveyed noted the following remedies (the percentage of those who noted this remedy is indicated in brackets): propolis (20%); viburnum berries (15%); chaga mushroom (14%); onion (13%); beet juice(12%); amanita mushrooms (12%); lesser periwinkle herb (11%); common stinkhorn mushroom (10%); potato tops (7%). All of the above remedies belong to traditional (folk) medicine.*

Beetroot juice contains the red pigment betaine, which gives the root its dark red color [3]. Websites that popularize agricultural techniques for vegetable growing (for example, https://fermilon.ru/), without specifying the source, contain information that large doses of betaine activate cellular respiration, which is disrupted in cancer. Under this assumption, if cellular respiration is restored, tumor growth will stop, and with systematic consumption of the juice, the tumor may even disappear. This information on such sites is provided without indicating a literary source. Scientific publications deny this explanation ("there is no simple mechanistic explanation for the role of betaine in the physiology of malignant neoplasms") [4]. At the same time, the relationship between betaine levels and malignant tumors, although not denied, does not state that betaine can be used to treat tumors [5].

Flavonoids found in large quantities in onions (quercetin, myricetin, and kaempferol) are known to have antiproliferative, cytotoxic, apoptosis-inducing, and antimigration activities, i.e., potential anticancer activity. Therefore, the activity of extracts from various onion varieties grown in Ontario (Canada) against human adenocarcinoma cells (Caco-2) in the experiment was similar to the above purified flavonoids. Two experimental studies have suggested that certain chemical compounds in onions may be effective anticancer treatments [6]. However, it is clear that the data from experimental studies does not mean that the same result can be obtained when using onions in the clinic.

Potato tops, a plant in the nightshade family (Solanaceae), contain solanine. Relatively recently, it was experimentally discovered that solanine isolated from black nightshade (Solanum) suppresses the development of cancer in laboratory conditions [7]. The antitumor properties of a number of other plants of the nightshade family (including potatoes), which also contain solanine, are known in folk medicine in various countries of the world [8].

Chaga mushroom is known in folk medicine as a symptomatic remedy for late stages of cancer. Currently, the chaga drug "Befungin" is produced in Russia, which is included in the clinical-pharmacological group "phytopreparation with a general strengthening effect" and is recommended for the symptomatic treatment of oncological diseases [9]. However, studies indicating the presence of antitumor properties in chaga are rare and little known to medical specialists [10].

Extracts of the common stinkhorn mushroom (Phallus impudicus) reduce the risk of thrombosis in patients with breast cancer by reducing platelet aggregation and, therefore, may be useful as an adjuvant preventive nutrition (but not treatment!) [11]. In addition, the use of an aqueous extract of the common stinkhorn in a preventive and therapeutic mode significantly increases survival and improves the general condition of mice subjected to a single general irradiation at a dose of 7 Gy. When the extract of the common stinkhorn was administered to mice carriers of Ehrlich adenocarcinoma, a tendency was revealed to slow down the rate of tumor growth and reduce its volume, and also showed the possibility of increasing the effectiveness of the antitumor alkylating drug cyclophosphamide [12].

Lesser periwinkle herb (Vinca minor) contains about 50 alkaloids, including vincamine, a semi-synthetic derivative of which (vinpocetine) is used for cerebrovascular disorders (but not oncology!) [13]. Another species of periwinkle, Vinca rosea L., contains two indolindoline alkaloids (vinblastine and vincristine), which affect cell division in metaphase and are currently a standard treatment for hematological malignancies. The fact that pink periwinkle (Vinca rosea L.) is botanically closely related to the lesser periwinkle has led to interest in studying the potential antitumor activity of this periwinkle species as well. [14, 15].

All above-ground parts of viburnum (including berry juice) are used in folk medicine for a wide variety of diseases, including cancer [16, 17]. A correlation has been found between the consumption of viburnum berries and a reduced risk of malignant tumors [18, 19]. The antiproliferative properties of *viburnum berries are associated with their chemical composition. It is known that components of these berries such as procyanidins, catechin, epicatechin, hydroxybenzoic acids, anthocyanins, quercetin derivatives, as well as chlorogenic acid and its derivatives strongly suppress the growth of cancer cells in experiments [20, 21].*

Propolis contains biologically active substances that, according to international studies, suppress proliferation, angiogenesis, tumor metastasis and stimulate apoptosis of cancer cells [22]. However, the practical significance of the obtained experimental data is not generally accepted. For example, MedlinePlus, a service of the US National Library of Medicine (NLM), the world's largest medical library and part of the National Institutes of Health (NIH), provides information that propolis can only be used for diabetes, herpes labialis and oral mucositis. The use of propolis for the treatment of other diseases (in particular, for the treatment of cancer) has not been proven [23-26].

Amanita mushrooms, according to some literature sources, can be used in the treatment of cancer. In particular, in one study, patients with chronic lymphoid leukemia were successfully treated with a homeopathic preparation of death cap fungus (Amanita phalloides) [27]. However, due to the lack of evidence of the effectiveness of homeopathic medicines themselves, according to the criteria of evidence-based medicine, the objectivity of the above study seems doubtful [28].

Thus, an analysis of the available scientific literature shows that today there is no evidence base for the treatment of cancer with various biological products (plant preparations, propolis, homeopathic drugs). The available experimental and phytochemical data are insufficient for this. The lack of controlled studies does not allow us to consider the above remedies effective in treating cancer.

Conclusions.

When answering the question about the treatment of oncological diseases with traditional medicine, it was found that more than half (64%) of the surveyed medical university students are more or less inclined to trust such products. That is, these students are not inclined to be guided by the principles of evidence-based medicine when choosing treatment, since they trust remedies with unproven effectiveness. This may be explained by the fact that the majority of those surveyed (82%) were junior (1-3) year students who had not yet studied sufficient degree of clinical disciplines. In this particular case, the efforts of pharmacology and oncology professors are of particular importance for the formation of professional thinking among medical university students.

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INVESTIGATION OF THE PREVALENCE AND SEASONAL DISTRIBUTION OF ADENOVIRUS AND ROTAVIRUS IN CHILDREN WITH GASTROENTERITIS AT THE INSTITUTE OF PEDIATRICS, BAKU

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Scientific Research Institute of Pediatrics named after K. Farajova

Abstract

Background. *Acute gastroenteritis is the most common cause of mortality and morbidity in the pediatric population in developed and developing countries. Early identification of viral gastroenteritis is important because it causes hospitalization and unnecessary antibiotic use in children. Rotavirus and adenovirus are the most common causes of viral gastroenteritis in children. The aim of this study is to investigate the prevalence and seasonal distribution of rotavirus and adenovirus in stool samples taken from pediatric patients with gastroenteritis symptoms.*

Materials and methods. *In this study, the test results of stool samples sent to the Medical Microbiology Laboratory of the Scientific Research Institute of Pediatrics named after K.Farajova, Baku, between January 2022 and February 2024, to investigate rotavirus and adenovirus antigens from children diagnosed with gastroenteritis were evaluated. Rotavirus and adenovirus antigens were investigated in stool samples using the Rota-Adeno Card Test kit, which includes the immunochromatographic method.*

Results. *In the study, rotavirus was detected in 96 (17.4%) of 549 stool samples and adenovirus was detected in 38 (6.9%) and 18 of the patients (3.2%) had rotavirus-adenovirus co-infection. While the detected rotavirus antigen positivity rate was high in all age groups, the highest rate was seen in children in the 0-3 age group with 60.4%. According to the seasonal distribution of rotavirus and adenovirus infection, it was determined that the majority of rotavirus gastroenteritis cases (42.7%) were in the winter season and adenovirus infections (39.4%) were high in the spring season; It was observed that rotavirus and adenovirus negative cases mostly applied to the emergency department during the summer months.*

Conclusion*. Rapid antigen tests performed to reveal the viral etiology in gastroenteritis are tests that contribute to reducing unnecessary antibiotic use with appropriate treatment. Since 29.1% of the patients in the group detected rotavirus antigen positivity in our study were over the age of five, it was concluded that it is important to consider the possibility of rotavirus gastroenteritis in children older than five years of age.*

Keywords: *Gastroenteritis, Rotavirus, Adenovirus, Child*

Introduction

Among the viral agents of gastroenteritis, rotavirus and adenovirus are the most common causes of childhood gastroenteritis in developed and developing countries. Gastroenteritis spreads very quickly among children. Symptoms usually begin within 24-48 hours and can range from mild watery diarrhea followed by fever and vomiting to severe dehydration and shock (1,2).

Rotavirus and adenovirus are the most common factors associated with hospitalization for diarrhea, especially in infants and young children. Both rotaviruses and adenoviruses are transmitted primarily through fecal-oral transmission and cause impaired nutrient absorption once established in the small intestine. The clinical spectrum of acute rotavirus gastroenteritis ranges from self-limiting watery diarrhea accompanied by nausea, anorexia and mild vomiting or fever, to severe dehydration resulting in hospitalization and even death. Adenoviruses are also major pathogens that cause gastroenteritis, which can be transmitted year-round (4,5).

Although rotavirus infects children, it can also cause mild illness in adults. Since children can be infected with rotavirus several times throughout their lives, and 95% have a rotavirus infection by the age of five, the lower rate of rotavirus gastroenteritis in adults appears to be due to the presence of antibodies to the virus. In addition, the presence of maternal antibodies in newborns younger than 3 months causes a decrease in the severity of the disease in the first month of life. The prevalence of rotavirus gastroenteritis also varies in different seasons and months and is mostly seen in winter months (6). Adenoviruses are non-enveloped, ds DNA viruses with 52 recognized serotypes and mostly infect children up to 2 years of age. Rotavirus and adenovirus cause similar symptoms, but adenovirus-related *gastroenteritis is less accompanied by vomiting and dehydration than rotavirus. Enteric adenovirus serotypes 40 and 41 are associated with gastroenteritis in pediatrics. Studies on the prevalence of gastroenteritis have shown that the frequency of enteric adenovirus infection in developing countries is approximately 3 times higher than in developed countries (3). For doctors, early diagnosis of these infections can impact the care management of patients, thus preventing unnecessary antibiotic use and unnecessary hospitalization accompanied by the risk of nosocomial spread of rotavirus.*

Materials and Methods

Between January 1, 2022 and February 1, 2024, a total of 549 stool samples from children aged between 0 and 12 years were sent to the Medical Microbiology laboratory of the Scientific Research Institute of Pediatrics named after K.Farajova. Samples were evaluated for rotavirus/adenovirus antigen positivity. Rotavirus and adenovirus antigens were studied with the Rotavirus-Adenovirus Combo Rapid Cassette Test (Acro Biotech) kit. The demographic characteristics of the patients, their main complaints at the time of admission, associated symptoms and clinical findings such as abdominal pain, lethargy, fever, vomiting and diarrhea were recorded by the physician from the patient files (Table 1).

Table 1.

Age group distribution of patients

Age Group	Boy	Girl	Total
0-3	294	177	471
4-8	49	17	66
9-12	8	4	12
Total	351	198	549

Approximately 50 mg of fecal sample was mixed with 1 mL of sample extraction reagent. The well plate consists of three main parts: (I) a control line; (II) a rotavirus test line; and (III) an adenovirus test line. Two drops (approximately 80-100µL) of the sample mixture were added to the sample well plate. Evaluated after 5-10 minutes of incubation. The sample whose control line and rotavirus test line turned red was determined to be rotavirus positive, and the sample whose control line and adenovirus test line turned red was determined to be adenovirus positive.

Results

Of the 549 stool samples evaluated, 96 (17.4%) were tested positive for rotavirus and 38 (6.9%) were positive for adenovirus. Rotavirus-adenovirus co-infection was detected in 18 (3.2%) of the samples (Figure 1). Most patients in the adenovirus and co-infected groups had high-grade fever compared to the rotavirus group.

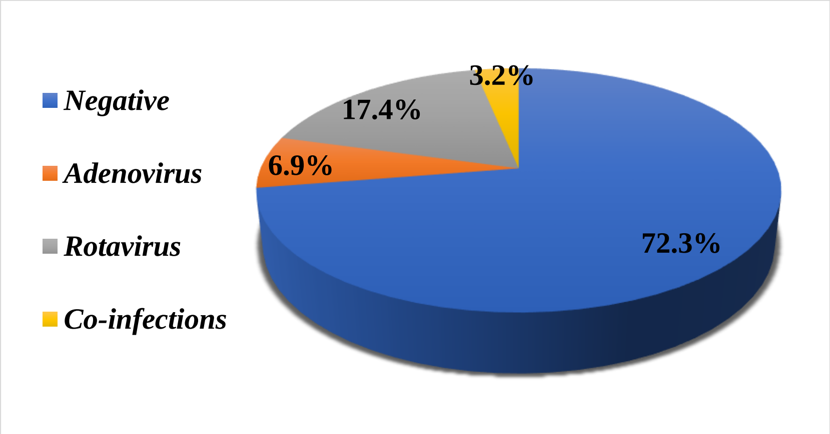

Figure 1. Frequency of viral infections in children

Of 351 boys admitted due to gastroenteritis, 59 (16.8%) were rotavirus positive and 37 (10.5%) were adenovirus positive. All infection categories were higher in male patients than in females. At the same time, the coinfection rate in male patients was twice as high as in females. In other words, 12 of the 18 positive co-infected cases were boys (Figure 2.)

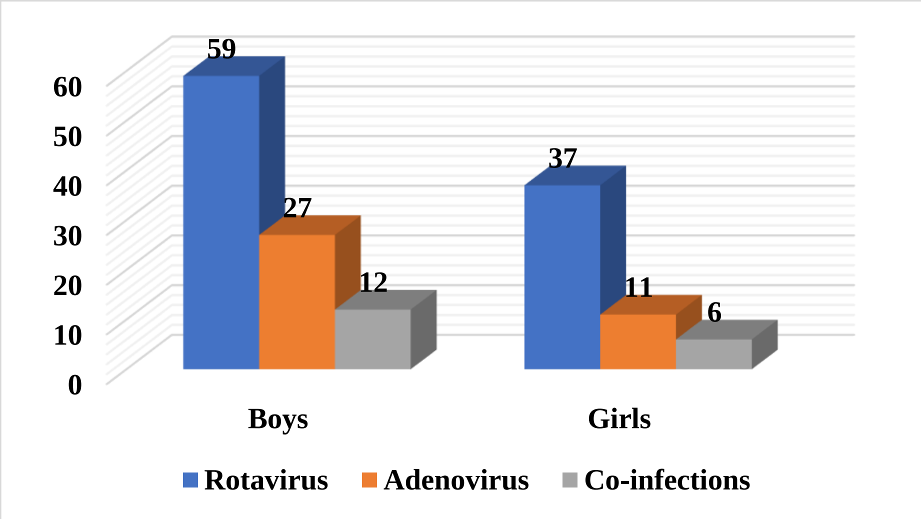

Figure 3. Gender distribution of viral infections

The age group with the highest antigen positivity for rotavirus and adenovirus was determined as 0-3 (19.1%). When the relationship between the antigen positivity of rotavirus and adenovirus and the seasons was examined, it was determined that the incidence of rotavirus infections was high in the winter months and adenovirus infections were high in the spring months (Figure 4 and 5).

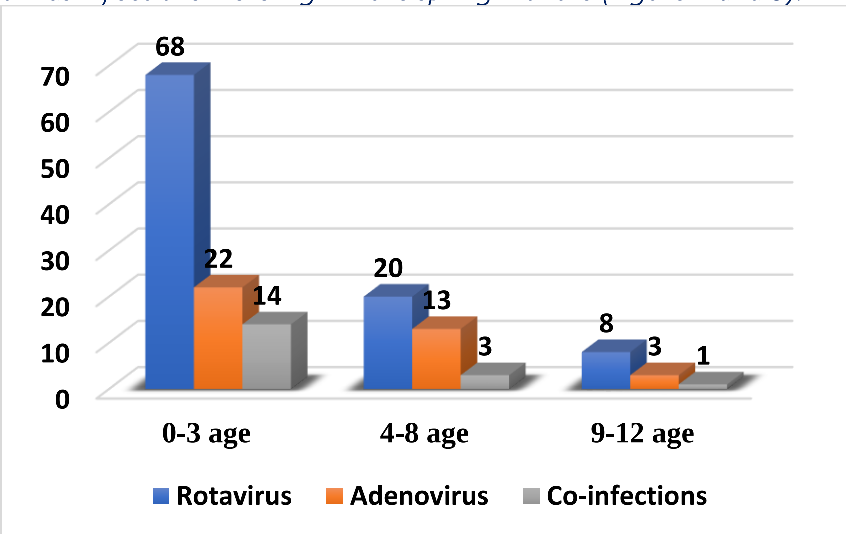

Figure 4. Distribution of viral gastroenteritis according to patient age

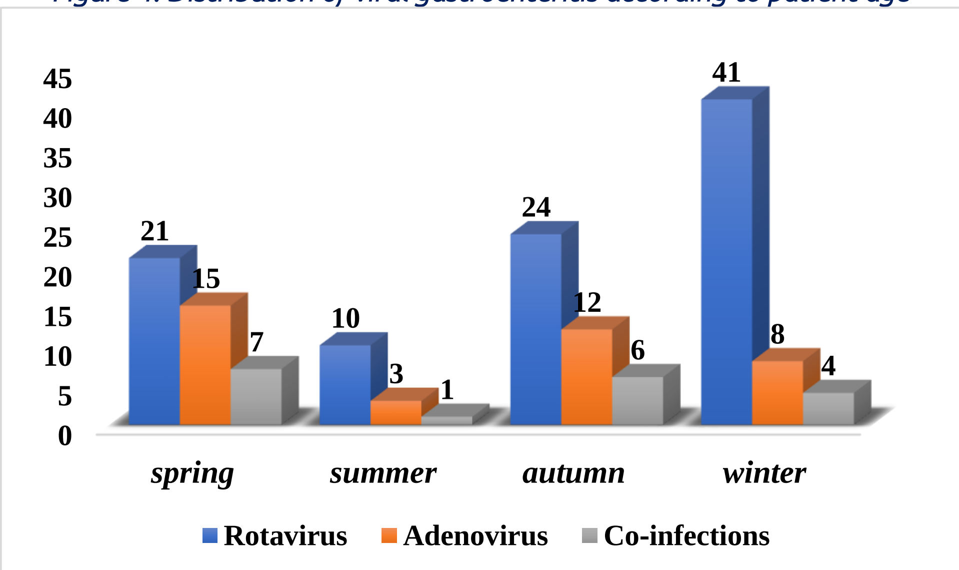

Figure 5. Seasonality of adenovirus and rotavirus infections

Discussion

Rotavirus and adenovirus are important causes of viral diarrhea worldwide and have caused epidemics and deaths in children each year (6). Gastroenteritis factors vary depending on the geographical region, season and age of the patient. In the literature, the main cause of viral gastroenteritis is rotaviruses, and the second most common cause is adenoviruses (7). Neglecting the application of virus detection tests in clinical laboratories causes detection procedures to take longer and antibiotic treatment to be unnecessary in most cases. (8). From this perspective, it seems necessary to perform viral screening for rotavirus and adenovirus, especially in children under 5 years of age.

Various methods can always be used in the diagnosis of viral gastroenteritis. Studies have found that horizontal flow immunochromatographic card tests based on antigen-antibody reaction are frequently used. These tests are preferred because they are easy to apply without requiring equipped personnel and laboratory equipment, their results are easy to interpret, their storage conditions are not difficult, they provide rapid results and their costs are low. On the other hand, "enzyme-linked immunosorbent assay (ELISA)" or molecular methods (as a single target or syndromic panel) can also be used in diagnosis. Molecular methods, which provide great advantages in terms of sensitivity and specificity, stand out because they can be used especially in subtype determination (9). During the two years covered by this study, an immunochromatographic kit of the same brand was used in our laboratory and patient results were provided quickly, 24/7.

Rotavirus and adenovirus are considered common etiologies of acute diarrhea (10). Among viral agents worldwide, rotavirus is the most common cause of severe diarrhea in young children and is responsible for 30-72% of hospitalizations (11,12). When we look at the studies conducted in some countries, the rotavirus positivity rate is 17-69% in the USA, 16% in Germany, 20-28% in India, and 20% in Pakistan (7). Among the studies conducted in Turkey, Kılıçaslan et al. determined the rotavirus positivity rate as 16.8% and the adenovirus positivity rate as 3.2% (13). In a study conducted in Elazıg in 2015-17, gastroenteritis associated with rotavirus and adenovirus was found to be 9.5% and 2.6%, respectively (14). In our study, the prevalence of rotavirus and adenovirus infection in all children diagnosed with gastroenteritis was 17.4% and 6.9%, respectively. As noted in almost all studies, rotavirus is always more common than adenovirus.

Although the frequency of rotavirus cases varies depending on geographical location, most cases occur in the spring months in temperate climate conditions (15). In our study, rotavirus infection was most common in winter with 42.7%, and adenovirus infection was most common in spring with 39.4%. Both viruses were seen least frequently in the summer. These results are consistent with data from other countries where adenovirus and rotavirus gastroenteritis are more common in children under 5 years of age and the distribution may vary by geographic region.

Studies conducted in developed and developing countries have shown that rotavirus and adenovirus infections were less in 2020 compared to other years. In 2020, nurseries and schools suspended their education and training activities for a long time due to the Covid-19 pandemic. This has significantly reduced both the number of hospital applications and positivity, probably because it restricts the transmission environment. Due to the pandemic in our city, hygiene rules such as hand washing have become more important in society, which may have contributed to the decrease in cases.

Conclusions

Viral pathogens play an important role in childhood viral gastroenteritis. In conclusion, our results showed that rotavirus infection (17.4%) was much more common than adenovirus infection (6.9%) in children at the Pediatric Institute, with the majority of patients contracting both viruses between the ages of 0 and 3 years. This situation should not be ignored. Correct diagnosis and treatment by knowing the factors of gastroenteritis in children under 5 years of age and especially under 2 years of age will help patients recover quickly and prevent unnecessary costs. There is a great need for the application of molecular diagnostic tools to identify a broader spectrum of viral etiology and monitor the changing etiology of acute enteritis in the Azerbaijani population.

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Pedagogical sciences

THE INFLUENCE OF BIORHYTHMS AND TEMPERAMENT OF FIRST-YEAR STUDENT ON LEARNING IN CONDITIONS OF MARTIAL LAW

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ВПЛИВ БІОРИТМІВ ТА ТЕМПЕРАМЕНТУ СТУДЕНТІВ ПЕРШОГО КУРСУ НА НАВЧАННЯ В УМОВАХ ВОЄННОГО СТАНУ

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Актуальність. *Спостереження і дослідження вчених доводять, що самопочуття людини, її здатність до розумової , творчої і фізичної праці, гармонійного сприйняття світу багато в чому залежать від режиму праці і відпочинку, який відповідає генетичним біоритмам та темпераменту людини [1, 2].*

Тому важливим завданням сьогодні є розробка принципів діагностики та корекції граничних станів, з урахуванням особливостей особистості підлітків, а також ефективним навчанням принципам здорового способу життя, особливо в умовах воєнного стану в Україні[3].

Метою *нашого дослідження було вивчення біоритмів та темпераменту студентів-першокурсників у яких вивчались особливості психофізіологічних показників функціонального стану організму та визначались їх біоритми і темперамент для визначення типу їх працездатності у досягненні успіху навчання.*

Завдання дослідження:

1. Визначити біоритми студентів першого курсу ВНМУ для встановлення їх працездатності;

2. Встановити природно-генетичний тип темпераменту студентів, який відповідає їх біоритмам;

3. На основі отриманих результатів, розробити практичні рекомендації для кращого пристосування студентів до навчання в умовах воєнного стану, враховуючи стресову ситуацію в Україні.

