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ԳԻՏԱԿԱՆ ՊԱՐԲԵՐԱԿԱՆ



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2



2022



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NATIONAL ACADEMY OF SCIENCES OF THE REPUBLIC OF
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МЕЖДУНАРОДНЫЙ НАУЧНО-ОБРАЗОВАТЕЛЬНЫЙ ЦЕНТР
INTERNATIONAL SCIENTIFIC-EDUCATIONAL CENTER



**ԿԱՃԱՌ
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ակադեմիայի գիտակրթական միջազգային կենտրոնի գիտական խորհրդի
կողմից

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NADPH պարունակող լիպոպրոտեինի և FE(III)-ի միջև ջերմակայուն սուպերօքսիդ արտադրող համալիր եռացրած կովի կաթից: իմունային բջիջների IN VITRO NADPH օքսիդազի ակտիվացում NADPH պարունակող լիպոպրոտեինով.....161

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«Արարատյան հարթավայրի պայմաններում օրգանական թափոններից ստացված կենսահումուսի և կենսահումուսային հիմքով ստացված օրգանական պարարտանյութի ազդեցությունը լոլիկի գյուղատնտեսական հատկությունների վրա.....173

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TYPES OF ABSENTEEISM: THE WAYS OF INCREASING THE CITIZENS' POLITICAL ACTIVITY

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Abstract

This article is devoted to the research on the phenomenon of absenteeism and its influence on the electoral process.

The aim of the article is to present the types of absenteeism, the causes of occurrence of absenteeism, and the ways of overcoming absenteeism. It is necessary to mention the becoming of absenteeism into the subject of study by sociologists, politicians, and later lawyers.

According to Article 4 of the Constitutional law of RA "Electoral Code": "Elections shall be held on the basis of the principles of free and voluntary exercise of the right of suffrage. No one shall have the right to force an elector to vote for or against a candidate (a political party) or have the right to force an elector to participate or not to participate in elections."

The phenomenon of absenteeism has arisen from the above-mentioned principle and has become a means of boycotting elections. It is necessary to choose a certain way to overcome absenteeism which would not doubt the implementation of the principle of free and voluntary exercise of the right of suffrage, as well as other principles typical to a democratic state.

The results of the article are based on the experience of foreign countries, the degree of voters' participation during the elections held in a number of countries (presidential, parliamentary), and especially the degree of voters' participation in the elections in the Republic of Armenia, and how it has changed.

The results of the research allow us to conclude that there are three main ways to overcome voter absenteeism: to define the obligation of citizens to vote during elections, to exclude both the minimum electoral threshold and the requirement to consider the election valid, and to develop the legal culture of the electorate, to strengthen the citizens' confidence in the elections and in the realization of the importance of their participation in the process of the state government.

Keywords and phrases: absenteeism, political activity, electoral process, degree of voters' participation, legitimate authority.

**ԱԲՍԵՆՏԵԻԶՄԻ ՏԵՍԱԿՆԵՐԸ. ՔԱՂԱՔԱՑԻՆԵՐԻ ՔԱՂԱՔԱԿԱՆ
ԱԿՏԻՎՈՒԹՅԱՆ ԲԱՐՁՐԱՑՄԱՆ ԵՂԱՆԱԿՆԵՐԸ**

ՏԱՐՈՆ ՍԻՄՈՆՅԱՆ

ԵՊՀ պետության և իրավունքի տեսության ու պատմության ամբիոնի դոցենտ,
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Համառոտագիր

Սույն աշխատանքը նվիրված է արսենտեիզմի երևույթի և նրա՝
ընտրական գործընթացների վրա ունեցած