Методи та моделі дослідження: *спостереження , тестовий, статистичний*

Для дослідження біоритмів ми використовували методику Остберга та оцінки властивостей темпераменту Айзенка, що спеціально розроблена та апробована на різних групах студентів ВУЗів [4]. В процесі дослідження було проведене анонімне анкетування 60 студентів першого курсу фармацевтичного факультету ВНМУ. Анкета складалась з 90 тверджень, що ґрунтуються на висловлюваннях про людину, її стилі життя: переживаннях, думках, звичках, поведінці та способі життя.

Результати дослідження:

Відповідно до міжнародної класифікації біоритмологічних типів шведського вченого Остберга, всі люди належать до однієї із трьох груп:

ранкової - „жайворонки", які рано встають, найбільш активні вранці; вечірньої - „сови", що пізно лягають спати, найбільш активні у другій половині дня чи ввечері і вночі; проміжної - „голуби", які однаково активні в різний час доби [5].

За результатами анкетування студентів ми встановили, що серед студентів переважає ранковий тип працездатності і складає – 41%, а вечірній – 33%. Аритміки з проміжним типом працездатності склали лише – 26%.

Нами було доведено, що успіхів у навчанні досягають ті студенти , які враховують свої біоритми у роботі та дотримуються відповідного режиму праці і відпочинку. Вони і виявили вищий рівень атестації, не зважаючи на здібності до навчання. Режим праці і відпочинку повинні відповідати хронотипу.

Ми встановили особливості емоційного стану і характеру підлітків та виявили підвищений ступінь їх самооцінки тривожності, рівня суб'єктивного контролю, емоційного вигорання у зв'язку із стресовою ситуацією , яка склалася в Україні в умовах воєнного стану.

Корелятивні зв'язки між біоритмами та успішністю показали:

- *"Успішність 3" - переважають студенти з біоритмами "Сови", що доводить неефективність роботи у нічний час та зниження працездатності організму*
- *"Успішність 4" - переважають студенти з біоритмами "Голуби", що вказує на здатність адаптуватись до умов, що змінюються і зберегти працездатність;*
- *"Успішність 5" - переважають студенти з біоритмами "Жайворонки", що підтверджує правильний розподіл навчального навантаження у першій половині дня у період найбільшої фізіологічної та розумової активності організму.*

Студенти першого курсу характеризуються більшою активністю, емоційною нестабільністю, вразливістю характеру, збудливістю, енергійністю з типом темпераменту – холерики 41%. Меншу частку складають студенти більш врівноважені, стримані, розсудливі та стабільні в своїх емоціях з типом темпераменту – сангвініки 23%. Значну частку складають студенти невпевнені у собі, вразливі, емоційно нестійкі з типом темпераменту – меланхолік 28%, що очевидно можна пояснити стресовою ситуацією воєнного стану в Україні. Зустрічаються студенти з низьким емоційним станом, байдужі до навчання, які важко контактують з оточуючим середовищем з типом темпераменту – флегматики 8%.

Певному типу темпераменту відповідає свій біоритм, який характеризує емоційний стан студента [6]. Наші дослідження показали корелятивні зв'язки між біоритмами та темпераментом студентів:

«Жайворонки» - були енергійними молодими людьми, з типом темпераменту – холерик. Найбільша працездатність, активність у них відмічається в першій половині дня. У них невдачі легко викликають сумнів у своїх силах, з'являється тривога і хвилювання, стрімко погіршується настрій.

«Сови» - теж мають високу активність, але на відміну від ранкових типів, легко забувають усі невдачі і емоційні проблеми, менше хвилюються і дуже чітко вловлюють характер і особливості поведінки своїх коллег – це тип темпераменту – меланхолік.

«Голуби» з типом темпераменту – сангвінік та флегматик, займали проміжне положення між цими двома групами студентів, але все таки були найближче до осіб ранкового типу.

Студенти саме цієї групи прагнули запобігати різним конфліктам, неприємним розмовам і емоційним проблемам, хвилюванням, що дуже важливо у стресових ситуаціях.

Висновки:

1. Біологічний годинник, запущений зміною дня і ночі, веде за собою близько 50 ритмів, які змінюють свої характеристики від дня до ночі. При порушеннях природного ритму зовнішніх умов виникає десинхронізація добових ритмів різних фізіологічних функцій, що надалі призводить до стресового стану і зниження імунітету, що веде до захворюваності.

2. Довготривала робота в нічний час супроводжується перебудовою добових ритмів і виявляється важкою для багатьох людей не стільки через зниження працездатності вночі, скільки через порушення режиму життя.

3. Різниці в ритмі працездатності, які характеризують представників ранкових і вечірніх груп, зумовлюються певними особливостями гормональної і психічної сфер організму, які, можливо закладені у генетичній програмі, або формуються протягом життя.

4. Для досягнення успіху навчання та збереження емоційного та фізичного стану здоров'я, особливо у стресових ситуаціях воєнного стану, необхідно дотримуватись режиму праці та відпочинку, що є основою здорового способу життя.

Перспективи дослідження:

Біоритмологія дозволяє не лише визначати, а й прогнозувати, передбачати той стан організму, який характеризується як стан на межі хвороби [7].

Подібний стан «на межі» і визначає межу витривалості і адаптації організму до умов життя, особливо тепер, коли ми повинні пережити стрес війни та зберегти своє здоров'я.

Ці запитання, ще чекають на розв'язання. Вони важливі, оскільки від них залежить організація праці і відпочинку людей.

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THE INTRODUCTION OF ELEMENTS OF DUAL TRAINING IN THE PROCESS OF BIOLOGICAL EDUCATION IN VOCATIONAL EDUCATION ORGANIZATIONS

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Abstract
The article proves the prospects of dual training for the Kazakh system of secondary vocational education, describes the stages of introducing elements of dual training into the educational process of the biology teaching.

Keywords: public-private partnership, dual training, vocational education, working profession, curriculum, educational standard

Introduction

The idea of dual education came to us from Germany. It is there that the dual system is the most widespread and popular trajectory of vocational education among young people. Almost half a century of experience in applying this model of training workers in Germany, as well as the experience of adapting it to the conditions of a number of other countries, allow us to identify theoretical, methodological and organizational practical grounds that ensure the possibility of their use in Kazakhstan vocational education.

Among the advantages of the dual system, we highlight the main ones: • the professional skills acquired by students in the process of dual training increase the flexibility and mobility of employees, reduce their social maladaptation[1];

• acquisition of professional skills allows graduates to move up the career ladder more successfully;

• a decent scholarship from the company affects the improvement of the quality of life of students.

However, we are not faced with the task of completely reproducing the German system of vocational education. Today, more it is advisable to introduce its individual elements and adapt the system to Kazakh realities[2].

The project of implementing a dual system in a single college. In 2014, our country developed a project to introduce elements of dual training into the educational process "Time to work together!".

The need to develop a project that allows for a more effective reorientation to market relations was dictated by life itself: due to the accelerating pace of development of the regional economy, employers are experiencing a shortage of qualified personnel. At the same time, the training of a specialist in demand by the market.[3]

It can take from 3 to 5 years, including years of study in a professional educational organization and additional corporate training at the enterprise, while actively spending the economic resources of the state and business at the same time. However , employers already need qualified personnel who fully meet their needs. The aim of the project to introduce elements of dual training is to improve the training model of working personnel, taking into account the real needs of the regional labor market in qualified personnel and increasing the competitiveness of the college in the educational services market[4]. Within the framework of the stated goal, the project provides for the solution of the following tasks:

1) to develop and modernize, together with employers, educational programs that would fully meet the requirements of the Federal State Educational Standard and the needs of employers;

2) to develop and improve the principles and mechanisms of networking and cooperation with social partners;

3) to implement practical training of students based on the principles of dual education[5];

4) to develop a mechanism for co—financing vocational training -distributing the costs of vocational training proportionally between the state and business;

5) to satisfy the demands of the Kazakhstan region's labor market for qualified personnel

Let's move on to the analysis of the concept of "dual training". From the point of view of G. A. Yarkov, dual training is a form of personnel training, which provides for a combination of training in a professional educational organization with a period of practical industrial activity on the basis of an *enterprise. Dual training is understood as a system of methods, forms, techniques, pedagogical techniques in the context of vocational training based on the interaction of an enterprise and a professional educational organization [6].*

Research methods

Figure 1 :Biology lessons with Stem technology for dial education

Implementation of the elements of dual training as part of the network interaction of professional educational organizations and enterprises, it will allow:

– to train qualified workers taking into account the requests of their direct employers;

– to train workers with flexible qualifications, mobile, able to work in various fields of production;

– to put into practice the dual principle of learning, to integrate theory and practice, to develop students' technical thinking, to introduce case-oriented learning;

– to carry out professional training in real life conditions, at an educational workplace;

– future workers should develop communication skills, adapt to the company's team, and learn about corporate culture;

– to organize close mutually beneficial cooperation between a professional educational organization and an enterprise within the framework of the development of a new training profile, employers participate in the assessment of the quality of education;

– students to practice on the latest technological equipment;

– professional educational organizations receive additional funding from the interested enterprise

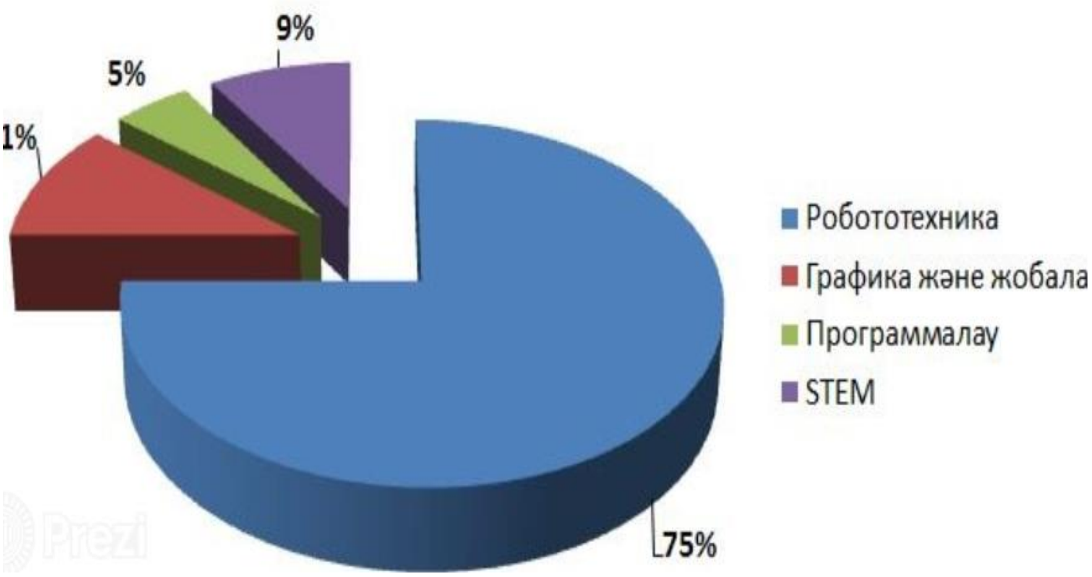

Figure 2: Key elements of biology themes in using dual education system

Conclusion

The introduction of elements of a dual training system eliminates the main drawback of traditional forms and methods of education — the gap between theory and practice.

The dual system creates a high motivation of students to acquire knowledge and skills at work, while at the same time being a tool for popularizing working professions.

For enterprises, dual education is an opportunity to train specialists who meet corporate standards as much as possible, without requiring retraining and adaptation at the initial stage of professional activity

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FEATURES OF USING ONLINE RESOURCES WHILE TEACHING ENGLISH IN HIGH SCHOOL

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Abstract

The article considers the importance and necessity of using online resources in foreign language education.This article provides detailed information about online language teaching, the effectiveness of using online resources. The article is devoted to the study of the use of online resources in the development of foreign language communicative competence of students. The purpose of this article is to present the effectiveness of using online resources in the development of students' ability to learn foreign languages.

Keywords: *multimedia technologies, information competence, online resources, instant feedback, communicative task, pair work, grammatical construction, information.*

1. Introduction.

Online resources use in education increases educators' training and professional development needs. According to Kunanbayeva S., the aim of using online technologies is to provide - the quality of - future foreign language teachers' professional competence, ready and capable to effectively - realize in the pedagogical activity. The main goal of teaching a foreign language (foreign-language communication) – the formation of intercultural and communicative competence of the personality of intercultural communication based on the new conception of Foreign Education in terms of IT. Teachers facilitate the learners using teaching and learning media. The strategy determines the successful process. If a teacher does not use any media tools, there will be no interesting teaching and learning process. Students require something new in their process of learning, especially when they are at school.

As online technologies evolve and advance over time, the use of technology in classrooms has expanded in foreign language teaching. Use of information technology in the classroom is an extremely important and powerful resource for teaching and learning foreign languages [5] . There is a wide spread belief that online technologies can contribute greatly to the quality of teaching and learning experience. Technology is a facilitating tool of education which teachers and students benefit. To my point of view, language teachers need to learn how to take advantage of the technology and how to integrate it into their teaching skills. Computers, smart phones, tablets etc. supply powerful opportunities to learn a foreign language. As the use of smart phone, computers, etc. is increasingly common among students; teachers need to equip themselves with today's technology. Smart boards can be instrumental in engaging and motivating students in the class.

2. Advantages of using online resources in foreign language education.

The goal of using information technology in a foreign language classroom is to boost students' enthusiasm in learning the language. Nowadays, stereotyped traditional teaching methods and environments are unpopular, whereas multimedia technology with audio, visual animation effects naturally and humanely increases our access to information. Furthermore, multimedia technology offers a sense of reality and functions very well, which greatly cultivates students' interest and motivation in the study, as well as their collaborative class act, with such characteristics as abundant-information and crossing time and space[9].

Students' ability to comprehend definite language, as well as their understanding of the structure, meaning, and purpose of the language, has been hampered by traditional instruction, which makes students passive absorbers of knowledge. So it is difficult to achieve the target of communication. Multimedia technology seeks to connect teaching and learning by directing students' cognitive processes and emotions through teacher instructions. Students will be more motivated as a result.The Power Point Presentation courseware activates students'thinking; the visual and vivid courseware rand help them to transform English learning into capacity cultivation. And such in-class activities as group discussion, *subject discussion, and debates can also offermore opportunities for communication among students and between teachers and students.*

Multimedia teaching creates a context for language teaching. This method makes the class lively and interesting, as well as optimizes the organization of the class. Multimedia has its features such a s visibility and liveliness. Sounds and graphics can be combined during the multimedia English education process, which encourages both teachers and students to take initiative. Teachers can use photographs and graphics to augment the content of lessons when utilizing multimedia software, and they can also envisage new scenarios when creating teaching courseware. Students in the class can use multimedia to better grasp what is being taught. Using multimedia in ELT is useful in growing students' enthusiasm in learning English, as well as boosting teachers' interest in English teaching, as evidenced by the entire interactive process.

One of the multimedia elements capable of bringing a human fantasy to life is animation. The term "animation" comes from the Latin word "animare," which means "to switch on" or "to bring to life," and refers to the process of giving a static item a lifelike appearance. Animation, contrary to popular assumption, is not exclusively concerned with amusement, travel, and business, but also plays an important part in education. In the world of education, animation plays a significant role as the interest grabber of the students to learn and can help teachers to motivate students towards more enjoyable learning. This reduces the discussion of a subject or a skill demonstration so that students can understand and remember it. Furthermore, digital animations motivate and excite students' thinking, hence reducing cognitive load throughout the learning process[8].

Apps are the abbreviation for "application software," which can be downloaded from "app stores" such as the App Store, Google Play, Windows Phone Store, and BlackBerry App World. A mobile app is a piece of software designed to run on iPhones, iPads, and other mobile devices. Some programs are free to download, while others need payment. Gaming, entertainment, and education are some of the categories of mobile apps.Apps for children have the potential to educate them. There are many educational applications available in the app store, and selecting the correct one for your child might affect the way they view the learning process.

Students of all ages can be motivated by comic books with colorful visuals, compelling tales, and realistic and fascinating characters. It has the potential to entice the reader to continue reading the story. If the viewer is inspired to read the entire story, the comic's implied goal (entertainment or education) can be easily achieved. For readers, particularly children, a colorful comic can be a fascinating experience. Comic strips offer a lot of potential in terms of assisting teachers in accomplishing learning objectives. Attractive graphical visualization, short dialogues, basic and easy to grasp make comics appealing to people of all ages. When readers are drawn to a comic's art and character, they want to learn more about the story's contents. This is what a teacher is expected to do for students to be interested in what is being taught in the classroom. Comic strips are a suitable and successful teaching medium because they allow teachers to present the material.

An online game is a video game that is played partially or entirely through the Internet or any other available computer network. Online games can help students become more motivated, communicate more effectively, and collaborate more effectively. Online games can be designed in a variety of ways, from simple text-based environments to intricate graphics and virtual worlds[6].

***Digital game-based learning (DGBL)** is a teaching method that involves incorporating educational content or learning principles into video games to engage students. Digital game-based learning includes activities ranging from simple task completion to the development of complex problem-solving abilities.*

***Digital storytelling** is a type of digital media creation that allows people from all walks of life to contribute parts of their stories. Individuals can use any of the non-physical media (material that exists only as electronic files as opposed to actual paintings or photographs on paper, sounds stored on tape or disc, movies stored on film) to tell a story or present an idea, including the digital equivalent of film techniques (full-motion video with sound), or any of the other forms of non-physical media (material that exists only as electronic files as opposed to actual paintings or photographs on paper, sounds stored on tape or disc, movies stored on film[10].*

In today's culture, informatization is viewed as a goal-oriented social process defined by a growth in the impact of intellectual activity on all elements of society. At this stage in the information society's evolution, it is necessary to discuss the impact of TBL on changing information presentation and perception; the emergence of new types of communication; a new understanding of literacy, individual key competencies; and the widespread use of information technology. In Kazakhstan, the adoption of *information and communication technology into the educational system is viewed as one of the most important directions in the growth of the education system.*

Computers and telecommunications are at the heart of information technology. According to S.S Kunanbayeva, the use of technology allows teachers to increase the effectiveness of the educational process, the quality of students' learning, and to assist teachers in bringing the effect of additional visibility into the classroom, allowing students to learn content more rapidly and in greater quantities. [1, p.12].

In many aspects, the information educational environment surpasses the traditional system of foreign language classes, which have grown known to teachers and have lost significance for pupils, in the context of the State Standard and secondary school program. The benefits of using TBL in the context of learning a foreign language to build an information educational environment in profile schools are highlighted in the following sections:

- through the use of online technologies, teachers always have access to the most up-to-date materials and information in the field of foreign language teaching methods; - the educational process has an expanded range of tools and forms of education, which largely correspond to the socio-cultural environment of modern school students and has a positive effect on the level of motivational interest of all participants in the educational process; As a result, methods of teaching a foreign language are constantly being refined, pedagogical experience is accumulated and implemented at the local and regional school levels, and pedagogical technologies are exchanged.

- open such innovative forms of work with educational material as students' participation in virtual discussions and conferences, their presence at broadcasts of children's foreign language and literature competitions, their participation in educational games online, as well as homework and its demonstration using the gadgets they are familiar with (tablet computers, phones, laptops) [7].

3. Ways of improving students' information literacy.

Modern society is characterized by a high level of informatization, and it is necessary to have a sufficient level of informative competence and formed information skills that will allow students to effectively adapt to the constant flow of information and changing living conditions and situations, the ability to independently search for new knowledge, and use the information obtained for successful adaptation, conducting productive life, and obtaining adequate information.

Information competence entails expertise in the realm of online resources as well as their efficient use in the process of foreign language instruction, with a focus on the utilization of information resources. Students' information literacy, on the other hand, is the foundation, the first stage in the development of information-gathering competence, and it consists of a set of knowledge, skills, and behavioral characteristics that enable students to effectively find, evaluate, and use information in a variety of activities and relationships. Information culture and informational competence are regarded as important parts of general human culture in modern information situations [3].

There is a parallel development of the student's personality and the formation of his or her information competence in the educational process, which is defined as "integrative quality of personality, including knowledge, skills, information activities, and value attitude toward it," and an adequate level of formation of informative competence provides the individual with "information literacy" as an "intellectual structure for understanding, searching, and evaluating information[8].

"When senior secondary school students use the Internet to find information, they face several challenges, including the need to choose the appropriate search tool, the ability to competently construct a query using the correct keywords, and the ability to work with electronic texts, which includes determining the importance of information quickly, selecting it, analyzing it, and creating secondary texts. As a result, it is more necessary to educate students how to orient themselves in the flow of foreign language information, and to develop the ability of effective information usage in practice, rather than to provide them as much knowledge as possible in a short period.

Learning how to pick information, according to Bim I.L, should be part of the broader purpose of learning a foreign language—a cultural and educational function that encourages the development of the future specialist's education and culture as a professional [2, p.79].

International cooperation occurs in a variety of professional fields as a result of globalization, informatization, and internationalization in business, as well as the integration processes taking place in society, L. D. Raitskaya believes that forming and developing foreign language informative competences are a basic condition of professionalism and a successful career [11, p.34].

Since "communication with the outside world is a condition for obtaining information," the secondary school's task includes not only the development of foreign language communicative *competence and not just the formation of informative competence, but also the formation of foreign language-information-accumulating competence. [4,p. 86].*

4. Methodology

Participants

The population of this study included 7th grade students of school-lyceum. 30 students filled in the questionnaire.

Instruments

A questionnaire was developed to collect the relevant data. The main purpose of the questionnaire was to define the studens' ability in using online tools during the educational process. The questionnaire included two main themes relevant to the application of online resources in foreign language education. The questions are formulated from easier to difficult .To motivate students' interest in learning, questions included all areas of online resources development. In some questions students had to think creatively and search for other information sources.The questionnaire used a five-point scale extending from 5 (very high pr strongly agree) to 1 (very low or strongly disagree).The verbal explanation was used to show the results of questionnaire.

5. Data collection

All students answered online and we collected the answers with the help of survey.Survey was sent to different students; chat groups and they shared each other the link to the survey.

6. Results and discussion

The study results will be organized and discussed in accordance with the research questions.To answer question number 1"Do you use online resources in learning foreign languages?" Results indicated that students had high perceptions of their technology integration competencies.For the question number 2 ''How often do you use online-resources ?'' students answered a that they use it all the time. because right now they are they are having online lessons. Also, for the question number 9 "What is the importance of students' information literacy? "Most of them answered in this way: Online learning is important for today's learners, it promotes problem-solving approaches and thinking skills-asking questions and seeking answers, making decisions, forming opinions and evaluating sources. Most students' answers to the question: What should be part of the broader purpose of learning a foreign language? were the same such as traveling abroad, communication with native speakers, reading foreign literature or scientific and technical works.

7. Conclusion. For many people, information technology has become a vital part of their daily lives. In education,TBL has the potential to improve people's lives by improving teaching and learning.

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Philological sciences

COMMUNICATIVE APPROACH AND INTERNET IN TEACHING GRAMMAR MATERIALS

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Abstract

Since the 1990s, the communicative approach has been widely implemented. Because it describes a set of very general principles grounded in the notion of communicative competence as the goal of second and foreign language teaching, and a communicative syllabus and methodology as the way of achieving this goal, communicative language teaching has continued to evolve as our understanding of the processes of second language learning has developed. Current Communicative language teaching theory and practice thus draws on many different educational paradigms and traditions. And since it draws on several diverse sources, there is no single or agreed-upon set of practices that characterize current CLT. Rather, Communicative language teaching today refers to a set of generally agreed-upon principles that can be applied in different ways, depending on the teaching context, the age of the learners, their level, their learning goals, and so on. The history of Communicative Language Teaching or Communicative approach is not so long as other teaching methods. It has been developed in the 20th century in Europe. Communicative Language Teaching (CLT) was the product of educators and linguists who had grown dissatisfied with the earlier Grammar-translation and audio-lingual methods, where students were not learning enough realistic.

Keywords: communicative approach, Communicative Language Teaching, communicative competence, fluency, Jigsaw activities, task-completion activities, opinion-sharing activities, information-gathering activities, opinion-sharing activities

Introduction *We can list five basic characteristics of CLT as an emphasis on learning to communicate through interaction in the target language, the introduction of authentic texts into the learning situation, the provision of opportunities for learners to focus not only on the language but also on the learning process itself, an enhancement o the learner's own experiences as important contributing elements to classroom learning, an attempt to link classroom language learning with language activation outside the classroom. In communication, the pupil has a choice of what she will say and how she will say it. If the exercise is tightly controlled so that students can only say something in one way, the speaker has no choice and the exchange, therefore, is not communicative. In a chain drill, for example, if a student must reply to her neighbour's question in the same way as her neighbour replied to someone else's question, then she has no choice of form and content, and rea communication does not occur. In authentic texts, students are considered to be allowed to develop strategies for understanding language as it is used by native speakers. Language is for communication. Linguistic competence is the knowledge of forms and meanings, just one part of communicative competence Another aspect of communicative competence is knowledge of the function language is used for. We think that, a variety of forms can be used to accomplish a single function. A pupil can predict by saying, for example, "It may rain, or "Perhaps it will rain." Conversely, the same form of the language can be used for a variety of functions. "May," for instance, can be used to make a prediction or to give permission ("They may sit in the back")*

Thus, the pupil needs knowledge of forms, meanings and functions. However, he or she must also use this knowledge and take into consideration the social situation to convey his intended meaning appropriately. A pupil can seek permission using "may" ("May I have a piece of fruit?"); however, if the pupil perceives his listener as being more of a social equal or the situation as being informal, he or she would more likely use "can" to seek permission ("Can I have a piece of fruit?").

The general goal of CLT can be viewed in two ways, it has both a "weak" and a "strong" version. The weak version stresses the importance of providing learners with opportunities to use their English for communicative purposes and, characteristically, attempts to integrate such activities into a wider *program of language teaching (2; p.279). On the other hand, the strong version "advances the claim that language is acquired through communication", so that language ability is developed through activities simulating target performance and which require learners to do in class exactly what they will have to do outside it.*

The primary goal of CLT is to develop communicative competence, (the ability to engage in meaningful conversation in the target language) to move beyond grammatical and discourse elements in communication and investigate the nature of social, cultural, and pragmatic features of language. Culture is the everyday lifestyle of people who use the language natively. Certain aspects of it are especially important to communication use of nonverbal behaviour, for example, which would therefore receive greater attention in the Communicative approach.

Communicative competence involves being able to use the language appropriate to a given social context. To do this students need knowledge of the linguistic forms, meanings, and functions. They need to know that many different forms can be used to perform a function and also that a single form can often serve a variety of functions. They must be able to choose from among these the most appropriate form, given the social context and the roles of the interlocutors. They must also be able to manage the process of negotiating meaning with their interlocutors. Learners are expected, not so much to produce correct sentences or to be accurate, but to be capable of communicating and being fluent. Classroom language learning is thus linked with real-life communication outside its confines, and authentic samples of language and discourse or contextualized chunks rather than discrete items are employed. Students are hence equipped with tools for producing unrehearsed language outside the immediate classroom.

The student's native language has no particular role in the Communicative Approach. The target language should be used not only during communicative activities, but also, for example, in explaining the activities to the students or in assigning homework. The students learn from these classroom management exchanges, too, and realize that the target language is a vehicle for communication, not just an object to be studied.

A typical feature of Communicative language teaching is that "it gives planned emphasis on functional as well as structural features of language, combining these into a more completely communicative view" (4; p.8).

Another feature of CLT is its learner-centred and experience-based view of second language teaching. Individual learners have their unique interests, learning styles, needs, and goals that should be reflected in the design of instructional methods. Speeches are introduced by working through stages. First comes short impromptu speeches on board, simple subjects. These can easily be developed and practised individually, meaning that students can scatter around the room and all talk. Simultaneously no one listens to anyone as everyone is making their speech.

The key principles of CLT are given below (1; p.146)

1. Classroom goals are focused on all of the components (grammatical, discourse, functional, socio-linguistic, and strategic) of communicative competence. Goals therefore must intertwine the organizational aspects of language with the pragmatics.

2. Language techniques are designed to engage learners in the pragmatic, authentic, functional use of language for meaningful purposes. Organizational language forms are not the central focus, but rather aspects of language that enable learners to accomplish those purposes.

3. Fluency and accuracy are seen as complementary principles underlying communicative techniques. At times fluency may have to take on more importance than accuracy to keep learners meaningfully engaged in language use.

4. Students in a communicative class ultimately have to use language, productively and receptively, in unrehearsed contexts outside the classroom. Classroom tasks must therefore equip students with the skills necessary for communication in those contexts.

5. Students are given opportunities to focus on their learning process through an understanding of their styles of learning and the development of appropriate strategies for autonomous learning.

6. The role of the teacher is that of facilitator and guide, not a best knower of knowledge, Students are therefore encouraged to construct meaning through genuine linguistic interaction with others.

According to Richards and Rodgers, three main principles can be inferred from CLT practices: (6; p.34)

1. The communication principle: Learning is promoted by activities involving real communication.

2. The task principle: Learning is also enhanced through the use of activities in which language is employed for carrying out meaningful tasks.

3. The meaningfulness principle: The learning process is supported by language which is meaningful to the student. Activities should consequently be selected according to how well they involve the learner in authentic and meaningful language use.

One of the goals of CLT is to develop fluency in language use. Fluency is natural language use occurring when a speaker engages in meaningful interaction and maintains comprehensible and ongoing communication despite limitations in his or her communicative competence. Fluency is developed by creating classroom activities in which students must negotiate meaning, and use communication strategies. correct misunderstandings, and work to avoid communication breakdowns. Fluency practice can be contrasted with accuracy practice, which focuses on creating correct examples of language use. Differences between activities that focus on fluency and those that focus on accuracy can be summarized as follows: fluency and accuracy tasks.

In fluency tasks, a group of students of mixed language ability carry out a role play in which they have to adopt specified roles and personalities provided for them on cue cards. These roles involve the drivers, witnesses, and the police in a collision between two cars. The language is entirely improvised by the students though they are heavily constrained by the specified situation and characters.

The teacher and a student act out a dialogue in which a customer returns a faulty object she has purchased to a department store. The clerk asks what the problem is and promises to get a refund for the customer or to replace the item. In groups, students now try to recreate the dialogue using language items of their choice. They are asked to recreate what happened preserving the meaning but not necessarily the exact language. They later act out their dialogues in front of the class.

Inaccuracy tasks, students practice dialogues. The dialogues contain examples of falling intonation in Wh-questions. The class is organized in groups of three, two students practising the dialogue, and the third playing the role of monitor. The monitor checks if the others are using the correct intonation pattern and correct them when necessary. The students rotate their roles between those reading the dialogue and those monitoring. The teacher moves around listening to the groups and correcting the language where necessary. Students in groups of three or four complete an exercise on a grammatical item, such as choosing between the past tense and the present perfect, an item which the teacher has previously presented and practised as a whole class activity. Together students decide which grammatical form is correct and they complete the exercise. Groups take turns reading out their answers.

An important aspect of communication in CLT is the notion of information gap. This refers to the fact that in real communication, people normally communicate to get information they do not possess. This is known as an information gap. More authentic communication is likely to occur in the classroom if students go beyond the practice of language forms for their own sake and use their linguistic and communicative resources to obtain information. In so doing, they will draw available vocabulary, grammar, and communication strategies to complete a task. The following exercises make use of the information-gap principle:

Students are divided into A and B pairs. The teacher has copied two sets of pictures. One set (for A students) contains a picture of a group of people. The other set (for B students) contains a similar picture but it contains several slight differences from the A-picture. Students must sit back to back and ask questions to try to find out how many differences there are between the two pictures. Students practice a role play in pairs. One student is given the information she/he needs to play the part of a clerk in the railway station information booth and has information on train departures, prices, etc. The other needs to obtain information on departure times, prices, etc. They role-play the interaction without looking at each other's cue cards.

Jigsaw activities are also based on the information-gap principle. Typically, the class is divided into groups and each group has part of the information needed to complete an activity. The class must fit the pieces together to complete the whole. In so doing, they must use their language resources to communicate meaningfully and take part in meaningful communication practice. The following are examples of jigsaw activities: The teacher plays a recording in which three people with different points of view discuss their opinions on a topic of interest. The teacher prepares three different listening tasks, one focusing on each of the three speaker's points of view. Students are divided into three groups and each group listens and takes notes on one of the three speaker's opinions. Students are then rearranged into groups containing a student from groups A, B, and C. They now role-play the discussion using the information they obtained. The teacher takes a narrative and divides it into twenty sections (or as many sections as there are students in the class). Each student gets one section of the story. Students must then move around the class and by listening to each section read aloud, decide where in the story their *section belongs. Eventually, the students have to put the entire story together in the correct sequence. Many other activity types have been used in CLT, including the following (5; p.208)*

We have investigated:

***Task-completion activities**: puzzles, games, map-reading, and other kinds of classroom tasks in which the focus is on using one's language resources to complete a task.*

***Information-gathering activities**: student-conducted surveys, interviews, and searches in which students are required to use their linguistic resources to collect information.*

***Opinion-sharing activities**: activities in which students compare values, opinions, or beliefs, such as a ranking task in which students list six qualities in order of importance that they might consider in choosing a friend.*

***Information-transfer activities**: These require learners to take information that is presented in one form, and represent it in a different form. For example, they may read instructions on how to get from A to B, and then draw a map showing the sequence, or they may read information about a subject and then represent it as a graph.*

***Reasoning-gap activities**: These involve deriving some new information from given information through the process of inference, practical reasoning, etc. For example, working out a teacher's timetable based on given class timetables.*

***Role plays**: activities in which students are assigned roles and improvise a Scene or exchange based on given information or clues.*

Since its inception in the 1970s, Communicative language teaching has passed through several different phases. In its first phase, a primary concern was the need to develop a syllabus and teaching approach that was compatible with early conceptions of communicative competence. This led to proposals for the organization of syllabuses in terms of functions and notions rather than grammatical structures. Later the focus shifted to procedures for identifying learners' communicative needs and this resulted in proposals to make needs analysis an essential component of communicative methodology. At the same time, methodologists focused on the kinds of classroom activities that could be used to implement a communicative approach, such as group work, task work, and information-gap activities.

"The coming of the Communicative approach represented for those of us involved in teaching at the time a healthy revolution, promising a remedy to previous ills: objectives seemed more rational, classroom activity became more interesting and relevant to learner needs", (7; p.6)

Today CLT can be seen as describing a set of core principles about language learning and teaching assumptions which can be applied in different ways and which address different aspects of the processes of teaching and learning. For this, every teacher needs the use of modern technology during lessons. Computer-assisted Language Learning (CALL) is often perceived as an approach to language teaching and learning in which the computer is used as an aid to the presentation, reinforcement and assessment of material to be learned, usually including a substantial interactive element. Computer-assisted Language Learning is succinctly defined in a seminal work by Levy as "the search for and study of applications of the computer in language teaching and learning."

Though CALL has developed gradually over the last 30 years, this development can be categorized in terms of three phases:

Behavioristic CALL: conceived in the 1950s and implemented in the 1960s and 1970s; Communicative CALL: 1970s to 1980s. Integrative CALL: embracing Multimedia and the Internet, 1990s.

Most CALL programs in Behavioristic CALL, consisted of drill-and-practice materials in which the computer presented a stimulus and the learner responded. (19:p.154)At first, both could be done only through text. The computer would analyse students' input and give feedback, and more sophisticated programs would react to students' mistakes by branching to help screens and remedial activities. While such programs and their underlying pedagogy still exist today, Behavioural approaches to language learning have been rejected by most language teachers, and the increasing sophistication of computer technology has led CALL to other possibilities.

The second phase, Communicative CALL, is based on the communicative approach that became prominent in the late 1970s and 1980s. (3; p.86) In the communicative approach, the focus is on using the language rather than analysis of the language, and grammar is taught implicitly rather than explicitly. It also allows for originality and flexibility in student output of language. The communicative approach coincided with the arrival of the PC (personal computer), which made computing much more widely available and resulted in a boom in the development of software for language learning. The first CALL software in this phase continued to provide skill practice but not in a drill format - for example: paced reading, text reconstruction and language games but the computer remained the tutor. In this *phase, computers provided context for students to use the language, such as asking for directions to a place, and programs not designed for language learning were used for language learning. Criticisms of this approach include using the computer in an ad hoc and disconnected manner for more marginal aims rather than the central aims of language teaching.*

The third phase of CALL, Integrative CALL, starting in the 1990s, tried to address criticisms of the communicative approach by integrating the teaching of language skills into tasks or projects to provide direction and coherence. It also coincided with the development of multimedia technology (providing text, graphics, sound and animation) as well as Computer-mediated communication (CMC). CALL in this period saw a definitive shift from the use of the computer for drill and tutorial purposes (the computer as a finite, authoritative base for a specific task) to a medium for extending education beyond the classroom.

One of the main advocates of this new approach was John Underwood, who in 1984 proposed a series of "Premises for 'Communicative' CALL". According to Underwood, Communicative CALL: Focuses more on using forms rather than on the forms themselves; teaches grammar implicitly rather than explicitly; allows and encourages students to generate original utterances rather than just manipulate prefabricated language; does not judge and evaluate everything the students nor reward them with congratulatory messages, lights, or bells; avoids telling students they are wrong and is flexible to a variety of student responses; uses the target language exclusively and creates an environment in which using the target language feels natural, both on and off the screen; and will never try to do anything that a book can do just as well.

In the past, the only visual aid available for teachers to use in the classroom used to be a fixed or portable blackboard. Very rarely teachers with the help of some brilliant students used to prepare hand-written charts for display on the classroom walls. These hand-chards are replaced by multimedia.

Multimedia is the exciting combination of computer hardware and software that allows you to integrate video, animation, audio, graphics, and test resources to develop effective presentations on an affordable desktop computer. Children are interested in technical means and they want to work with them themselves.

Traditional classrooms have different settings from the multimedia classrooms. Students sit in rows and a chalkboard is in the front. The teacher is standing in front of the class giving a lecture. Compared with traditional classrooms, multimedia classroom settings differ greatly from traditional classrooms. Traditional classrooms have seats in rows and a chalkboard in the front. In the multimedia classrooms, students' seats can be modified according to the situation needed. Inside the classrooms, all the equipment is available and makes the students feel comfortable to study. They sit at wide tables in comfortable chairs and have plenty of room to spread work. Furthermore, they also have the opportunity to move the furniture around for group discussions. A large teaching station is located at the front and to one side of the room. Inside the station cabinet, there are controls for the room's built-in equipment. The use of multimedia described here makes use of print texts, film and the Internet to develop and enhance linguistics and knowledge. Through their interactions with multimedia texts on topics of interest, students become increasingly familiar with academic vocabulary and language structures. As they pursue sustained study of one content area through focus discipline research, the students become actively engaged in the process of meaning construction within and across different media. Working through the complex intermingling of meanings, embedded within different texts encourages students to make connections as they build a wider range of schemata, which are then available to help them grasp future texts. Using print, film and the Internet as resources for studying provides students with opportunities to gather information through stimuli that will stimulate their imaginations, engage their interest and introduce them to the raw materials for analysis and interpretation of both language and context. Students develop a solid foundation in several subject areas and become "content experts" in one. Thus they greatly increase their overall knowledge base, as well as their English language and critical literacy skills, facilitating their performance in future college courses. One of the main purposes of software in writing is to facilitate the development of academic writing skills for students through the use of objects matter for writing assignments. The program is presented as a simulation game for interest and motivation. Students using the program found themselves in the virtual world of education.

Although the integration of CALL into a foreign language program can lead to great anxiety among language teachers, researchers consistently claim that CALL changes, sometimes radically, the role of the teacher but does not eliminate the need for a teacher. Instead of handing down knowledge to students and being the centre of students' attention, teachers become guides as they construct the activities students are to do and help them as students complete the assigned tasks. In other words, *instead of being directly involved in students' constructions of the language, the teacher interacts with students primarily to facilitate difficulties in using the target language (grammar, vocabulary, etc.) as use the language to interact with the computer and other people. Elimination of a strong teacher presence has been shown to lead to a larger quantity and better quality of communication such as more fluidity, more use of complex sentences and more sharing of students' selves. However, teacher presence is still very important to students when doing CALL activities. Teachers should be familiar enough with the resources to be used to anticipate technical problems and limitations. Students need the reassuring and motivating presence of a teacher in CALL environments. Not only are they needed during the initial learning curve, but they are also needed to conduct review sessions to reinforce what was learned. Encouraging students to participate and offering praise are deemed important by students.*

Students, too, need to adjust their expectations of their participation in the class to use CALL effectively. Rather than passively absorbing information, learners must negotiate meaning and assimilate new information through interaction and collaboration with someone other than the teacher, be that person a classmate or someone outside of the classroom entirely. Learners must also learn to interpret new information and experiences on their terms. However, because the use of technology redistributes teachers' and classmates' attention, less-able students can become more active participants in the class because class interaction is not limited to that directed by the teacher. Moreover, more shy students can feel free in their student-centred environment. This will raise their self-esteem and their knowledge will be improving. If students are performing a collaborative project they will do their best to perform it within set time limits,

Many studies have been done concerning how the use of CALL affects the development of language learners' four skills (listening, speaking, reading and writing). Most report significant gains in reading and listening and most CALL programs are geared toward these receptive skills because of the current state of computer technology. However, most reading and listening software is based on drills. Gains in writing skills have not been as impressive as computers cannot assess this well.

Methods. *The theoretical, comparative and descriptive methods were in the article.*

Conclusion. *However, when it comes to using the computer not as a medium of communication with other people but as something to interact with verbally in a direct manner, the current computer technology's limitations are their clearest. Right now, there are two fairly successful applications of automatic speech recognition (ASR) (or speech processing technology) where the computer "understands" the spoken words of the learner. The first is pronunciation training. Learners read sentences on the screen and the computer gives feedback as to the accuracy of the utterance, usually in the form of visual sound waves. The second is software where the learner speaks commands for the computer to do. However, speakers in these programs are limited to predetermined texts so that the computer will "understand" them.*

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IDIOMS, PROVERBS AND APHORISMS IN FIZULI'S POETRY

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Abstract
Fizuli, a renowned Azerbaijani poet from the 16th century, is considered one of the greatest poets in Azerbaijan literature and is often referred to as "sultan of poets". He composed his works in Azerbaijani, Persian and Arabic. Fizuli's poetry encompassed a wide range of themes, including love, morality, and social issues. His poetry was deeply influenced by the classical Persian literary tradition, as well as by Islamic traditions. His works are known for their lyrical beauty, emotional depth and philosophical insight. Mahammad Fizuli's poetry is distinguished with its profound wisdom and thought-provoking sayings. Ultimately, Fizuli's proverbs, idiomatic expressions and aphorisms serve as a testament to his brilliance as a poet and philosopher. They present moral lessons, encouraging readers to contemplate the deeper meanings of his words and apply them to their own lives. In his succinct and poetic expressions, he captures the essence of the human condition, revealing profound truths in a way that only a master wordsmith can. These concise statements were not only beautifully crafted but also carried significant meaning. These expressions in the great poet's works possess a certain charm, blending wisdom, humor, and a touch of mysticism. They are like tiny droplets of wisdom, sparkling with insight and encouraging deeper contemplation and have got universal appeal. These timeless sayings continue to resonate with readers and offer valuable insights into human nature, relationships and pursuit of wisdom and virtue. Through his poetry, Fizuli invites us to look beyond the surface and delve into the deeper truths and wisdom that lie beneath. Though rooted in the poet's own cultural background, they transcend boundaries and are harmonious with people across diverse cultures and backgrounds. This ability to touch the collective human experience demonstrates the timelessness of Fizuli's words.

Keywords: idioms, proverbs, aphorisms, theme, poetry, language, wisdom, phrase, love, truth.

Introduction

Fizuli's poetry, particularly his celebrated epic "Leyli and Majnun," served as a catalyst for the evolution of Turkic literature. It showcased the immense beauty and expressive potential of the Turkic languages, captivating audiences with its eloquence and emotional depth. [1,6] Through his intricate wordplay, vivid imagery, and masterful storytelling, Fizuli elevated the literary standards of Turkic languages.

Idioms

Fuzuli employed various idioms in his poetry, showcasing his linguistic creativity and skill. Here are a few examples of idioms used by Fuzuli.

1. Atəş düşdüyü yeri yaxar. (Where the fire falls, it burns.) It conveys the idea that consequences are inevitable and that actions have repercussions. Fizuli masterfully incorporated this idiom into his poetry to explre theemes such as justice, destiny, and the consequences of one's choices.

2.Mumla daş kəsmək (cutting stone with wax) It is used to describe a task that is impossible or extremely difficult. Fizuli may have used this expression to convey the idea of attempting something futile in his works.

3.Qarqaları öldürdük, daş-daş gözləri var. (We killed the crows, they have stone eyes.) It signifies an unsuccessful or waistful effort.

4.Quyruğunu qısqanmaq (to be envious of one's own tail). It is used to describe a feeling of jealousy or resentment towards something tjat is already within one's possession. The poet used this idiom to depict themes of greed, envy in his poetry.

5.Yolunu gedən dərmanı da bulur. (One who follows the path, will find the cure along the way.)

Fizuli incorporated this idiom in the poem “The wise old man and the Angel” to underscore the importance of endurance, wisdom and thefaith in overcoming challenges and finding solutions to life’s difficulties.This idiom is common expression in Turkish and Azerbaijan cultures.

6.Şeytana uymaz, məələək olmaz. (One who doesn’t obey the devil, cannot become an angel.) The poet used it in the poem “Leyli and Mejnun” to emphasize the struggles of Mejnun on his journey towards spiritual growth and love. This idiom is commonly used in Turkish and Azerbaijan cultures to convey the idea that one must face challenges and temptations to in order to achieve a higher state of virtue or enlightenment.[2, 24]

7. "Qızıl sahib nə haram ola?" (What harm is there in having a golden owner?) - This idiom is from Fuzuli's poem "Leyli and Majnun". It is used metaphorically to express the idea of benefiting from wealth or resources.

8. "Bir sinədə çiçəklənsə əchəmiş" (If a flower blossoms in one's bosom) - This idiom is from the poem "Leyli and Majnun" and is used to convey the idea of secretly harboring love for someone.

9. "Dil simsiyah, can simbeldedir" (The tongue is pitch black, the soul is ringed with gold) - This idiom appears in Fuzuli's poem "Longing the respectable young” (“Hörmətli cavanın həsrəti"). It is used metaphorically to describe someone whose external appearance does not reflect their inner beauty or virtues.

10. "Bülbül püncədir, qoşa bülbül karvan" (One nightingale is worth a thousand caravan) - This idiom is from Fuzuli's poem "Deyil oyku ona, Tanrım". It is used to emphasize the significance and value of something or someone.

12.The heart longs for what it desires. 13.The eyes are the mirror of the soul.14.Love is like the wind, you can’t see.

These examples demonstrate Fuzuli's use of idiomatic expressions to evoke vivid imagery and convey complex emotions in his poetry. Indeed, Fuzuli, the Azerbaijani master of words, weaves within his poetic tapestry not only idioms but also the delicate threads of timeless proverbs. Just as a skilled painter adds brushstrokes to bring depth and wisdom to a canvas, Fuzuli adorns his verses with proverbs, infusing his works with the collective wisdom of his people.

Proverbs

Fizuli used proverbs to convey profound observations about life, love, and human nature. In Fuzuli's domain, among the gardens of verse, we encounter proverbs like sparkling gemstones, illuminating his themes and shedding light upon the human condition. Like an ancient oracle, Fuzuli's pen becomes a vessel for the wisdom passed down through generations. In his magnum opus, "Leyli and Majnun," Fuzuli birthed proverbs like lanterns in a dark night. [3, 19]As Leyli's beauty enraptures Majnun's heart, we hear the echoes of Fuzuli's proverbial whispers. “Give me eyes, give me ears, O friend” he beckons, reminding us of the insatiable yearning for complete understanding, not merely through sight but through perception and empathy.

Another gem gleams in the darkness of longing, as Majnun pines for the unreachable Leyli. "Suyu ölçən çəmbələ yüz ölçər" (The ladle can measure the water, but never the ocean) rings true, casting a shadow upon Majnun's attempts to quantify his boundless love.

Fuzuli's proverbs form bridges between the real and the ethereal, solidifying the essence of his narratives. As we delve into Fuzuli's verses, we encounter another gem, patiently waiting to be unearthed. "Dərini də mən tapdım, xəbərim yox" (I found its pearls, but have no news) he writes, capturing the wistful yearning of a lover haunted by memories of love's depth, yet unaware of its currents.

Through these proverbs, Fuzuli unearths universal truths, crystallized in the language of his people. His words, like leaves in autumn, carry the wisdom of generations, gently imparting lessons to be learned. Fuzuli's proverbs are like the moonlight that illuminates the path, leading readers on a journey of self-discovery and enlightenment.

Thus, in the realm of Fuzuli's poetry, proverbs stand as ancient sentinels, beckoning readers to listen to the echoes of timeless wisdom. [4, 6] With every turn of the page, Fuzuli invites us to walk the winding roads of his verse, guided by the flickering lanterns of his proverbs, revealing the captivating essence of the human experience. Fizuli's proverbs possess a spiritual depth. They delve into the realms of the soul, exploring themes of love, longing, existence, and the eternal quest for truth. These glimpses into the depths of the human spirit offer solace, inspiration, and guidance to those who seek meaning in their own lives.

Aphorisms

In addition to their universal appeal, Fizuli's aphorisms wield the power of brevity. In just a few words, he manages to capture profound truths, challenging readers to pause and ponder over life's complexities. There is an elegance in his simplicity, as if he has unraveled the mysteries of the world and laid them bare for all to see.

Moreover, Fizuli's aphorisms often carry a touch of humor, adding to their allure. Through playful language and clever wordplay, he unveils truths in unexpected and delightful ways. His ability to fuse wisdom and humor is a testament to his mastery of language and his keen understanding of human nature.[7]

- *Ya şəhid olmaq gərək, ya intiqam almaq gərək.*

(Either you have to be a martyr or you have to take revenge.)

- *Yalan ilə qurulan yuvanın səadəti də yalandır.*

(The happiness of a nest built with a lie is also a lie.)

- *Eşq aşiqlər üçün həqiqət yolunu işıqlandırır.*

(Love illuminates the path of truth for lovers.)

- *Eşqdir hər iki dünyaya zinyət,*

Eşq ilə dolanır bütün təbiət.
(A disgrace to both worlds is love,
All nature is filled with love.)

- *Xəlqə ağzın sirrini hərdəm qılır izhar söz,*

Bu nə sirdir ki olur hər ləhzə yoxdan var söz. (Söz şeri)
(The secret of the people's mouth is always the word.
It isn't the secret that every moment there comes something out of nothing.)

Here are a few more examples along with the poems they are derived from:

1. "The heart that loves, loves forever, even though the beloved may leave." This aphorism speaks about the enduring nature of love, emphasizing that true love transcends physical presence and remains in the heart. It is derived from Fizuli's poem "Lovesick," wherein he reflects on the power and longevity of genuine love.

2. "Until death claims us, our desires will never be fulfilled." This aphorism succinctly captures the innate human tendency to desire and strive for more, even in the face of limitations. It is taken from Fizuli's poem "The Turkish Xenia," exploring the human condition and our perpetual pursuit of satisfaction.

3. "A moment's anger may result in a lifetime of regret." This aphorism warns about the consequences of succumbing to anger and the potential long-term damage it can cause. It originates from Fizuli's poem "Lamentation," reflecting on the destructive power of uncontrolled emotions.

4. "The rose smiles, even when oppressed by thorns." This aphorism celebrates resilience and finding beauty and joy amidst adversity. It is found in Fizuli's poem "The Rose and the Nightingale," where he uses the rose as a symbol for the human spirit, which can maintain its radiance despite challenges.

In the realm of Fizuli's immortal masterpiece, "Leyli and Majnun," exquisite aphorisms do emerge, wrapped in the veil of poetic brilliance. These profound observations, akin to the Bard's wise quips, unravel the tapestry of love and longing. [5, 22]

1. "Love, like the moon, shines 'midst obscurity." - This aphorism encapsulates the truth that love's radiance often gleams most luminously in the midst of challenges and uncertainties. It reminds us that love's essence, like the moon's glow, can persevere even in the darkest of nights.

2. "A lover's heart a thousand deaths does bear." - Here, Fizuli poetically describes the intensity of a lover's heartache, as it endures countless inner torment and emotional turmoil. It portrays love as a double-edged sword, capable of inflicting deep wounds while simultaneously igniting a fiery passion.

3. "Love knows no bounds, no chains can it withhold." - This aphorism affirms the boundless and liberating nature of true love. It asserts that love cannot be contained or constrained by any earthly limitations, soaring freely beyond societal norms and restrictions.

4. "In love's labyrinth, the heart finds its way." - Fizuli artfully portrays love as a labyrinth, suggesting that even amidst perplexity and confusion, the heart will ultimately discover its true path. It indicates that love possesses an innate wisdom, guiding the heart towards its destined union.

Within the verses of "Leyli and Majnun," Fizuli's poetic aphorisms unveil universal truths about the complexities of love. These phrases encapsulate the human experience, inviting readers to reflect upon the profound emotions and eternal aspirations that rest within the realm of love.

Conclusion

As we delve into the world of Fizuli, we embark on a journey of self-discovery, guided by his wisdom and accompanied by his lyrical voice. Fizuli possesses a unique ability to distill complex ideas into concise and thought-provoking statements. His proverbs, idioms and aphorisms are treasures that illuminate the path to understanding and enlightenment. Fizuli's adept use of these expressions not only enriched his poetry but also provided valuable insights into the human experience. The great poet Fizuli's profound words and timeless expressions have left an indelible mark on literature, capturing the hearts and minds of readers throughout the ages. Their timeless nature continues to resonate with readers today, highlighting the enduring legacy of this remarkable poet.

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ON FREE AND BOUND WORD COMBINATIONS

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Abstract

One of the most important types of lexico-syntactical combinations of words in speech is said to be a word combination. A word combination is a well-defined syntactic unit: all word combinations are always formed by certain syntactic patterns, the latter lending themselves not only to description, but also to classification. However, the semantic aspect of word combinations still requires a considerable amount of ever more profound investigation.

The study of syntactic structure raises interest in the light of modern theory, according to which syntactical formation to a great extent depends upon the content of meanings. However, the semantic view of the interpretation of syntactic structure demands more careful investigation, as it is well known that the same semantic content and the same situation may be introduced in the language with different types of formation. Exposing the correlation between content and form this eternal question of linguistics constitutes the main task of modern linguistic science, the solution of which can help to the investigation of the regularities, on which the syntactic structure of Modern English is based. That is why the study of the combination of words for the formation of syntactically proper combinations is the base of syntax.

Keywords: *lexico-syntactical combinations, morphological level, lexical units, word equivalents, phraseological units, units of syntax, actual word combinations, primary meaning, phraseology, lexico-semantic components.*

Introduction. Words put together to form lexical units make phrases or word groups. It will be recalled that lexicology deals with words, word-forming morphemes and word groups. We assume that the word is the basic lexical unit. The smallest two facet unit to be found within the word is the morpheme which is studied on the morphological level of analysis. The largest two-facet lexical unit comprising more than one word is the word group observed on the syntagmatic level of analysis, i.e. the analysis of various ways the words are joined together to make up single self-contained lexical units.

The degree of structural and semantic cohesion of word groups may vary.

Some word groups, e.g. at least, point of view, by means of, take place seem to be. functionally and semantically inseparable. Such word groups are usually described as set - phrases, word equivalents or phraseological units and are traditionally regarded as the subject matter of the branch of lexical science that studies phraseology.

The component members in other word groups, e.g. a week ago, a man of wisdom, take lessons, kind to people seem to progress greater semantic and structural independence. Word groups of this type are defined as free word-groups or phrases and are habitually studied in syntax.

To get a better insight into the essentials of structure and meaning of word groups we must begin with a brief survey of the main factors active in uniting words into word groups:

Word combination is a lexical unit of language. Any grammatically freely combined word group, studied from the point of view of form arrangement, is considered to be a word combination. Any possible syntactic relations may exist between the elements of groups. As far as word group possesses some of the properties of a word, mainly functioning as a nominal unit and becoming part of the sentence as an integrity, as one of its members and despite the definite independence, it is not wholly arranged, it is a syntactic combination of words. While distinguishing word combinations as a rule, their difference should be defined from words on the one hand and from sentences on the other. In this way, a word combination is an intermediate link, a medial unit between the basic units of language words and basic units of speech sentences, i.e. word - word combination - sentence.

However, such a chain gives only the most general representation of the mutual relation of specified three units. In this respect, O. Akhmanova in her book "Word Combination. Theory and Method" writes: "A word combination is a non-predicative unit (or element) of speech which is, semantically, both *global and articulated. In contrast with a word, it is not reproduced, but made up or constructed in the process of speaking. To begin with, word combination was not distinguished from all and every kind of combination of words. It is one of the basic tenets of linguistics that language consists of a certain ensemble or stock of words and certain rules according to which these word combinations are brought together or combined in speech. To use the language the speaker must know its "lexis" and know how to bring the words together, and how to arrange them in the process of speaking Consequently, at first sight, there appears to be no reason why one should distinguish between a combination of words and word combinations. It very soon transpires, however, that the two terms should be kept afar. The combination of words is a process, a kind of linguistic energy, which consists of combining or bringing together - words in speech, while word combination can or should be viewed as a free equivalent of a phraseological unit. And if this approach is assumed to be right the tablets are completely turned. We no longer think of separate words as combined (or brought together) in speech according to certain rules, we think of words as the ultimate units of syntax, and thus as the ultimate units of speech. We begin with word combination; the next step is phraseological units as complex word equivalents which the globality of nomination resigns supreme over the formal separability elements; the word the monolexemic unit comes last. The circle is thus closed.*

If we begin with the word, the third step is the word combination which thus becomes the "free" equivalent of the phraseological unit. Thus the two hierarchies go as were in different ways, but, together, give a very satisfactory picture of what a speech event is.

At such statement of the question the second plan of the investigation of won combinations lies in the sphere of differentiation between actual word combinations or free word combinations and phraseological units or bound word combinations those in which semantic integrity prevails over structural separability.

The confusion in the terminology reflects the insufficiency of positive or reliable criteria by which phraseological units can be distinguished from free word combinations.

"How to distinguish phraseological units from free word combinations" is probably the most discussed and the most controversial problem in the field of phraseology. The task of distinguishing between free word groups and phraseological units is further complicated by the existence of a great number of marginal cases, the so-called semi-fixed or semi-free word groups, also called non-phraseological word groups which share with phraseological units their structural stability, but lack their semantic unity and figurativeness. (e.g. to go to school, to go by bus, to commit suicide)

There are two major criteria for distinguishing between phraseological units and free word-groups: 1 semantic and 2 - structural.

Semantic change in the phraseological units looks like a meaning resulting from a peculiar chemical combination of words. This seems a very apt comparison, because in both cases between which the parallel is drawn, an entirely new quality comes into existence.

The semantic shift affecting phraseological units doesn't consist of a mere change of meanings of each separate constituent part of the unit. The meanings of the constituents merge to produce an entirely new meaning: e.g. "to have a bee in one's bonnet" means "to have an obsession about something, to be eccentric or even a little mad". The humorous metaphoric comparison with a person who is distracted by a bee continually buzzing under his cap has become erased and half forgotten, and the speakers using the expression hardly think of bees, but accept it in its transferred sense "obsessed, eccentric".

That is what is meant when phraseological units are said to be characterised by semantic unity. In the traditional approach, phraseological units have been defined as word groups conveying a single concept, whereas in free word group, each meaningful component stands for a separate concept. It is this feature that makes the phraseological units similar to words: both words and phraseological combinations possess semantic unity, Yet, words are also characterized by structural unity, which phraseological units very obviously lack being a combination of words.

The semantic criterion of distinguishing phraseological units from free word groups, i.e., distinguishing them for the degree of idiomaticity and non-idiomaticity is accepted by scholars as the major one. In a free-word combination, elements are not connected phraseologically; the free-word combination is created in speech according to a certain type of combination of words. Hence, under the free word combination, if considered heuristically, one understands the syntactic combination of words of full meaning which are created in speech and in which the choice of the following component is dictated, first of all, by extra linguistic factors owing to that there is no opportunity particularly to predict it. (2, p.115) Thus, e.g. in a speech chain "I saw a small..." we can't predict the next word, which is the second component of the word combination "adj+noun"

This may be "far, town, place, lake, pond, house, room, library, window, door, box, table, cup, melon, figure, creature". The word combinations "a small form", "a small house", and "a small box" may be called free.

Consequently, we call such word combinations free in which the choice of the second element is confined to what in reality may be defined with the help of the first member. In other words, links existing between the components of such word combinations are explained with the relation and connection of general experiential compatibility, or the so-called notion of "combinability". From this point of view the combinations" small house", and "small box" are less free than the combinations "small grant", "hot frost", "humid dryness", and "happy mourning" where the natural connection between things and thought is absent and one can speak of the maximum unbounded independence of the combination.

On the other hand, as far as combinations of language units are concerned, then semantic (lexica phraseological) combinability, i.e. the capability and non-capability of words to combine by their lexical meanings. The independence of combinability in this sense is limited by the proper semantics of the word, which is the constituent part of the combination: the meaning of one member of the combination and the meaning of the other meaning of the combination either allows their combination or not. By this it is explained why in English e.g. the word "form" but not the word "hard" is combined with the words "principles, beliefs faith" or why the word "heavy" is combined both with the words "load, suitcase" and with the words "food, bread" and the words "blow, shock" and the word "heart" and the word "style" and the words "rain, snow" "gun, artillery industry", or why the word "strong" is combined with the word "wind" but not with the word "rain, snow".

Thus, we conclude, that in a free phrase, the semantic correlative ties are fundamentally different. The information is additive and each element has a much greater semantic independence. Each component may be substituted without affecting the meaning of the other: cut bread, cut cheese, eat bread. Information is additive in the sense that the amount of information we had on receiving the first signal, i.e. having heard or read the word cut the listener obtains further details and learns what is cut. The reference of cut is unchanged.

In free combinations, the linguistic factors are chiefly connected with the grammatical properties of words. A free phrase such as "to go early" permits the substitution of any of its elements without semantic change in the other element o elements. The verb to go in free phrases may be preceded by any noun or followed by any adverbial. Such substitution is, however, never limited. (1, p.167)

Unlike free word combinations, phraseological combinations represent such features of the speech chain that there the question of extralinguistic choice of the next component for word combinations can't be put forward. There is no opportunity for choice as far as phraseological units, the general meaning of which is not drawn from the total meanings of its components enters the act of speech as a ready-made unit e.g. in the combination to take the floor, to fall in love, to take the bull by the horns, to beat about the bush, red tape, blue blood having the meanings according to start dancing on a dancing floor, to lose one's heart to somebody, to face the difficulties or dangerous situation directly and with courage, to talk about something for a long time without coming to the main point, official rules that seem more complicated than necessary and present things from being done quietly a noble kind person where the next component is always concretely predicted the predication 100 per cent here but the meaning of the phraseological unit itself becomes clear only in studying all the context of the speech pattern. A.V. Koonin defines a phraseological unit as follows: "A phraseological unit is a stable word group characterised by a complete or partial meaning." (6, p.109)

The definition suggests that the degree of semantic change in a phraseological combination may vary. The semantic change may affect either the whole word group or only one of its components. The following phraseological combinations represent the first case: to skate on thin ice (to put oneself in a dangerous position); to wear one's heart on one's sleeve (~to expose so that everybody knows, one's most intimate feelings), to have one's heart in one's boots (to be deeply depressed, anxious about something) to have one's heart in one's mouth (to be gently alarmed by what is expected to happen) to have a heart in the right place (-to be a good honest and generous fellow) etc.

The second type is represented by the phraseological units in which one of the components preserves its current meaning and the other is used in a transferred meaning: to lose (keep) one's temper, to fly into a temper, to fall ill, to fall in love, to stick to one's word, to arrive at a conclusion, bosom friends, stop talk, small talk.

Here, though, we are on dangerous ground, because the borderline dividing phraseological units with partially changed meanings from the so-called semi-fixed or non-phraseological word groups is uncertain and confusing.

In semi-fixed combinations, these lexico-semantic limits are manifested in restrictions imposed upon types of words which can be used in a given pattern. E.g. the pattern consisting of the verb go followed by a preposition and a noun with no article before it (go to school, go to market, go to courts) is used only with nouns of places where definite actions or functions are performed. (2, p.98)

No substitution of any elements however is possible in the following stereotyped set expressions which differ in many other aspects: all the world and his wife, the man in the street, ref tape, heads or tails, first night, to gild the pill, to hope for the best, fair and square, time and again, to and fro. These examples represent the extreme restrictions defined by probabilities of co-occurrence of words in the English language. Here no variation and no substitution is possible, because it would destroy the meaning or the euphonic and expressive qualities of the whole. Many of these expressions are also interesting from the viewpoint of their informational character contained in the word group including expressiveness and stylistic and emotional colouring created by mutual interaction of elements. The expression red tape, for instance, as a derogatory name for trivial bureaucratic formalities originates in the custom of government officials and lawyers to decide a dispute or settle which of two possible alternatives shall be followed by tossing a coin. (1, p.143)

V. V. Eliseeva writes: "In a free word combination which is created according to the model, the substitution of the components is possible only in the frame of this model. So, the adjective red may be used with several nouns, keeping its meaning denoting colour (red frock, hair). A noun denoting a thing which is capable of being defined, according to the same model will be combined with several adjectives, denoting signs accordingly. In a phraseological combination, the ties between the components are strong, stable and the substitution of any of them is impossible without damaging the meaning of the whole unit. E.g. the combination black sheep (worst member) according to the model A+N cannot have the same meaning even in the case when the substitutive word has very little semantic difference from the substituted one (black ram or grey sheep).

Every notional word can form additional syntactic ties with other words outside the expression, i.e., above shown types of word combinations can also be looked through from another point of view. (4, p.87) It is already said above that proper word combinations, on contrary of phraseological combination doesn't enter the language in already ready-made form, as a fixed unit of language, that it doesn't possess the property of reproduction, but is created all over again each time. At the same time, the method of forming word combinations in language according to syntactic models of the given language is itself productive in the sense of unbounded realization of the given variations. But phraseological combinations are in this sense non-productive, as they are not created in speech, as though they are created beforehand and enter the speech process in a ready-made form. In this way, free word combinations and phraseological combinations may be contradicted based on the notion of productivity and non-productivity. (4, p.122)

In a set expression information furnished by each element is not additive; actually it doesn't exist before we get the whole. No substitution for either cut or figure can be made without completely ruining the following: I had an uneasy fear that he might cut much of a figure.

The only substitution admissible for the expression cut a poor figure concerns the adjective. Poor may be substituted by ridiculous, or grand, such as a and a few other adjectives characterizing how a person's behaviour may appear to others. The very limited character of this substitution seems to justify referring cut a poor figure to semi-fixed set expressions. In the stereotyped set expression cut no ice "to have no influence no substitution is possible. Pronominal substitution of constant dements is also possible. However, it needs context to be explained.

E.g. A sullen December morning. Black frost. Such frost reminded me of my last days in Slanton. Black frost means "frost without ice or snow"

In a free word combination, the adjective would denote colour. It receives this different meaning only in correlation with the word frost. The pronoun such as when replacing it also signals this new meaning. However, the pronominal replacement of this kind is possible only under certain very definite circumstances, which shows how close the semantic ties between the parts of a set expression.

Traditional, or stable, word combinations which are of non phraseological character have an intermediate place between free and bound word combinations. In speech, they are used as ready-made units and rarely let the components vary. But in difference from phraseological combinations, their semantics represent simply the sum of the meanings of words constituting the word combinations, they possess a special structure and function in speech nominatively, i.e. serves to name the referent. (5, p.299)

Attempts have been made to approach the problem of phraseology in different ways. Up till now, however, there is a certain divergence of opinion as to the essential features of phraseological units as distinguished from other word groups and the nature of phrases that can be properly termed "phraseological combinations". The habitual terms "set phrases", "idioms", and "word equivalent" are even today treated differently by linguists. (3, p.198)

The complexity of the problem may be largely accounted for by the fact that the borderline between free word groups and phraseological combinations is not clearly defined. The so-called free word-groups are relatively free as the collocability of member words is fundamentally delimited by their lexical and grammatical valency which makes at least, some of them very close to set phrases. Phraseological combinations are comparatively stable and semantically inseparable. It should be pointed out at once that the "freedom" of free word-groups is relative and arbitrary on the one hand, by requirements of logic and common sense, and on the other, by the rules of grammar and combinability. One can speak of a black-eyed girl, but not of a black-eyed table (unless in a piece of modernistic poetry where anything is possible). Also, to say The child was glad is quite correct, but a glad child is wrong because in Modem English glad is attributively used only with a very limited number of nouns (e.g. glad news) and names of persons are not among them. Free word groups are so called not because of any absolute freedom in using them, but simply because they are each time built up anew in the speech process, and are used as ready-made units with fixed and constant structures.

Between the extremes of complete motivation and variability of member words and lack of motivation combined with complete stability of the lexical components and grammatical structure, there are innumerable borderline cases. However, the existing terms, e.g. set phrases, idioms, and word equivalents reflect, to a certain extent, the main debatable issues of phraseology which centre on the divergent view concerning the nature and essential features of phraseological units as distinguished from the so-called free word groups. The term "set phrase" implies that the basic criterion of differentiation is the stability of the lexical components and grammatical structure of word groups. The term "idioms" generally implies that the essential feature of the linguistic units under consideration is idiomaticity or lack of motivation. The term habitually used by English and American linguists is very often treated as synonymous with the term "phraseological". The term "word equivalent" stresses not only semantic, but also functional inseparability of certain word groups, and their aptness to function in speech as a single word.

Methods. *The theoretical, comparative and descriptive methods were in the article.*

Conclusion. *At last, after the all above, we come to the following conclusion: lexico-semantic relation of components of word combinations, the character and feature of this relation play a great role in defining word combinations. According to these features, they are divided into two great groups which have their features, positions and meaning. Free combinations are real grammatical combinations and the main object of the syntactic science about word combinations is that words constituting these combinations never lose their meanings, keep their lexical independence and become not lexico-semantic, but lexico-grammatical components of the combinations. It is possible to separate them, and analyse them, and this analysis doesn't damage the general spirit. Bound combinations don't possess such independence. They are created in the process of historical development of language and become stable. Words constituting them lose their primary meaning to less or more extent, their meanings are lost in the background of the general meaning of the combination, and become indivisible and so, these words change into lexico-semantic components of the combination. Bound word combinations are said to be the object of the phraseology.*

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Psychological sciences

THE IMPACT OF ANXIETY ON CHILDREN 13-15 YEARS OLD

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Abstract

The topic is very important this days, because every day human beings face anxiety. Anxiety is an emotion that affects or is experienced by anyone at any stage of life, which can be caused by many different factors, whether natural, sensory or during daily life.

By means of this study we manage to be more inside the meaning of anxiety, to know the causes that cause it, the traumas or consequences that can leave behind, the way of prevention, the different therapies as well as the help that we can offer. a person who suffers from anxiety.

Previously, it was thought that fever affects adults more, but more and more fever is being experienced by people of all ages, even children. In these conditions, the analysis of such a situation sheds light on the development of other studies and at the same time addresses solutions and the provision of help for every person who is affected by anxiety or has a person in the family.

Keywords: *Anxiety, Psychological disorders, children, experience*

Introduction

The paper starts with knowledge about anxiety for all age groups to be more inside the phenomenon of anxiety and understand more about the latter, but then we will focus more on children as this is my main goal for this assignment . The reason why I did such a study is because, in general, anxiety in children passes with an expression "you have no reason to experience anxiety at this age", and thus children suffer in themselves from an early age and when they start to grow they have many problems both with themselves and with the society they live in (Goff, 2019).

A very big cause of creating anxiety and not only (other psychological disorders) has been the deadly virus Covid-19. The latter "closed" the whole world, we mention here workplaces, various institutions, schools, etc. Every family was united at home in order to be protected from the merciless pandemic which was affecting everyone without exception. In short, social distancing took place, which had a very bad effect not only on adults, but also on children. The temporary closure had the most negative impact on children. Children began to stay away from each other, distanced themselves from society and their teachers (Lillee, 2021). An eerie silence prevailed in every park or playground. Disasters occurred in many families, such as the loss of one of the family members or the loss of a close person. The age at which the children were found could not properly conceive what was happening and the feeling of fear, various concerns began to prevail in these children, causing anxiety to arise.

Study hypotheses:

1-Children around the ages of 13, 14, 15 in schools in the city of Durrës (9-year-old school "Bedrie Bebeziqi" and non-public Albanian-Greek school "Frymë Dashurie") may be affected by the phenomenon of anxiety.

2-Students in public schools suffer more from anxiety than those in private schools.

It is more normal to experience the feeling of anxiety when we are in unpleasant situations for us. Our body "speaks" through anxiety, showing us that something is happening where we feel insecure. The symptoms of anxiety are many and varied. The more intense the symptom, the greater the level of anxiety we experience (Josephs).

4 levels of anxiety have been identified:

- Soft level

In our daily lives it is common to experience mild anxiety. Individuals experience this level when they are waiting for an answer to an exam, starting a new job, lost their way in a new city, etc. Symptoms that characterize mild anxiety are sweating, feeling nervous. In general, mild anxiety is motivating because it allows us to focus on solving the problem (Harper, 2020). After the stressful situation passes and the solution to the problem is found, then the anxiety that has conquered us goes away.

-Moderate level

Characteristic of moderate anxiety is concentration on the disturbing situation, but at the same time ignoring other tasks. Let's take the example of a child who got lost in a playground. During those moments, stomach pains, sweating, rapid heartbeat, dry mouth, vomiting, etc. are experienced. (Kolk, 2019). Nail biting is the most common action. The goal in this case is to find the lost child, and as soon as the child is seen, all the above-mentioned symptoms suddenly disappear.

-High level

The symptoms of high anxiety are more severe than those of mild and moderate anxiety. Identified symptoms are: rapid heartbeat, diarrhea, vomiting, headache and chest pain, tremors, erratic behavior and feeling fearful. (Hughes, 2019). These symptoms appear at times such as learning of the loss of a relative, serious accidents. Curing severe anxiety is very difficult and if the problems are not resolved in time, they can lead to further and even worse anxiety. Individuals suffering from this level are unable to take care of their basic needs, and efforts by others to help these individuals are often unsuccessful.

- Panic level

This level of anxiety is the most worrying for everyone as it takes away the ability to function normally. Individuals suffering from this level find it impossible to sit or even move. Some others experience speech impediments. The ability to think straight is extremely impaired. In general, these individuals who suffer find it difficult to identify dangerous situations or understand current needs (Fletcher, 2020). The main causes that provoke this type of behavior are being a victim of a crime, experiencing various disasters. Different levels of anxiety have different experiences.

Parental anxiety

We have mentioned that it is common for children to suffer from anxiety disorder and normally the negative effects it causes are very significant. A very important role is to recognize the negative behavior of parents, where this can be passed on to children in the future. Unlike parents who have not suffered from an anxiety disorder, other parents who have experienced it or continue to experience it, have expressed that they feel worried about their children since the probability that these children will also suffer is relatively high. They have shown that they expect at any moment for their child to show negative emotions, face situations where they have no control, perceive threats, etc. (Lynn Lyons, Reid Wilson, 2018).

We emphasize that these thoughts of these parents influence their behavior even more. The presence of such a disorder in these parents brings mainly poor results in the treatment of children. Specifically, parental anxiety has been found to be associated with increased expectations that children will perceive situations as threatening and also that parents will have less control over their child's anxious responses. These children we have talked about so far are four times more likely to suffer from anxiety disorders than those children who have no ancestors with such a disorder. It is also suggested that the child with a high level of anxiety has a better chance of competing with his peers in tasks that require creativity in a structured environment compared to an open one.

Methodology

The method used to carry out the study is the quantitative method as an effective form of measuring data related to the subject of the study. The instrument used is the questionnaire, applied in 2 (two) 9-year-old schools in the city of Durrës to measure the level of anxiety in children. Nwpwrmjet instrument was able to carry out a questionnaire on a wide range of individuals at the same time and get fast and reliable results.

The study was conducted in two educational institutions in the city of Durrës. They are the 9-year-old school "Bedrie Bebeziqi" and the non-public Albanian-Greek school "Frymë Dashurie". In both of these schools, the questionnaire was distributed for the seventh, eighth and ninth grades. In the "Bedrie Bebeziqi" school, there are two seventh grades (A, B), two eighth grades (A, B) and two ninth grades (A, B). While in the "Spirit of Love" school there is a seventh grade (A), an eighth grade (A) and a ninth grade (A). The questionnaire distributed to the students is composed of 41 (forty one) questions. These questions are formulated in order to understand the level of anxiety among students of these age groups. The questionnaire is formulated through questions and is based on a scoring system.

The questionnaire distributed is made by Developed by Boris Birmaher, M.D., Suneeta Khetarpal, M.D., Marlane Cully, M.Ed., Davidrent M.D., and Sandra McKenzie, Ph.D., Western Psychiatric Institute and Clinic, University of Pgh. (10/95). E-mail: birmaherb@msx.upmc.edu (as written at the end of the questionnaire). The questions have been translated and adapted. The questionnaire has clearly written instructions on how to complete it, it is divided into three columns where each one has a value from zero to 2, and the meaning of these values is explained below. The questionnaire is built in such a way that it *suits the age of 13, 14, 15 years. According to this scoring system, a student who has accumulated 25 (twenty-five) or more points suffers from anxiety.*

The questions are generally based on their daily life issues such as school or extracurricular activities where these children have the opportunity to meet other individuals and the level of anxiety is analyzed.

Sample selection

In the "Bedrie Bebeziqi" school there are two seventh grades (A, B), two eighth (A, B) and two ninth (A, B).

7(A) is composed of 19 (nineteen) students.
7(B) is composed of 22 (twenty two) students.
8 (A) is composed of 22 (twenty two) students.
8(B) is composed of 20 (twenty) students.
9(A) is composed of 18 (eighteen) students.
9 (B) is composed of 15 (fifteen) students.

In the "Fryme Dashurie" school, there is one class for each year.
The classes consisted of:
7 (A) is composed of 20 (twenty) students.
8(A) is composed of 22 (twenty-two) students.
9(A) is composed of 22 (twenty-two) students.
To arrive at the size of the sample I used the formula n/N=i.
"Bedrie Bebeziqi" School
For seventh grades:
n/N=i which means 7(A) + 7(B) = 41
x/41=1/3=> x= 41/3
=> x= 13.6~ 14 students

For eighth grades:
n/N=i which means 8(A) + 8(B) = 42
x/42=1/3
=> x= 42/3
=> x=14 students

For ninth grades:
n/N=i which means 9(A) + 9(B) = 33
x/33=1/3
=> x= 33/3
=> x=11 students

School "Fryme Dashurie"
In this school, the sample is a small number, so all students completed the questionnaire.
n/N=i
Where the sample or (n) is equal to 60 students.

I chose to conduct this study in these classes because during the observation and conversation with the students, they were more cooperative and talked openly with me about some of their problems.

Also, a part of these students came from divorced families, respectively 5% at "Bedrie Bebeziqi" and at "Frymë Dashurie" 3.34%.

Another part in "Bedrie Bebeziqi" about 1.73% and in "Frymë Dashurie" about 1.66% came from a family that did not have one of the parents.

For these reasons I thought it would be the right sample to conduct this study and get a more accurate result.

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Data Analysis

	MALE	FEMALE
CLASS 7A	33.3%	50.0%
CLASS 7B	25.0%	33.3%
CLASS 8A	0.0%	25.0%
CLASS 8B	25.0%	33.3%
CLASS 9A	33.3%	66.6%
CLASS 9B	50.0%	66.6%

Table 1. % of people with anxiety for each gender based on the sample for the Bedrie Bebeziqi school.

	MALE	FEMALE
CLASS 7A	20.0%	20.0%
CLASS 7B	10.0%	20.0%
CLASS 8A	20.0%	30.0%

Table 2. % of people with anxiety for each gender based on the sample for Frymë Dashurie school.

We said at the beginning that the study was carried out in two 9-year-old schools, one school "Bedrie Bebeziqi" and the other Albanian-Greek school "Frymë Dashurie", in the city of Durrës. One of these schools is public while the other school is non-public. This choice was made not without purpose, since in the end we not only manage to understand how widespread the level of anxiety is among children, but also who may experience more anxiety among the students of certain schools. In general, the students of non-public schools, as it is in this case, are a small number of students in the class and the attention and dedication of the teacher goes to each student. While public schools have more students in the classroom and teachers' attention due to teaching time, not every student is given. Among these students, there may be those who have anxiety present in their lives, but teachers find it very difficult to understand, so the anxiety of these children is always increasing. By means of the formula n/N=i we have found the sample in order to continue the study we want to develop. Based on the responses of the participating students, we can prove that students in public schools have a higher probability of being affected by anxiety. This is expressed with statistics which we will see in Table 1 and Table 2, found in the next chapter.

Table 2. % of people with anxiety for each gender based on the sample for Frymë Dashurie school.

We said at the beginning that the study was carried out in two 9-year-old schools, one school "Bedrie Bebeziqi" and the other Albanian-Greek school "Frymë Dashurie", in the city of Durrës. One of these schools is public while the other school is non-public. This choice was made not without purpose, since in the end we not only manage to understand how widespread the level of anxiety is among children, but also who may experience more anxiety among the students of certain schools. In general, the students of non-public schools, as it is in this case, are a small number of students in the class and the attention and dedication of the teacher goes to each student. While public schools have more students in the classroom and teachers' attention due to teaching time, not every student is given. Among these students, there may be those who have anxiety present in their lives, but teachers find it very difficult to understand, so the anxiety of these children is always increasing. By means of the formula n/N=i we have found the sample in order to continue the study we want to develop. Based on the responses of the participating students, we can prove that students in public schools have a higher probability of being affected by anxiety. This is expressed with statistics which we will see in Table 1 and Table 2, found in the next chapter.

With the closing of all the work carried out on the topic "Anxiety level in children", we reach some conclusions. The first is that anxiety has always been a part of human beings, but with the difference that in very early years, anxiety was not known or recognized. Over the years after anxiety was recognized, talked about and studied, then individuals were able to identify it. Based on the studies that have been mentioned in the literature in chapter 2, we have come to understand that anxiety was not as frequent and widespread as it is now in the times we are talking about. As you can see at the beginning, we talked about the levels of anxiety (its types), that is, of course, anxiety is not a joke, but it reaches tragic points and levels. It has also been proven that anxiety can be inherited from our parents, so anyone is likely to experience anxiety, but someone with parents diagnosed with anxiety has a higher chance and at higher levels. But it is not only heredity that causes us anxiety, but there are also many other causes, and most of them occur in childhood. It has been noticed that through various studies, over the years the level of anxiety and the number of individuals suffering from anxiety has increased.

In addition to adults, who have many different responsibilities and in some way experience anxiety often, it is understood that children also suffer a lot and there is a relatively high number of children who suffer from anxiety. We have often heard it said, especially in the country where we live, Albania, that children have no reason to be anxious. This is very wrong, and to prove that children also have anxiety, I developed a questionnaire in 2 9-year-old schools.

According to studies done by professionals in the field and the study developed by me, we say that children aged 13, 14 and 15 years experience a lot of anxiety. These can best be proven by observing the statistics developed above during the task. So we just proved the accuracy of the first hypothesis which is" Children around the ages of 13, 14, 15 years old in schools in the city of Durrës (9-year-old school "Bedrie Bebeziqi" and non-public Albanian-Greek school "Frymë Dashurie") can be affected by the phenomenon of anxiety". Also, since our study was conducted in two schools where one is public and the other non-public, according to the other hypothesis that "Students in public schools suffer more from anxiety than those in private schools", we also prove this more the best. The percentage of students in the 9-year public school "Bedrie Bebeziqi" is higher than that of the students of the "Frymë Dashurie" school. These conclusions come as a result of conversations with students and observations.

Another comparison I want to make is that of the level of anxiety that may have existed when I was the same age as the students I take for the study. In the period when I was 9 years old, the only anxiety that I and my peers experienced was that caused by the stress of exams and the various difficulties of school subjects. Something that was missing as a reason in the talks with the students of these schools.

RECOMMENDATIONS

Some recommendations I have for parents of children with anxiety:

- Communicate with your child. Listen to what the child has to say. Try to make the child understand that he is not alone and that you are there for any problem.

-Help the child to face what causes him fear. Do not think that the right action is to avoid fears, but to face them.

-Give your child a good example in solving problems and controlling emotions. Children look to you as examples and carry out your reactions. Show the child that you can deal with an unpleasant situation in an appropriate way, so that your child gets the best from you.

- Open up about the feelings you have with your child. In this way you will gain the child's trust and in this way the child will open up to you about his emotions.

-Consult with a specialist in the field. If the child has no improvement and is not managing to have a normal life like his peers, then the anxiety is becoming more severe and intense. In this way, the best decision is to consult an expert in the field.

Recommendations for the teaching staff at the school:

-The child spends part of the day at school together with you. Try to recognize the signs that characterize the child or if he has strange behavior and consult the school psychologist.

- Give them proper attention. The student may have difficulty understanding a certain lesson and be embarrassed or afraid to ask, try to understand this and help him,

- The student needs to hear good words about himself. Tell him that the task performed by the student is a quality work, so his self-confidence will increase.

- The teacher should communicate with other students, so that the latter are as close as possible to students with anxiety disorders, not leaving them isolated and not feeling alone.

Recommendations for the Ministry of Education:

- Each school should have a psychologist. So every child has someone to communicate with for any problem during school hours and feel calmer.

- Different studies (through observations, questionnaires, interviews) should be added, since only in this way can we understand whether children are affected by anxiety; and if so what causes this anxiety, how many children are affected by this disorder.

- To increase the number of different activities in schools and outside it for reasons of interaction with other individuals, as well as for health reasons (physical activity).

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Sociological sciences

NEIGHBORHOOD IN SUBURBAN AREAS. THE CASE OF ALBANIA

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Abstract

Demographic movements in Albania after the fall of the dictatorial system produced a new urban reality. The western part of the country, and in particular the Tirana-Durrës region, became very popular with Albanian citizens. In particular, large cities experienced expansion towards their suburbs. Since in 1990 urban areas included no more than 30% of the population, those who moved to cities were mostly from rural areas. In the new reality, neighborhood relations are subject to a new logic. Neighborhood cosmology in rural areas is subject to several levels of relationships such as: kinship relationships, local norms and values, village rules and laws, etc. These relationships change radically in the new urban reality, which is also subject to change. There is a perception that these areas are unique and are the same everywhere. Through this paper I try to research how these areas change in relation to the neighborhood and what is the new social and cultural reality. The research questions are: What are the dynamics of neighborhood relations in the new pre-urban reality of Albanian cities? How does the cosmology of kinship relations affect the continuation of neighborhood relations? What are the prospects of neighborhood relations in this new context? In this context, we ask that, through this work, we avoid generalizing the problems, seeing it as an approach that reflects half-truths. To carry out this work, we have selected as a case study the area of Kamza, which is located on the outskirts of the capital of Albania, Tirana. This area has been highly sought after by all citizens and its structure constitutes an ideal habitat for researching neighborhood processes as citizens from over 34 cities of the country have settled there. The area cannot be studied as a regional system as there are differences between the residents, who are connected through a special system, therefore we have studied certain areas or neighborhoods, believing that in this way we will present a more comprehensive overview. clear of these relationships. Using direct interviews with residents, questionnaires, participant observation, photo ethnography and the study of a particular neighborhood, we aim to answer the questions raised.

Keywords: Neighborhood, kinship, suburban area, city, Albania.

1. Introduction

In order to have a clearer idea of neighborly relations in Albania, we will refer to their history, the way Albanians have evaluated it and the weight it has had in the general relations between people. Also, the case of the Kamza area, which is located next to the capital, Tirana, will serve as a "case study" since residents from all over Albania settled in this area after 1990. The importance given to the neighborhood is known, as social relations naturally " harden " in space, imposing in some way social communication between neighbors. Therefore, this relationship in Albanian society has taken on a special weight. It has been criticized but also mystified, it has served to divide but also as a very important link in the creation of social cohesion. During the field interviews, we raised the question: How do you rate the neighborhood? The residents gave these answers, summarized in a few expressions: I'm not selling the house, but I'm selling the neighbor; A good neighbor honors your home; Your neighbor's bread tastes better, etc. These are just some of the expressions used among Albanians for the appreciation of the neighborhood. What matters in the face of potential interactions, be they beneficial or harmful, is neighbourhood. Greater distance means decreasing utility and increasing risk, and this ultimately constitutes a limit for distrust (Luhmann, De Giorgi 2016).

The city is a new challenge for the residents who changed their place of residence in Albania after the fall of the dictatorship. Studies have proven that large neighborhoods were built on the outskirts of cities based on common ancestry, tribal and provincial ties (Halilaj, 2021). A distinction must be made between kinship and neighborhood relations. They are two completely different typologies of relationships. Sociologist Anthony Giddens states that: "In most Western societies, kinship ties for *practical purposes are limited to a small number of relatives. Many people, for example, have a very vague idea of relatives who are more distant than first or second cousins. In many other cultures, especially small ones, kinship relations have a great weight in many spheres of life" (Giddens, 2004). Both relationships have spatial proximity in common between the neighbors, it is assumed in principle that there is no blood relation, and in practice this node takes relations to a completely different level. Neighborhood relations do not have mutually binding norms that are imposed by the web of tribal relations. At this point, we refer to the anthropologist Leopold Pospisil, who looks at human relationships selected at several levels according to the special binding ties that the communities of people have in the family, tribe, village (cit. Bardhoshi 2011). So, in this sense, tribal relations are characterized by reciprocal, stronger, somewhat binding rules. We are talking about the case where there is no blood relation with the neighbor. This does not mean that the neighbors are not related by blood, on the contrary, this arrangement is found much more often in the Albanian space.*

In the case of pre-urban areas in Albania, the neighbors did not choose each other, although there was an idea from the majority of those who moved to these areas, that they could have close relatives, or people from the province or area from were coming, but it must be said that it was not necessarily the final goal. The courage to change their place of residence had also prepared them this muscle, that they would happen to have neighbors, people they would not know. The relations between them are not of an economic nature, as they provide income independently. The fact that agriculture is not the field of their employment means that they do not have rivalry for the provision of economic resources. Generally, these residents come from villages and are middle-class and poor families. Most of them work in construction in the areas of big cities. In commerce there is a high number of young people who are emigrating (an important source of livelihood for many families), a small part work in the service sector. In general, these residents are not the elite of specialists or officials. They are not together to realize a certain alliance, nor are they in competition to possess a certain resource or a certain power. They are separated from each other, and there is a kind of family atomization. In general, they are nuclear families (even in cases where they came with blood relatives, they realized the separation and made an effort to build a nuclear family. A dynamic that we will try to develop during further work). Their past does not impose relations with their neighbors since they have no previous connection with them. They do not have kinship, fraternal or ancestral ties, or different blood ties that impose relationship patterns according to roles. The reciprocity of their relationship is not mandatory. There can be love relationships between young people without any problem.

Residents who have changed their place of residence have a common status, they are: "Newcomers" (at the beginning of the demographic movements, the nicknames that accompanied these residents were various, such as: Chechens, Maloks, Headless, etc.). However, residents do not have a relationship of inferiority or superiority among themselves. At this stage, all their relationships are outside the influence of institutions. The democratic system, which is based on freedom, has been used to realize this movement.

2. Literature review

Discussions related to neighborhood in urban areas have mainly focused on progressive institutionalization, assuming the permanent role of an agency that promotes neighborhood and neighborhood development and playing an active role in designing social policies for the city as a whole (Cavola, Di Martino, de Muro, 2010). The process of suburbanization (Giddens, 2004) peaked in the Western world in the 1950s and 1960s. In ex-communist countries there has been sudden change and chaotic movement of population. Modern individualism, first of all, the theme of freedom of the century. XIX constitutes an important motive in the formation of an idea of world society (Luhmann, De Giorgi, 2016). The term sub urbe which means "under the control of the city" defines the dependence of the suburbs on the city centers. This movement and embedding in the new settlement needed solidarity but at the same time also to establish a border, to start and actively search for differences and awareness of their presence. Differences are the product of boundaries, of dividing activity (Bauman, 2006). The way houses are placed on the outskirts of cities is an expression of social memory on the writing of space in the form of neighborhoods, as the formative structure of the Albanian village (Muka, 2001). Having mainly rural origin, the inhabitants of the suburbs inherit the rural culture, which is nothing more than the collective memory of the rural community (Muçaj, 2013).

3. Methodology

To analyze the main topic of this paper, direct observation with participation in the field was used. Direct interviews with residents of pre-urban areas constitute a very important resource for understanding their experiences during neighborhood development. The questionnaire was used with *mostly open questions to allow residents to express themselves freely. Photo ethnography is used to bring real footage from the field. The data analysis is done in the context of combining the ideas of local and foreign authors with the concrete Albanian reality.*

4. A case of the neighborhood

The street on which we have focused our ethnographic work to understand more about the neighborhood is called "BERLUSKONI" (the name is another point of how the space is symbolized) which at its two ends is bordered by the street "Skënderbeu" (the hero national of Albanians) and with "Liria" street. We analyzed the first 12 houses of this street, trying to establish an ethnographic boundary based on the intensity of neighborly relations between residents. Of course, this limit is "arbitrary" and for research purposes, thinking that this way will give us the opportunity to better understand the dynamics of the development of these relationships.

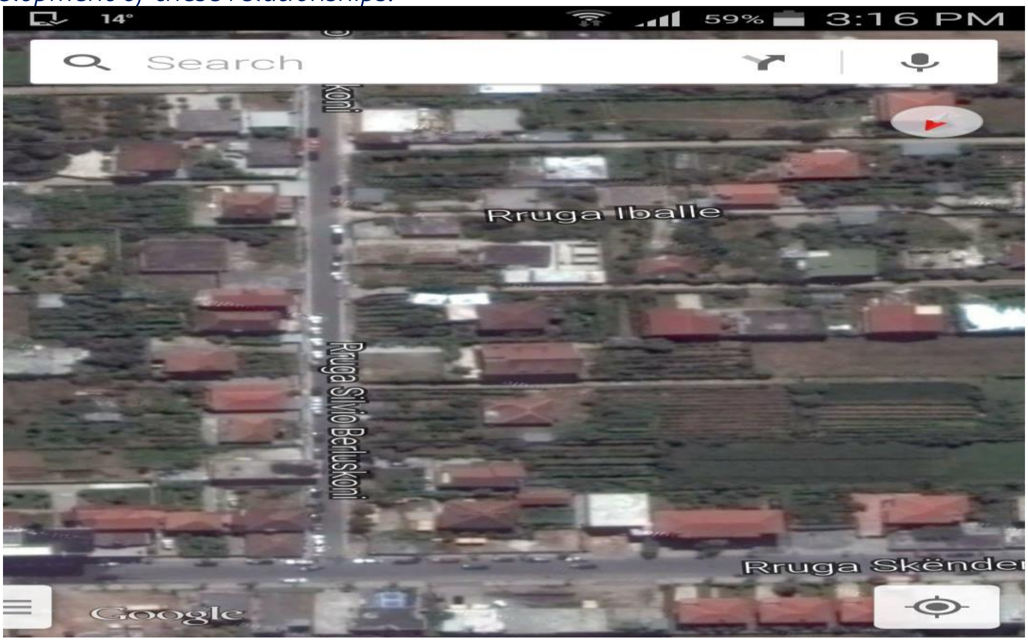

Photo 1
Neighborhood in "Berluskoni" street

The families (since we will look at these relationships at the family level, again arbitrarily but for our purposes), on both sides of the road have this structure: "On the right side of the road, the first 4 houses come from Puka and Mirdita, but they are not related to each other. All families belong to the Catholic faith. Then come two families from Kukës who are also not related by blood or previous acquaintance. On the left side of the road, the placement is this: the first family is from Kukësi, the second one is from Dibra and the other three families are from Kukësi. They are two brothers and a cousin together. Then comes a family from Dibra and finally a family from Tropoja. The first three houses located in this neighborhood are the family of Mëhilli from Mirdita (second on the right), one of the Kuksian brothers (fifth on the left on the way), and Ali's family from Kukësi on the right side (fifth house)". This placement explains the social morphology of the inhabitants.

From contacts on the ground, we are informed that initially there was a great solidarity. R.Gj from Dibra says that: "In the beginning, there was no water to build the house and he got water from the Kuksian neighbor without any problem. Even the whole family of the future neighbor was engaged to help build my house. I remember that I came from time to time as soon as I collected some money in the highlands and carried out a work process, first the foundations, then the walls and so on. My neighbor kept the materials I bought for the house, he took care of everything. Several times I slept, ate bread and was served by the neighbor's sons and daughters, which I will never forget. Until recently, there was neither a fence nor a yard between us, even when we put some reeds in between, we left a door to communicate with each other.

Photo 2
The fence that separated the two neighbors as well as their common gate

The neighbors had a very correct mutual relationship, the children entered and left our houses without any problems, they participated in each other's weddings, family celebrations, exchanged visits on holidays and helped without reservations with various services. During the funeral ceremonies, they made available to the family that had the misfortune the premises of the house to receive people or to serve with all our possibilities towards each other. Close tribal and neighborhood ties can appear as a source of strength, identity and survival (Keesing, Strathern, 2008) and we observe this approach in the Kamza area that we are considering.

MM says: " We have a very good time with AH and AK as we are the first to settle here and we have maintained the family entrances and exits even today. I invited the whole neighborhood to the children's weddings because I wanted to, but I rather spent time with these two families". When we ask if the Catholic faith of some residents affects your relationships? He says that if this were the case, then I would only have relations with them, but as I told you, I still maintain relations with the families from Kukës with whom we shared the most difficult moments here. We had nothing, no water, no electricity, no sewage, nothing of the sort. We also had a good time with the other neighbors."

A.H from Kukësi, one of the brothers, says that: " The part located on the left side of the road has had a conflict during these years with the part located below the road. They claim that the road they are crossing is their property and the families located on the upper part of the road are crossing their property. We actually bought the land up to half of the drainage ditch. They say they also bought half of the canal, including the road, and their land. Until three years ago, except for MM who is among the first here, the entire lower part put various pressures on us not to cross over to their land. They didn't let us put in the waste water sewers even though we organized to take them out to the main road where the big pipe also passed. ".

Gj.K from Tropoja says: " We are a good neighborhood! Now even the fingers are not the same, but we had a good time. We never have any thefts in the neighborhood. He laughs because he thinks that the boys from the AK neighborhood are thought to steal usually. I ask him why he laughs. He tells me that he remembered the neighbor who no longer lives, but the deserter told me that when he came here with his house, he gathered all 5 boys and told him that I don't want you to blacken my face here either. We came to build a new life and if you steal from our neighbors, we'd better go back to where we were. I can't stand humiliation here either. In fact Gj. K claims that there have been no thefts in the neighborhood, *perhaps because Ali's sons, knowing the robbers of the time, kept them away from their neighborhood. We don't have any conflicts to make our lives difficult. We have a good time."*

These words of our informants give us an important clue that at the beginning of the settlement of the residents in these areas, solidarity, positivity, mutual respect, living with the neighbor's plight, social empathy, was a dominant behavior. Because of the same problems they were going through, the kindness between them was at very satisfactory levels. After nearly 25 years, many elements have changed and relations between neighbors have suffered a kind of cooling. This is easily seen even from the raised borders, high concrete courtyards ravishing the future of the neighborhood in these areas. It is noted that collective life and mutual control has become a concern for these residents. Now the dynamism of urban life has penetrated into their lives and the only way to somehow individualize life is the physical separation of the space with high courtyards, closing windows that have a view of the neighborhood, changing the entrance of the houses, planting decorative trees that they also exceed the courtyard in terms of height, closing of communicating doors left earlier, etc.

When we asked one of our informants, XH.H, why this had happened, he answered: " The time came naturally. Children grew up, got married and had children, and as I said, the intensity of our relationships with friends and other people increased. Who didn't come to our house, of course people who were related, but one family didn't know them. Another very strong reason was the children's desire to have our family privacy without worrying that someone is watching us, but also without disturbing anyone, be it the neighbor and no one else, we wanted to hang out freely in our yard. . Let's leave the house when we want and come when we want ".

Researcher Robert Redfield focused on the changes that internal structures were undergoing in intermediate societies (in " ***Folk cultures of Yucatan"*** *he studied 4 communities in India) classified according to the order of increasing complexity and the percentage of contact with the outside world. According to this concept, the most rural was an Indian tribal village and the most urban was Merida, the center of the Yakatanas. He noticed little by little that the group approaching the urban area was subject to the alienation of traditional roots and customs as well as common values, while individualism progressed. He studied the communities of Mexico because he thought that the study of small communities gave a faithful picture of the culture of a nation. He defined the community as: "A living social system, a harmonious community, whose members share the same way of life, have the same creative and perceptive spirit, and where the relationships between individuals have their own character derived from direct contacts (vep.cit Shtepani 2011)*

Henry ***Lefebvre*** *points out that: "Urban spaces are over-carved: everything there resembles a rough, lumpy and self-contradictory project". After delving into the cosmology and relationship dynamics of these families, we get some interesting feedback on several issues:*

I. First, we think that the thread of the establishment of joint relations consists of the same problems as the road, water, lights, sewerage, education, etc.;

II. Because of these issues, solidarity between them is initially high;

III. Within them, connections are channeled and crossed on the basis of reciprocity (the case of helping each other);

IV. Conflicts stem from a foundational issue for human society: Property. The common road becomes the cause of the division more or less into two parts of the inhabitants;

V. We see this division synthesized in the disconnection of the relations between them. Different "points" or "occasions" become the cause of comings and goings. Especially the cases of death where almost everyone is present. So there is a kind of formalism in this regard;

VI. It is noted that the networking of relationships is also carried out based on different criteria such as: religious affiliation or common area where they come from, families that have a more intimate common historical memory are more connected, families that have to some extent the same educational or educational level , there is also another bud of relationships that are created by children who are the same age and have friendship with each other and this becomes the reason for increasing communication between families.

5. Neighborhood today in suburban areas

As a result of this work, a questionnaire was created to understand and analyze neighborhood relations in pre-urban areas. 30 residents were interviewed randomly, including different ages and genders. 26 of them live in private houses and 4 live in apartments. 17 of them are related to the neighbor and 13 of them are unrelated. All the interviewees state that they have relations with their neighbors.

6. What are the problems you encounter in relationships with each other?

Rumors. The interviewee is a 17-year-old girl. According to her, gossip makes women unemployed and desperate.

Public tranquility. People do not respect many rules of urban life such as: throwing garbage on the street and not in the right place, respecting hygiene rules, children fighting with each other, misunderstandings in communication.

Conflicts. Ownership issues are very present. The issue of water and the territory where it passes, sewage and electricity crossings.

We have no match. Many families, due to formation, education or social status, do not create neighborly relations.

During fieldwork, it was noticed that in pre-urban areas the houses are surrounded by high walls over 1.70 cm. To understand this phenomenon, we raised the question: What are the reasons that you have erected walls to surround your houses and land? (24 out of 30 interviewees state that they have avlli, a physical wall that divides the space between neighbors.

7. *Reasons for walls:*

Among the reasons why they erected the walls, the residents asked listed: to prevent children from going out into the street; I don't have a particular reason, but everyone does this nowadays; we built walls to divide the territory; privacy is a strong reason as it avoids arguments that may arise between us; security and protection from robberies, various attacks, etc.; we are close to the main road and many people we don't know pass by and we don't want to see us in our yard as various harassments can happen from the street to family members and of a sexual nature; the walls are erected to define our property as we surround the house and know where the boundaries of our property are and so I make it clear that this is someone's land as long as they put it in the yard; not to have conflicts in the future as people change and we don't have to leave the possibility of conflicts with neighbors in the future; we have been forced to put up walls due to the lack of mutual respect.

Another concern that testifies to neighborhood dynamics in peri-urban areas is related to mutual visits between neighbors. Taking into consideration that during the interviews the residents testified to a high intensity during the first period of settling in the area, we raised the question:

8. *Do you visit the neighbors?*

90% of the respondents say that they go to visit their neighbors. *It is interesting* *that out of 17 respondents who are related, 10 of them often visit each other. The other seven say that they go only for certain occasions such as: holidays, birthdays, deaths, weddings, various ceremonies, etc. The second result includes 13 respondents who stated that they are not related to each other. This fact testifies to a growing breakdown of kinship relations and a decline in social control according to this relationship. The tendency of the formalism of the relations between them is observed in order to maintain a model of good neighborliness but without going too deep with each other, to deviate from social control.*

In order to highlight the difference in neighborhood relations, we raised the question:

9. *How do you remember your relationship with your neighbors?*

Almost everyone says they had a better relationship in the past. Over 50% state that these relationships have undergone changes. There is no longer the same harmony as before as there is a cooling that is considered normal due to the new social conditions in which we live. According to the respondents, with the change of generations and problems, these reports are no longer the same as those of previous years.

The reasons for the change in relations are listed : Increase in the standard of living; personal interests; wealth; competition; jealousy; the different positions that neighbors can occupy in neighborhood administration; privacy of residents; lack of sincerity; individuality; conflicts over time for various reasons; change in living conditions; increasing family problems (dedication to the family and its problems, children's education, unemployment, poverty, etc.); the risk of sexual relations that emerges as a special and problematic bud, despite the fact that the residents say that this fact is somewhat hindered, constitutes an important concern that conditions this change in neighborhood relations since neighbors without blood ties can freely have sexual relations with each other.

What do you remember from the past as positive elements in neighborhood relations: children spent a lot of time together; the comings and goings between the families were more frequent (the familiarity between us was very great); we gathered more with neighbors in cafes or festive family dinners; intimacy and jokes; harmony and purity of relationships; calmness and mutual respect; mutual assistance in difficulties; mutual visits on holidays; mutual understanding; the free time we spent with each other; communication and interest in helping each other (you could talk to the neighbor about various family problems and the neighbor would help with the children, take care of the house without *any problem and there was a generosity that was best expressed when we ate bread at each other's house without a problem).*

To see how they approach neighborhood reports, we asked the residents the question:

10. Which is the best period in these reports: past or present?

Out of 30 respondents, 20 of them or 66.6% see the season as the best period of neighborly relations. This result is expected since the residents have experienced a strong grip of these reports and on the other hand the "past" is often mythologized for various reasons.

The future of the neighborhood in these areas can be somewhat understood by the answers that the residents have given to the question:

11. What is your idea of a good neighbor?

The owners have answered that in the future they want the fineness to be guided by: Cooperation; sincerity; tolerance; maintaining privacy (we should not interfere in each other's lives); trust (so that you are not afraid to leave the house but why not leave the house keys with the neighbor); mutual help to each other in cases of need (in good times and in bad); relationships should not be based on interest; to respect neighborhood rules; the freedoms and rights of the other; not to encroach on private property; to respect the common environment and contribute to keeping it clean; not to create conflicts over small and insignificant things.

12. Conclusions

- *Pre-urban areas represent one of the most important urban developments after the fall of the dictatorships in the countries of origin and specifically in Albania;*
- *The neighborhood in these areas is subject to a new dynamic but which is influenced by the social structures of the past;*
- *Neighborhood relations at the beginning of the settlement of residents in the new settlement were characterized by solidarity;*
- *As the years pass, when a generation is passing from the movement of the settlement, the relations of neighborliness are fading, tending towards the atomization of life.*
- *Neighborhood relations are associated with kinship relations that remain vibrant.*
- *Neighbors without blood ties often even build marriages between them, breaking a concept of the "exogamous village" that prevails in Albania.*

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IMPORTANCE OF CADASTRE IN SUSTAINABLE DEVELOPMENT AND COMPLEX ASSESSMENT OF TOURIST-RECREATIONAL RESOURCES

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Abstract

The analysis of the experience of foreign countries in the field of creating cadastres shows that the cadastral system is the basis for the management of many natural resources, namely: land, water, forest, minerals.

In the development of the cadastre of tourist resources, different sources of information about their existence and condition should be used, as well as the results of expert assessments and evaluation of the attractiveness of tourist resources, which are obtained through surveys and socio-economic monitoring.

Tourism management requires reliable and complete information about the existence and condition of tourism resources. At the same time, there is a need for a complex assessment of all available resources, as well as tourist reception and service conditions.

Creating a single complex model of tourism resources is necessary for complex planning of tourism development. It is the basis for developing targeted programs and concepts of tourism development.

Keywords: *tourism, recreation, sustainable development, assessment, region*

Introduction

The creation of a system of cadastral information should be attributed to the complex methods of evaluation of tourist resources.

The cadastre is a systematized collection of data, which includes the following positions:

- ✓ *Location and ownership;*
- ✓ *qualitative and quantitative description of objects or events with their economic description;*
- ✓ *Data on dynamics and the quality of their study with attached cartographic and statistical materials;*
- ✓ *Recommendations about objects and events, offering measures for their protection;*
- ✓ *Indications about the need for further studies.*

The analysis of the experience of foreign countries in the field of creating cadastres shows that the cadastral system is based on the management of many natural resources, namely: land, water, forest, mineral [1].

main text

In the development of the cadastre of tourist resources, different sources of information about their existence and condition should be used, as well as the results of expert assessments and evaluation of the attractiveness of tourist resources, which are obtained by survey and socio-economic monitoring [2].

Tourism management requires reliable and complete information about the existence and condition of tourism resources. At the same time, there is a need for a complex assessment of all available resources, as well as tourist reception and service conditions. Cadastral registration should be carried out for three main groups of tourist resources:

1. Resources, - which generate tourist interest (historical-cultural resources), - represent one of the most important elements of the tourist product;

2. Infrastructural resources (city-forming and city-serving areas);

3. Natural-recreational resources [3].

State cadastres of natural resources - this is a set of reports, collections, economic, ecological, organizational and technical indicators, the composition and categories of users, the quantitative and qualitative state of these resources, their ecological and economic assessment.

Information is provided for the formation and production of state cadastres of natural resources: mineral resources, surface water resources, forest resources, soil resources; wetlands - including those of international importance; hydrobiological resources; resources of industrial species of animals; usable species of plants growing in wild conditions; fungi, rare and endangered species; climatic resources; integral assessment of the ecological condition of the territory; special protected areas; according to natural objects of recreational and cultural-historical importance [4].

Each individual natural resource cadastre must be compiled as a part of the whole system of natural resource cadastres. Only then will their interrelationship be achieved and many issues of natural resource management information provision will be resolved. However, today the natural resources cadastre system as such does not exist. But if it is mentioned, it means a simple sum of individual cadastres, structurally and functionally unrelated to each other. Therefore, the problem of the absence of a complex cadastral model of natural resources complicates the creation of a complex cadastral model of tourism resources of the regions, because it should represent its basis.

An essential point in creating a unified model of tourist resources is the reconciliation and aggregation of cadastral information. Since the management of nature use is carried out in administrative-territorial units, and it does not always coincide with the natural boundaries, therefore the content of the cadastre should, first of all, respond to the tasks of practice, i.e. the existing management system. All cadastral information must belong to the administrative-territorial unit [5].

In market conditions, it is necessary that the cadastral structure responds to the requirements of economic and ecologically efficient use of resources. When developing the methodology for compiling the cadastre, the periodicity or continuity of its updating and filling should be taken into account.

The cadastre should be considered as the result of the analysis, systematization and collection of geographical or geological, technological and economic information about the state of natural resources, which will end with the adoption of cadastral assessments. At the same time, the economic assessment (order of their determination, assessment criteria) is methodically and practically the most difficult stage of the work. This is especially true for natural recreational resources, whose economic evaluation is poorly developed. Economic assessment is possible only for those recreational resources whose economic effect can be measured - mineral waters, healing mud, forest, surface water, natural national parks [6].

Creating a single complex model of tourism resources is necessary for complex planning of tourism development. It is the basis for developing targeted programs and concepts of tourism development. Drawing up a cadastre of tourism resources will allow us to identify strengths and weaknesses from the point of view of both specialists and tourists.

The most important goal of creating a cadastre of tourist resources is to reveal ways of effective use of all prerequisites for tourism development. For this, the cadastre needs to include a complex characterization of tourist resources, including their detailed registration and classification, qualitative and quantitative evaluation of the economic effectiveness of utilization, analysis of use and its main prospects, as well as the most important measures for its protection [7].

Valuation of tourism resources requires a scientifically based basis for determining the monetary payments of taxes and other fees for their consumption.

The unified cadastre of tourism resources can be used: as a tool for planning and forecasting the development of tourism, controlling the consumption and restoration of tourism resources; a tool for determining the tourist load in the territory, accounting system and multi-criteria ranking of resources, economic evaluation of tourist resources, projecting tourist routes; as an information-reference system and for other purposes.

In the unified tourist cadastre model, it is necessary to add the cadastre of special protected natural areas (GBT) to which state natural reserves belong, including - biosphere, national parks, natural parks, state natural reserves, natural monuments, dendrological parks and botanical gardens, healing and healing places and Resorts.

conclusion

The results of the assessment of tourism development resources and scientific substantiation of long-term target programs of tourism development will allow us to avoid mistakes in the development of state and regional tourism development programs and increase the effectiveness of the implementation of regional measures. Tourism development should be based on a systematic, complex *study of resource potential. As a result, the economic indicators not only of the tourism sector, but also of the regional and the country's economy as a whole will improve significantly.*

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Technical sciences

THE MAIN NATURE OF GLOBAL CLIMATE CHANGE AND ITS RELATIONSHIP TO PROCESSES OCCURRING IN THE SUN

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Abstract

As we know, the solar system was formed 14 billion years ago. From that time until now, the heat of the Sun is getting weaker, and the Earth is getting colder. But cooling is a general process. Earth's climate mainly consists of glaciation periods and these warming periods (warming periods are short-lived between glaciation periods).

The Earth and also the atmosphere are bombarded by cosmic rays consisting of high-energy heavy ions. At this time, the ionization process takes place in the atmosphere and heavy isotopes are formed here. As a result, a cloud layer is formed on the Earth. The resulting isotopes fall into the ocean and land. They decay very weakly, this period lasts for thousands or even millions of years. Based on these isotopes, it is possible to provide information about the earth's climate.

Keywords. *Climate changes, greenhouse effect, solar radiation, processes affecting climate.*

At the moment, very big cyclical changes are taking place all over the world, that is, the period of global warming is going on. We are now living in a period of warming called the Holocene. In some cases, mainly every 3-4 thousand years, sudden warming begins. The reason is still unknown. However, they often associate this process with the Sun. Without the Sun, the intensity of cosmic radiation reaching the Earth would be approximately the same, and the climate would remain at the same level.

As we know, the Earth's only source of light and heat is the Sun. All processes occur periodically on the Sun, so climate change on Earth also occurs periodically. As we know from physics, nuclear reactions take place in the center of the Sun, the generated magnetic gravitational waves affect the speed of the nuclear reaction, that is, the speed of the reaction sometimes increases and sometimes decreases [3]. As a result, the energy of the Sun can decrease and increase with a period of several thousand years. This directly affects the Earth, global climate changes occur. In recent times, abnormal cold has been happening in Europe. Because the influence of the warm Gulf Stream on Europe is decreasing.

In general, there are always changes in the climate system due to the influence of natural factors. For example, volcanic eruptions. As a result of this process, the moisture circulation in the atmosphere, the energy balance is disturbed, the average annual temperature on the Earth increases or decreases. As a result, periodic global warming and cooling may occur.

One of the main factors leading to the formation of climate is the oceans and the processes occurring there [1, 3]. There are both hot and cold currents here, and due to the influence of these currents, certain changes occur in the Earth's climate. Arctic and Antarctic glaciers cause relatively high temperatures on Earth. If these processes did not exist, then the Earth would not have an optimal climate.

In modern times, the average annual temperature around the world increased by 1° and reached 14.5°. However, this growth was not at the same level all over the world. For example, the temperature in South America has increased by 2 or 3 degrees above the average annual norm. This leads to the emergence of great complications [1].

Global climate changes should be considered as short-term climate anomalies. There are different opinions about climate change in the world (table 1).

Table 1.

Explanation of climate changes based on different theories

№	Different theories exist to explain climate changes
1	According to the 1st theory, intensive warming of the climate is currently taking place
2	Theory 2, on the other hand, says that we are headed for an ice age
3	The 3rd theory says that there is nothing unusual here. These are just climate anomalies

Climate change manifests itself mainly in three aspects, which are viewed as a competition of political, financial and scientific consequences. Therefore, each of these aspects should be worked on carefully. The processes of warming and cooling on the Earth change over time, the process of warming is replaced by cooling or vice versa. It is also debatable whether the melting of ice in the north is causing global warming. According to physicists, the melting of ice is the transition of matter from one state of aggregate to another, during which heat is not released [2].

These anomalies have always been there. The main thing is to be prepared for the impact of such anomalies. If no action is taken against global climate changes, global temperature will increase by an average of 2°C by the end of the century.

Greenhouse effect and its essence

At the root of global climate change is the Earth's potential to absorb CO_2 and greenhouse gases (gases that create a warming effect).

Gases in the atmosphere capture and store the necessary heat from the Sun for us to live. If there were no such gases, then the average annual temperature on Earth

It would be -19°C. Therefore, these gases are called "greenhouse" gases. In the figure below, the factors affecting the climate and the relationships between them are presented in a schematic form.

The increase in temperature on the earth's surface as a result of the greenhouse effect of gases released into the atmosphere is called Global Warming [1]. (figure 1).

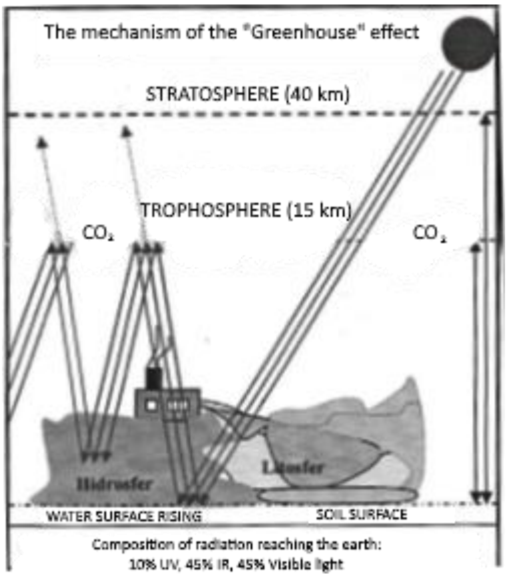

Figure 1. Scheme of the creation of the greenhouse effect

Carbon and other gases protect us from heat by trapping the heat falling from the Sun onto the Earth through the atmosphere. When the sun's rays pass through the air mass and reach the Earth's surface, the atmosphere affects it to some extent [3]. This can be illustrated by the graph in the figure below (figure 2).

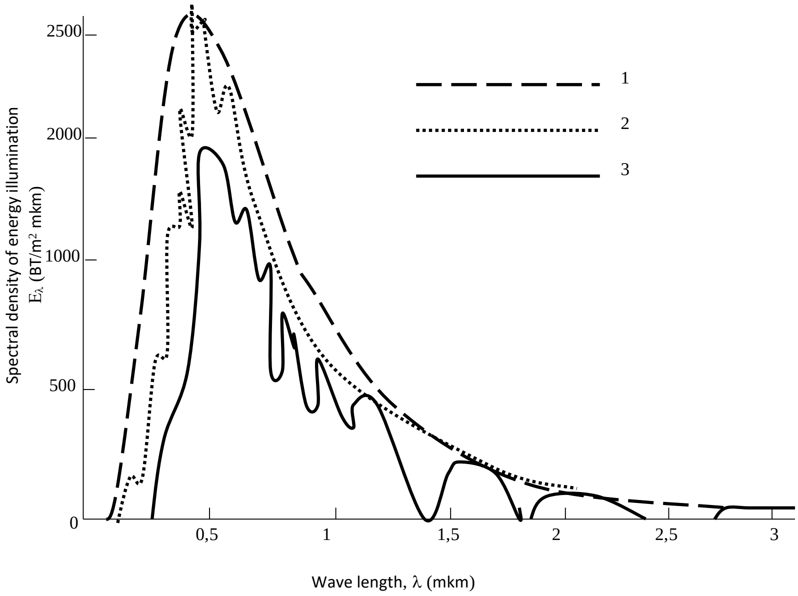

Figure 2. Solar spectral density of Earth's energetic brightness; 1- radiation curve of an absolute black body at 6000°K temperature 2 - Radiation curve observed in the atmosphere, 3 - Radiation curve of the Sun observed from the Earth

The graph of the spectral density of the Earth's energetic brightness is shown in the figure. The graph is divided into three parts. Graph 1 shows the processes occurring outside the atmosphere. Since there are no gas mixtures (oxygen, carbon dioxide, water vapor, nitrogen oxides, etc.) here, the graph is complete. The 2nd graph shows the processes occurring in the atmosphere. Since there is a certain number of molecules (gases) here, the graph has become concave and convex. The 3rd graph was taken from outside the Earth. Here, in addition to the gas mixture, there are also dust particles, so the graph is more uneven. Therefore, the gases in the atmosphere make the spectrum of the Sun complex.

The atmosphere affects the rays from the sun in two ways [6]: by absorbing and scattering energy. In the absorption effect, light photons in the atmosphere are absorbed by molecules, and these molecules change the energy state of the photon. Then the molecule emits a photon, and the energy of that photon can be radiated at other frequencies and in other directions. In general, a process similar to that in which an electron moves from one level to another takes place. 3 gases are mainly involved in the absorption process: ozone, oxygen and water vapor.

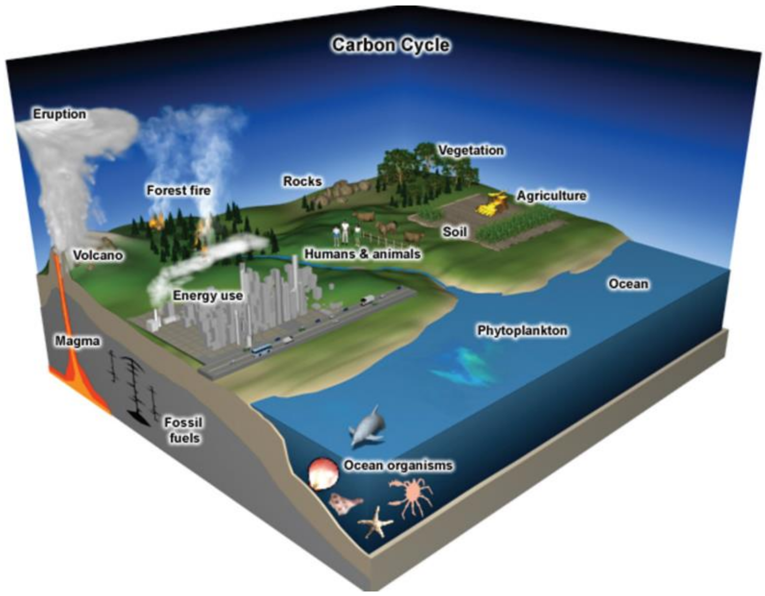

Figure 3. The main sources of carbon dioxide

The second effect on rays from the sun occurs through scattering [4]. During scattering, the frequency of the passing quantum (photon) does not change, but its direction changes. As a result, part of the light coming from the object does not reach the observation device. Scattering occurs when the rays collide with gas molecules in the atmosphere, water droplets, etc., as a result, some of the rays are reflected and some are reflected. At this time, since the frequency of the photon is not changed, the scattered rays from the Sun or the rays reflected from the Earth's surface never weaken, but change their direction. Such a change of direction depends on the wavelength.

Thus, gases in the atmosphere play a very large role in forming the necessary temperature in the world. Carbon dioxide (CO_2) enters the atmosphere due to agriculture, changes in landscape use, industry, waste, energy, etc.: (Figure 3).

The following table shows the sources of greenhouse gases and their impact on global warming [5] (table 2).

Table 2

Sources of greenhouse gases and their impact on global warming

№	Gases	The main anthropogenic sources	Impact on global warming
1	CO_2 – carbon dioxide	Energy use, forest use, land use, cement production	65
2	CH_4 - Methane	Leaks in gas pipes, fermentation of livestock waste, rice fields, waste, landfills, biomass burning, domestic effluents	20
3	Halogen compounds	Industry, cooling agents, aerosols, foaming agents, solvents	10
4	N_2O – nitrous oxide	Soil fertilization, soil treatment, biomass burning, coal and hydrocarbon burning	5

The sun's rays, which heat the earth's surface, return and pass through the atmosphere again. At this time, some of the rays (carbon dioxide, water vapor, dinitrogen monoxide gases, etc.) are caught by a natural cover created on the earth's surface, as a result, the earth's surface remains warm.

The result. The average temperature on Earth is 20°C due to greenhouse gases (water vapor, carbon, methane, ozone, etc.) located 25 km above the Earth's atmosphere. Due to the layer created by greenhouse gases on the Earth's surface, the Sun's heat rays pass through the Earth's atmosphere without being absorbed. Then, after those rays are reflected from the ground, when they pass through the atmosphere for the 2nd time, the gases located in that layer reflect the Sun's rays and return them back to the Earth. This process is similar to the process in greenhouses. Therefore, the temperature on the planet Earth sometimes increases to 39°C, and the average annual temperature is from - 20°C to + 20°C. Without this layer, which creates the greenhouse effect, the temperature on earth would always be -20°C, the water would be ice and life would be impossible.

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SEISMOACTIVE AREAS OF AZERBAIJAN, THE HISTORY OF SEISMIC SURVEILLANCE AND THEIR MAIN CHARACTERISTICS

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Abstract
Since the territory of Azerbaijan is located in the central part of the Mediterranean moving zone, it is characterized by high seismicity, active magmatic and mud volcanism, extensive development of landslide processes and opposite nature of modern vertical and horizontal movements along the length of that moving zone. Most of these processes were reflected in the territory of Azerbaijan, in other words, both slow and high-speed modern geodynamic processes are widespread in the territory of separate geostructural zones of Azerbaijan: the Azerbaijan part of Greater and Lesser Caucasus, the Kura degression (depression), the South Caspian depression, the Talish fold zone.

Keywords: seismotectonic zones, seismic surveys, seismic activity maps, earthquake prediction.

The southern slope of the Greater Caucasus is considered the most mobile and seismically active region, where the speed of movement reaches up to 5 mm per year. The area is characterized by many strong earthquakes with no great depth. Most of the strong earthquakes that occur in the area are located at shallow depths (10-15 km), which in turn affects their manifestation on the earth's surface. During the historical period (until 1903), the strong earthquakes that occurred on the southern slope of the Great Caucasus occurred in the Shamakhi-Ismayilli region.[1]

The seismotectonic zoning of the surrounding area of the southern slope of the Greater Caucasus was studied in more detail by R.A. Agamirzoev [Agamirzoev, 1987]. In this work, based on the analysis of instrumental and agroseismic studies, the seismotectonic zones of the southern slope of the Greater Caucasus were regionalized, and as a result, a large number of weak and shallow epicenter tremors were detected, as well as the spatial position of the junction nodes of macroseismic areas and the quantitative assessment of seismic activity was carried out. The following four seismically active zones are attributed to them: Zagatala, Oguz, Shamakhi (which includes the Ismayilli subzone) and Absheron.

The territory of Azerbaijan is generally characterized by high seismic activity, where there have been earthquakes of magnitude M≥6 and destructive earthquakes in different historical periods: Goy-gol 1138, Eastern Caucasus 1667, Mashtagha 1841, numerous earthquakes in Shamakhi (1191, 1666, 1668, 1827, 1858 , 1867, 1871, 1901), Caspian earthquakes (956, 1811, 1841, 1851, 1910, 1934, 1960, 1962, 1985, 1988, 2001, 2023), etc.

Macroseismic studies of strong earthquakes

Since the 1950s, macroseismic studies on the effects of strong earthquakes felt in Azerbaijan began to be conducted almost regularly (S.S. Rahimov, R.A. Agamirzayev, A.H. Hasanov, E.K. Gul, R.D. Jafarov, K. Islamov, V.P. Kuznechov, S.M. Aliyeva, E.M. Guliyeva, F.T. Guliyev, A.A. Nikonov, V.A. Rastvorova, A.A. Sorsky). A characteristic feature of the macroseismic areas of Azerbaijan is their uneven distribution and oval isocyst shape. Macroseismic fields are stretched along seismogenic structures and are mostly elliptical in shape. The depth of the earthquake foci is estimated at 5-35 km.

In the Azerbaijani part of the Greater Caucasus, due to the impact of engineering-geological conditions on the seismic effect, well-studied cases of isoseisms of macroseismic fields of earthquakes are known. The spatial position of the distribution of anomalies of the macroseismic fields of some earthquakes in the Azerbaijani part of the Greater Caucasus allows to identify positive and negative anomalous zones. A comparison of the identified anomalies with the structure of the Azerbaijani part of the Greater Caucasus shows that they are all related to non-cutting dislocations. The study of the geological nature of the anomalies of the macroseismic areas expressed by a sharp decrease in the intensity of the seismic effect allows us to study their relationship with the tectonic fault zones where the absorption of seismic waves occurs. The physical essence of this event is convincingly shown in the example of Imishli and Sabirabad earthquakes (Guliyev et al., 1969).

Quantification of seismicity

Seismic activity maps were prepared for the Greater Caucasus (Aghamirzoev, 1987), the Caspian Sea region (Panahi, 1998), the Caspian-Guba region (Isaev, 1974), as well as the territory of Azerbaijan for the purpose of multidimensional correlation of various geophysical parameters (Riznichenko et al. 1973).

The analysis of these maps showed that the seismically active areas identified on them are related to the seismically active areas identified on maps constructed for a relatively long observation period with high average long-term activity.

Earthquake recurrence graphs and propensity have been established and calculated mainly for the large geostructural elements of Azerbaijan (Ahmedbeyli, Kuliyev, 1980; Agamirzoyev, Panahi, Aghayev, 1985, 2000). The inclination angles of the earthquake recurrence graphs: -0.48 for the Greater Caucasus, -0.43 for the Lesser Caucasus, -0.38 in the south-east of the Greater Caucasus (Gobustan, Absheron region), Talysh and the foothill river. Low-level geostructures - for the development areas of mud volcanoes of Azerbaijan (Panahi, 1998), the inclination angles of the earthquake recurrence graphs in these areas vary between (-0.47-0.69) and the coefficients a and b have been determined to change in the range of (0.025-0.9) and (0.84-1.24) respectively [2].

The work dedicated to the study of the dynamic and spectral characteristics of vibrations generated in the earth's crust during earthquakes in the areas near the Shamakhi and Absheron foci was important in terms of microseismic zoning of various objects in Azerbaijan.

Based on the results of the detailed study of the stress state of the large geostructures of Azerbaijan (E.B. Agalarova, 1975) carried out on the basis of calculations and analysis of the mechanism of earthquakes, compression areas (Greater and Lesser Caucasus) and uniaxial relative stress areas operating with stress axes on the horizontal plane perpendicular to the direction of extension of the main geostructures (Caucasian front depression, Lower-Kur depression) allowed to separate.

In the following years, based on the study of the mechanism of strong and weak earthquake foci in Azerbaijan, the elastic stress areas of the southern slope of the South-Eastern Caucasus were studied. Based on the data on strong earthquakes, the direction of the main stresses acting in the area where the furnaces are located and observed at the time of the earthquake was determined. For the regions of Azerbaijan - the Greater Caucasus, the Lesser Caucasus, and Talish, it was determined that the regional stress field is stable over time and is a near-horizontal compression field with a submeridional direction perpendicular to the extension of the main geological structures in the direction of the entire Caucasus. Movement along the fault mainly manifests itself in the form of an overthrust-reverse fault (Figure 1).

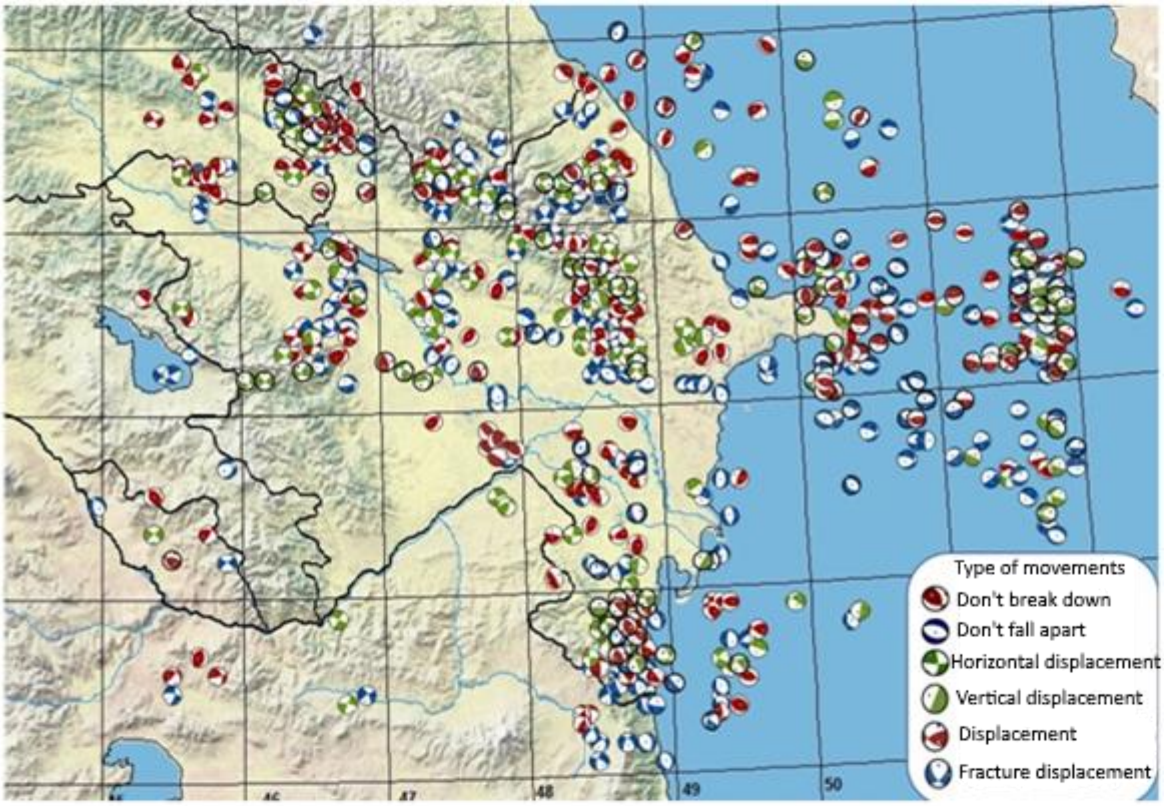

Figure 1. Mechanism of earthquake foci (M≥3.0) that occurred in Azerbaijan in 2003-2019

The regional stress field for the Caspian Sea and Kur degression areas is a horizontal compression field in the submeridional direction. The movement along the fault is most often manifested in the form of faults and horizontal (horizontal) displacement.

The 70s of the 20th century were characterized not only by the expansion of seismic research, but also by the diversity of the studied issues.

The nature and character of surface waves are studied, seismic processes are simulated, and detailed seismic zoning and microzoning works are carried out.

In the compilation of seismic zoning maps of the USSR, seismic zoning of Azerbaijan was carried out many times, and various options for seismic zoning of the territory of Azerbaijan have been published so far. The first map had a schematic character and was drawn up in 1926 on the basis of a small amount of data.

In 1947, G.P. Gorshkov drew up a seismic zoning map, on which the Shamakhi region with intensity of IX was distinguished within the borders of Azerbaijan, and the axis zone of the Greater Caucasus from Meraza to the west to Gabala was defined as the zone of occurrence of earthquakes with intensity of VIII.

In the southern and northern slopes, as well as in the Azerbaijani part of the Lesser Caucasus, the intensity was assessed as grade VII, in the Autonomous Republic of Talish and Nakhchivan, the intensity was assessed as grade VII-VIII, and the bending areas of the Kura depression were attributed to the weak seismic area (grade VI).

Seismic zoning maps were compiled for the territory of Azerbaijan by Azerbaijani seismologists and geologists-tectonists - F.T. Guliyev, Sh.S. Rahimov, F.S. Ahmadbeyli, Z.Z. Sultanova, E.Sh. Shikhalibeyli, etc. (1957, 1963, , 1968, 1980, 1989- years).

The last map of seismic zoning of Azerbaijan was compiled in 1989. 1: 2500000 scale seismic zoning map of the territory of Azerbaijan (Ahmedbeyli, Hasanov, Panahi et al., 1989) based on the two-stage principle, real and potential fire zones were determined, and then the expected seismic effect was calculated. The map is characterized by two degrees of intensity, VIII and IX, with different probability of occurrence. For the territory of the republic, the background value of seismicity was set to VIII point. Thus, for the first time, IX intensity zones were determined on the seismic zoning map of Azerbaijan. A significant part of the Greater Caucasus and the Lesser Caucasus, the narrow coastal strip of Nakhchivan and Gusar-Devachi depressions are designated as 9-point zones, and the rest as 8-point zones [3].

Seismic micro-districting maps were drawn up based on the calculations for some cities of Azerbaijan: Baku, Sumgait, Shirvan, Shamakhi, Sabirabad, Salyan, etc. (F.T. Guliyev, S.M. Aliyeva, E.M. Guliyeva and others)

In the Institute of Geology (B.M. Panahi, 1988), for the first time, a forecast map of seismotectonic zoning, which allows to determine the initial score for soil seismozoning of separate parts of the water area in the construction of deep-sea facilities, including the Caspian Sea area and its platform segment, on a scale of 1:1000000 compiled.

***The result.** One of the most important aspects of earthquake prediction is the socio-psychological aspect, the research of which has been started relatively recently. Until the beginning of the 80s, there were practically no publications in this direction. For the first time in Russia and the USSR, this direction of earthquake prediction (sociological survey of the population in the cities of Tashkent, Gazli, Alma-Ata) was studied in 1981 in order to warn the population about upcoming earthquakes. (Akhundova, 1985). In general, the author created a general description of the history of the development of the problem of earthquake prediction, and a historical-scientific analysis of the main earthquake predictors was carried out, covering the history of the organization of research programs for prediction.*

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DATA ANALYSIS OF HEART ATTACK RISK FACTORS: INSIGHTS FROM MACHINE LEARNING

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Abstract

This study presents an exploratory data analysis (EDA) concentrated on recognizing risk factors connected with heart attacks by leveraging machine learning techniques. Given the complexity and multifactorial nature of heart disease, identifying and recognizing the most significant predictors are actually for early intervention and prevention strategies. Through feature importance ranking, correlation analysis, and predictive modeling, we highlight key factors contributing to increased heart attack risk. These findings underscore the importance of combining EDA with machine learning to enhance our understanding of heart disease dynamics, offering potential pathways for more personalized and effective preventive healthcare measures. The study targets not only to support the academic discourse on heart disease prediction but also to serve as a foundation for developing more sophisticated predictive models and health policy planning.

Keywords: Exploratory Data Analysis, Machine Learning, Heart Attack Risk Factors, Predictive Modeling, Feature Importance, Health Data Analytics, R.

Introduction

This study explores the intricate connection between various health indicators and their potential contribution to heart disease. It utilizes a dataset enhanced along with both categorical and numerical data. This dataset involves a wide scale of factors, including demographic details like age and sex, clinical parameters such as chest pain type, resting blood pressure, serum cholesterol, fasting blood sugar, and resting electrocardiographic results, among others. Each of these features provides a unique perspective on an individual's health profile page, providing essential insights into the multifaceted attributes of heart disease advancement. Incorporating an output variable showing the medical diagnosis of cardiovascular disease enhances the dataset's utility, paving the way for the development of predictive models targeted at very early detection and prevention.

Cardiovascular diseases, particularly cardiovascular disease, stand as the leading cause of mortality worldwide, providing a substantial public health challenge. The potential to accurately predict and alleviate the risk of heart attacks with the identification of crucial risk factors is of significant relevance in decreasing these statistics. Traditional strategies for recognizing cardiovascular disease have primarily depended on statistical analyses of risk factors such as age, sex, cholesterol levels, high blood pressure, diabetes mellitus, and also smoking practices.

This research specifies the dataset preprocessing steps to prepare the data for analysis and correlation analysis.

Exploratory Data Analysis (EDA)

This paper kicks off with an in-depth exploratory data analysis (EDA), setting the stage for understanding the dataset's structure and characteristics, which is vital for subsequent analytical phases. After meticulous data cleaning, the study examines a rich array of health indicators ranging from demographics like age and sex to specific medical measures such as chest pain type, blood pressure, cholesterol, glucose levels, and ECG results. The study further involves blood pressure, cholesterol, and glucose levels, recognized as conventional markers of heart health, and uses electrocardiographic outcomes and maximum heart rate during stress tests as indicators of potential cardiac issues. The research employs `dplyr` and `ggplot2` for data manipulation and visualization, presuming access to an existing dataframe or the necessity to import data for analysis.

Uniqueness: *The script loops through each column of the dataframe to count and print the number of distinct values using the n_distinct() function. This step is crucial to understand the cardinality of the data, which helps in identifying categorical variables and potential key identifiers.*

```
> cat("Distinct value counts for each column:")
> for (column in colnames(df)) {
  distinct_values <- n_distinct(df[[column]])
  cat(column, ": ", distinct_values, "distinct values")
 }
```

Handle Duplicates: Duplicates are identified using the duplicated() function and then removed from the dataframe with df <- df[!duplicated(df),]. This ensures the data does not have redundant rows that could skew analysis results.

```
> cat("Number of duplicate rows: ",sum(duplicated(df)),"\n")
> df <- df[!duplicated(df), ]
```

Completeness: This part of the script calculates the percentage of missing values for each column using sapply() and reports the columns with missing data. Handling missing data is essential as it can impact the accuracy of statistical analyses and machine learning models.

```
> missing_data <- sapply(df,function(x) sum(is.na(x))/length(x)*100)
> missing_data <- missing_data[missing_data > 0]
> cat("Missing Data Ratio:")
> print(missing_data)
```

Replace Values: In the 'thall' column, zeroes are replaced with twos. This could be a data correction step where the value '0' is assumed to be a placeholder or an incorrect entry for 'normal' which is represented by '2' in the dataset.

```
> df$thall <- ifelse(df$thall == 0, 2, df$thall)
```

Consistency: The next block of code maps numeric codes to descriptive labels for several columns (cp, slp, thall, restecg, sex). This step improves data readability and may be required for certain types of analysis that expect categorical data in non-numeric form.

```
> cp_mapping <- c('typical angina', 'atypical angina', 'non-anginal pain', 'asymptomatic')
> df$cp <- factor(df$cp, labels = cp_mapping)
> slp_mapping <- c('unsloping', 'flat', 'downsloping')
> df$slp <- factor(df$slp, labels = slp_mapping)
> thall_mapping <- c('fixed defect', 'normal', 'reversible defect')
> df$thall <- factor(df$thall, labels = thall_mapping)
> rest_ecg_mapping <- c('normal', 'ST-T wave abnormality',' left ventricular hypertrophy')
> df$restecg <- factor(df$restecg, labels = rest_ecg_mapping)
> sex_mapping <- c('female', 'male')
> df$sex <- factor(df$sex, labels = sex_mapping)
```

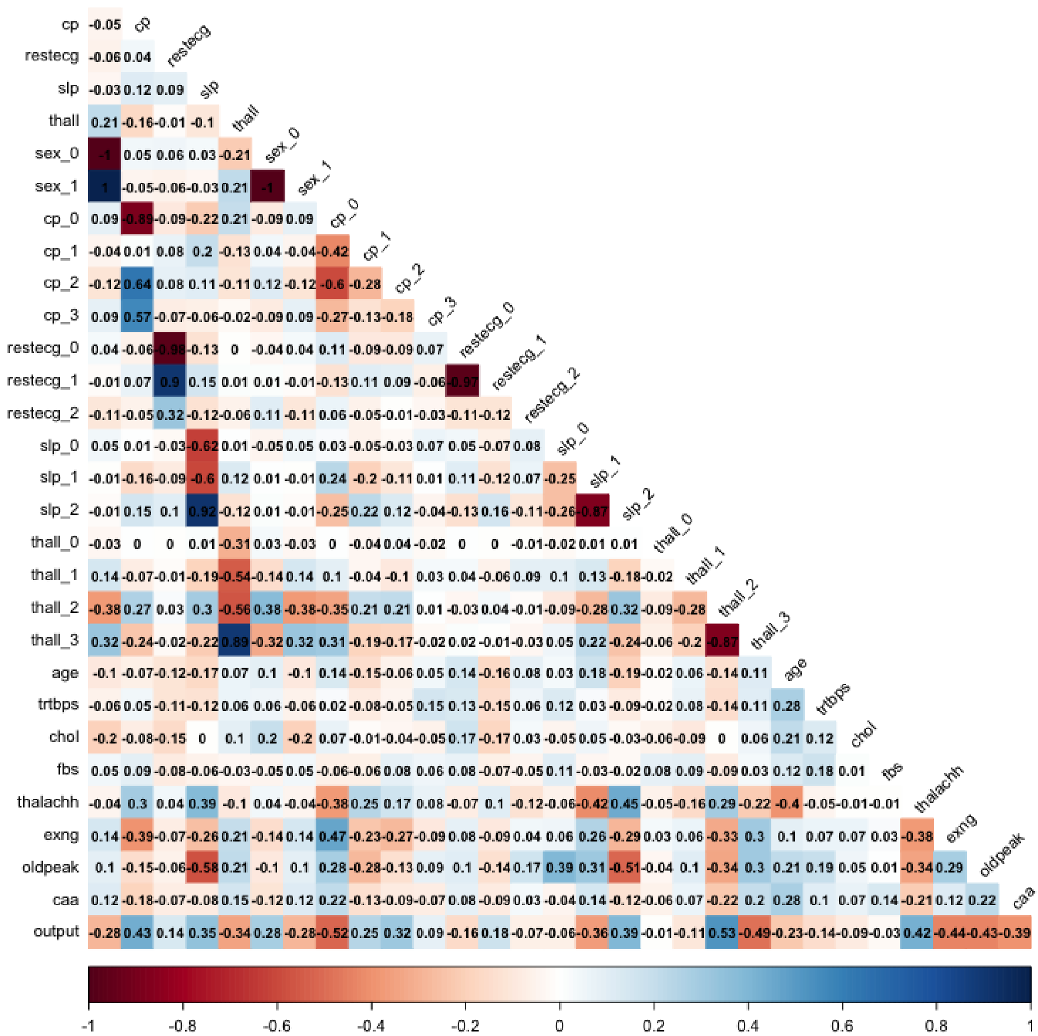
Correlation Analysis. Correlation analysis was vital in this particular study, disclosing possible relationships amongst mathematical variables to deepen the understanding of cardiovascular disease risk factors. The dataset utilized is actually a detailed collection of medical data featuring various attributes connected to cardiovascular health. This analysis assisted in evaluating the strength as well as the direction of these relationships, where positive correlations show a direct relationship and negative correlations suggest an inverted one. These searchings are important for building predictive models but require more exploration to affirm causality. Machine learning takes advantage of these variables to forecast heart attack risk, striving to aid healthcare professionals in early identification as well as intervention. The comprehensive nature of the dataset, incorporated with complex analysis methods, might substantially improve public health results by informing better prevention and treatment of heart disease.

```
> # Load necessary library
> library(corrplot)
>
> # Define the data and column types
> data <- df
```

```
> categorical_columns <- c('sex', 'cp', 'restecg', 'slp', 'thall')
> numerical_columns <- c('age', 'trtbps', 'chol', 'fbs', 'thalachh', 'exng', 'oldpeak', 'caa', 'output')
>
> # Define the function to plot a correlation heatmap
> plot_correlation_heatmap <- function(data, target_variable, title) {
  # Calculate the correlation matrix with complete observations
  cor_matrix <- cor(data, use = "pairwise.complete.obs")
  # Order the variables, putting the target variable at the end
  ordered_vars <- c(setdiff(names(data), target_variable), target_variable)
  cor_matrix <- cor_matrix[ordered_vars, ordered_vars]
  # Plot the correlation heatmap with specified parameters
  corrplot(cor_matrix, method = "color", title = title,
       type = "lower", order = "hclust",
       addCoef.col = "black", tl.col = "black", tl.srt = 45,
       diag = FALSE)
}
> # Call the function with your data frame
> plot_correlation_heatmap(df, 'output', 'Data Correlation Heatmap')
```

Key Findings and Implications. The correlation heatmap gives a visual representation of the strength as well as the direction of relationships between numerous health indications as well as the possibility of heart disease. Notable searches coming from the analysis include the data emphasizing that while some individual factors are actually significantly correlated with cardiovascular disease, the ailment's multifactorial nature requires a much more holistic analysis. Our findings underscore the significance of certain health indicators in predicting heart disease. Variables like age, sex, chest aches, and serum cholesterol amounts emerged as crucial things in this context. The predictive models created via this study demonstrated promising precision, underscoring the possibility for very early discovery and treatment. This comprehensive analysis not only adds to the growing body of knowledge in cardiovascular disease research but also highlights the importance of leveraging data analytics in healthcare. The offered correlation heatmap is actually a highly effective tool for uncovering the correlation between numerous health and wellness signs and also the likelihood of heart problems. By taking a look at the correlation coefficients, it's easy to know just how each factor may help in the risk of heart problems, which is essential for developing helpful analysis as well as preventative solutions.

*According to Picture 1. age has a moderate positive correlation with **cholesterol (0.21)** and **resting high blood pressure (0.28).** This is actually suggestive of a common physiological trend where developing age is connected with a boost in these cardio risk factors. As individuals age, their vascular system may go through improvements, including increased stiffness and reduced plaque collection, which is actually reflected in higher cholesterol and high blood pressure.*



Picture 1. R code results

Chest pain, *stood for listed here as 'cp', presents a strong positive correlation along with the* ***cardiovascular disease end result (0.43)****, suggesting its perspective as a significant indication of heart problems. Non-anginal chest pain is identified to have a substantial positive correlation with the presence of heart disease, indicated by a correlation coefficient of 0.316. Despite often being confused with less serious conditions such as indigestion or muscular pain, its significant association with cardiac issues suggests the need for careful evaluation to avoid delays in diagnosis and treatment. On the other hand, typical angina, reflected by a strong negative correlation coefficient of -0.516, implies that those experiencing classic heart diseases symptoms, like consistent chest pain or discomfort, may be more prompt in seeking medical care. Such timely intervention could be instrumental in curtailing the advancement of more severe heart disease.*

Resting blood pressure(trtbps) *and* ***cholesterol(chol)****, even being traditional risk factors for cardiovascular disease, do not show sturdy connections with the heart disease results within this dataset. This could be because of an assortment of main reasons such as the existence of well-managed cases along with medicine, or even it could possibly recommended that factors might play a more decisive role in the progression of heart disease within this detailed population.*

Not eating ***Fasting blood sugar****(fbs) additionally reveals a weak correlation with heart disease indications, which could suggest that while diabetic issues are actually a risk factor for cardiovascular disease, the fasting blood sugar level amount on its own may not be a strong standalone predictor of heart disease within this dataset.*

Resting electrocardiographic results*(restecg) and also* ***thallium stress tests****(thall) illustrate mild correlations along with some functions. While these tests are actually essential for diagnosing heart disease, their part as forecasters could be confined as well as potentially eclipsed by various other much more leading factors. For instance, a reversible defect detected during a thallium stress test, typically indicative of ischemia, correlates negatively with the incidence of heart disease, as indicated by a* *correlation coefficient of -0.486. This could imply that patients with reversible defects are effectively treated, thus diminishing their risk of advancing to serious heart conditions. Conversely, a normal outcome on a thallium stress test (thall_normal) presents a correlation coefficient of 0.526, associated with a higher probability of heart disease. Although thallium stress tests are designed to detect areas of diminished blood flow to the heart, potentially signaling coronary artery disease, this positive correlation might indicate that patients with "normal" results could still have a form of the disease that is in an incipient stage and may be progressing.*

***The maximum heart rate** achieved(thalachh) possesses a mild positive correlation with heart disease (0.42) as well as a moderate negative correlation with **age** (-0.39). This recommends that a lower optimum heart fee is related to much older age, which people who accomplish much higher heart fees in the course of workout could be at a higher risk of heart disease. This can easily show the heart's capacity to reply to stress, and also an impaired reaction may be a sign of heart problems.*

***Exercise-induced angina(**exng**)** has a moderate negative correlation with **chest pain** (-0.44) and also a moderate positive correlation with **heart disease**(0.38). The damaging correlation with chest pain might be because of the truth that exercise-induced angina is actually a detailed form of chest pain set off by physical activity and also might be identified in a different way in medical assessments.*

*The strong negative correlation between **Oldpeak** (ST anxiety) and **The Slope of The Peak Exercise ST Segment** (slp) (-0.58) advises that these pair of ECG findings are actually carefully related. Both of these indicators are actually utilized to determine myocardial ischemia, and their correlation might also suggest that as one becomes a lot more obvious, the various others usually tend to observe, highlighting their integrated importance in evaluating heart disease risk. Furthermore, a positive correlation coefficient of 0.39 indicates a link between the presence of a downsloping peak exercise ST segment and an increased likelihood of heart disease. This pattern on an ECG may signal ischemia, pointing to the potential for compromised cardiac function.*

*The number of significant ships colored by **fluoroscopy** (caa, -0.39) is associated with a lower risk of heart disease. This could reflect good blood flow to the heart, reducing the likelihood of significant heart disease.*

Conclusion

The exploration and analysis of the heart disease dataset underscore the critical role of data-driven insights in advancing medical research. Through rigorous EDA, correlation analysis, cluster analysis, and the development of predictive models, this study offers valuable insights into the factors contributing to heart disease. These findings have the potential to inform clinical practices, guide further research, and facilitate the development of effective prevention and intervention strategies, contributing to the fight against heart disease. This study has demonstrated the power of correlation analysis and machine learning in understanding and predicting heart disease risk. The findings emphasize the multifactorial nature of heart disease and the importance of a holistic approach to its prediction and management. By continuing to leverage data analytics and machine learning, healthcare professionals can develop more effective early detection and intervention strategies, ultimately leading to better prevention and treatment of heart disease. This research not only contributes to the academic discourse on heart disease prediction but also highlights the critical role of data analytics in advancing healthcare outcomes.

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ASSESSMENT OF THE GAS CONSUMPTION CONTROL SYSTEM

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Abstract

The rapid growth of industrialization, urbanization, and technological advancements has led to an increased demand for energy resources, with gas being a crucial component in meeting this demand. However, the finite nature of natural gas reserves and the environmental impact of its consumption necessitate the development and implementation of efficient gas consumption control systems. This essay aims to evaluate the significance of gas consumption control systems, examining their effectiveness, benefits, and potential challenges.

Introduction

The impetus for societal and economic advancement is deeply rooted in the availability and sustainability of energy sources. Energy security, in turn, plays a crucial role in ensuring national security. Shifts in both domestic and international politics and economies exert a significant influence on the global energy landscape. Against the backdrop of the widespread adoption of a low-carbon economy on a global scale, the world's energy system is undergoing a transformative journey. This evolution is characterized by a commitment to low-carbon practices, cleanliness, efficiency, and safety. As economies worldwide embrace the concept of the "New Normal," the energy sector is adapting to an internationalized supply chain, a deceleration in energy consumption growth, a hastened restructuring of energy sources, and an augmented share of clean energy. The prevailing international trends signal a departure from conventional energy paradigms, marking a shift towards a more sustainable, eco-friendly, and secure energy future. This new normality embraces innovations in energy production and consumption, striving for a balance between economic progress and environmental preservation. In essence, the global energy landscape is undergoing a metamorphosis, aligning itself with the imperatives of a rapidly changing world.[1]

Taking into account all this, by controlling the consumption of gas, which is one of the exhaustible energy sources, it is possible to have a positive effect on both the ecology and the economic environment. Gas consumption control systems play an important role in ensuring responsible and sustainable use of natural gas resources. These systems are designed to monitor, regulate and optimize gas usage in various sectors such as residential, commercial and industrial. By implementing effective control mechanisms, it is possible to minimize waste, reduce environmental pollution and extend the life of limited gas resources.

Contents of the study

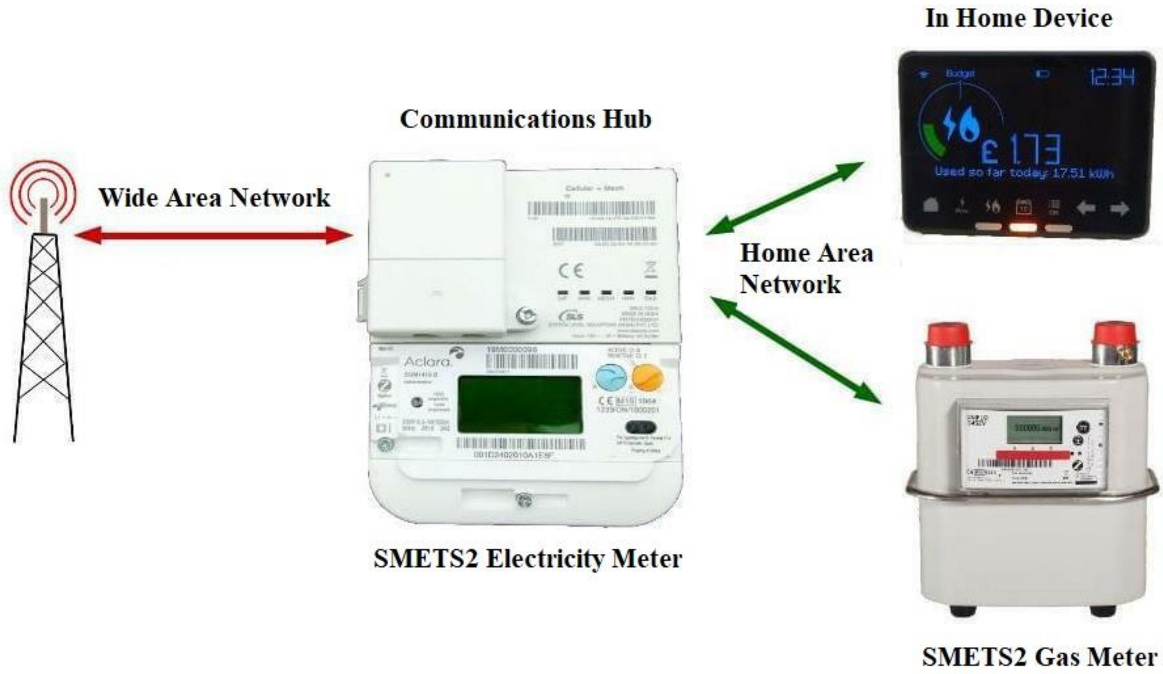
One of the primary factors determining the effectiveness of gas consumption control systems is their ability to accurately measure and monitor gas usage. Advanced metering technologies, such as smart meters, enable real-time tracking of gas consumption, providing valuable data for analysis and decision-making. Additionally, automated control systems can adjust gas flow rates based on demand, optimizing efficiency and reducing unnecessary consumption.

Furthermore, gas consumption control systems contribute to the overall energy efficiency of a given system. By identifying areas of inefficiency and implementing targeted improvements, these systems help reduce overall energy consumption, leading to cost savings and a smaller environmental footprint.

By expanding the use of Smart Meter devices in accordance with all mentioned, we can ensure gas consumption control in a high form. Smart Meters operate by systematically measuring the electrical current flow and voltage at regular intervals, enabling the calculation of power consumption over half-hour periods. A similar methodology is applied to measure gas flow at scheduled intervals. The collected data is transmitted to an In Home Display and shared with the energy supplier.

Various communication technologies are employed within Home Area Networks to connect with In Home Displays, while distinct technologies are utilized across different regions to facilitate data exchange between the Wide Area Network and the communication service provider.

In addition to tracking energy consumption, Smart Meters engage in continuous self-monitoring and environmental surveillance. Instances such as internal memory issues or the removal of the terminal *cover prompt the meter to report anomalies. In such cases, the energy supplier may contact the consumer and arrange for a technician to inspect and address the reported issues at the consumer's residence. [2]*



Drawing 1. Working structure of Smart Meters

Smart meters provide real-time data on gas consumption, allowing consumers to monitor and adjust their usage promptly. These technologies not only empower individuals to make informed decisions but also contribute to reducing overall gas consumption by optimizing energy usage.

Furthermore, public awareness campaigns and educational programs play a pivotal role in promoting responsible gas consumption. Governments, NGOs, and energy companies should collaborate to educate the public about the environmental impact of excessive gas usage and the benefits of conservation. By fostering a sense of responsibility and environmental consciousness, individuals are more likely to adopt energy-saving practices and invest in energy-efficient appliances.

Additionally, incentives such as tax breaks or rebates for adopting eco-friendly technologies can motivate consumers to make environmentally conscious choices, further enhancing control over gas consumption at the societal level.

Moreover, policy interventions are another essential component in improving control over gas consumption. Governments can implement regulations and standards that encourage energy efficiency in industries and residential buildings. Setting emission targets, promoting renewable energy sources, and enforcing strict building codes are effective measures to curb unnecessary gas consumption. Moreover, offering financial incentives to businesses and households that meet or exceed energy efficiency standards can stimulate the adoption of sustainable practices. A comprehensive approach that combines technological advancements, public awareness, and supportive policies is key to achieving significant and lasting improvements in controlling gas consumption.

Gas consumption control systems contribute to the overall energy efficiency of a given system. By identifying areas of inefficiency and implementing targeted improvements, these systems help reduce overall energy consumption, leading to cost savings and a smaller environmental footprint. Benefits of Gas Consumption Control Systems:

- *Resource Conservation: The primary benefit of gas consumption control systems is the conservation of natural gas resources.*

Gas consumption control systems play a crucial role in promoting the efficient utilization of natural gas resources, ultimately contributing to sustainable energy management. These systems are designed to monitor and regulate the consumption of gas in various applications, ranging from industrial processes to residential heating. By employing advanced technologies such as smart meters, sensors, and automated control mechanisms, these systems enable real-time tracking of gas usage, allowing for precise measurement and optimization.

One of the primary benefits of gas consumption control systems is their ability to prevent wastage. By identifying and addressing leaks or inefficiencies promptly, these systems help in minimizing the loss of natural gas during distribution and usage. This not only has economic advantages by reducing energy bills for consumers but also has significant environmental implications, as it curtails the release of greenhouse gases associated with gas production and consumption. Furthermore, the conservation of natural gas resources through these control systems aligns with broader sustainability goals, ensuring that finite energy reserves are managed responsibly for the benefit of current and future generations. In essence, gas consumption control systems are integral components of a comprehensive strategy for sustainable energy use, addressing both economic and environmental considerations.

- *Environmental Impact: Reduced gas consumption directly translates to lower greenhouse gas emissions, mitigating environmental impact and addressing concerns related to climate change. Gas consumption control systems play a crucial role in promoting a cleaner and greener energy future.*

In a world increasingly concerned with the environmental consequences of human activities, the role of gas consumption control systems emerges as a pivotal factor in mitigating the impact on our planet. As industries and individuals alike strive to reduce their carbon footprint, these systems offer a practical solution by directly addressing one of the major contributors to greenhouse gas emissions - gas consumption. By optimizing and controlling the usage of gases in various applications, ranging from industrial processes to transportation, these systems contribute significantly to curbing emissions at their source.

The positive environmental effects of reduced gas consumption extend beyond immediate benefits. As these systems gain prominence, they not only promote a cleaner present but also pave the way for a greener energy future. By curbing emissions, they align with global efforts to combat climate change and contribute to sustainable development goals. As governments, businesses, and individuals increasingly prioritize environmentally friendly practices, gas consumption control systems become integral components in the collective effort to create a more sustainable and resilient planet.

- *Cost Savings: Efficient gas consumption not only benefits the environment but also results in substantial cost savings for consumers and businesses. By optimizing usage, unnecessary expenses are minimized, leading to economic benefits and improved financial sustainability.*

In today's increasingly eco-conscious world, the emphasis on efficient gas consumption goes beyond environmental concerns to encompass significant cost savings for both consumers and businesses. As the global focus on sustainability grows, optimizing gas usage has become a key strategy for minimizing unnecessary expenses and improving overall financial sustainability. By adopting more efficient gas consumption practices, individuals and organizations can not only reduce their carbon footprint but also enjoy tangible economic benefits.

For consumers, adopting energy-efficient appliances, vehicles, and heating systems can result in lower monthly bills and reduced overall energy expenditures. Similarly, businesses that prioritize efficient gas consumption can experience substantial savings on operational costs. From manufacturing processes to transportation logistics, optimizing gas usage not only contributes to environmental responsibility but also enhances the bottom line. As a result, the pursuit of cost-effective and sustainable gas consumption practices has become a cornerstone in achieving financial stability and success in today's competitive market.

While gas consumption control systems offer numerous benefits, certain challenges must be addressed for their successful implementation. These challenges include:

1. *Initial Investment: The installation of advanced gas consumption control systems may require a significant initial investment. However, the long-term benefits, including reduced operational costs and environmental impact, often outweigh the upfront expenses.*
2. *Technological Integration: Integrating gas consumption control systems into existing infrastructure may pose technological challenges. Compatibility issues, cybersecurity concerns, and the need for workforce training must be carefully addressed during the implementation phase.*

Result

Taking into account a number of components in the improvement of gas consumption control will stimulate positive results in gas consumption, including:

- *Installation of smart meters*
- *organization of public awareness campaigns and programs*
- *application of tax benefits*
- *policy interventions*

Gas consumption control systems are indispensable tools for achieving sustainable resource management and promoting responsible energy usage. Through accurate measurement, real-time monitoring, and automated control mechanisms, these systems contribute to the efficient utilization of natural gas resources. The benefits, including resource conservation, environmental sustainability, and cost savings, underscore the importance of continually evaluating and improving gas consumption control systems. As technology advances, addressing challenges and ensuring widespread adoption will be crucial in fostering a resilient and sustainable energy future.

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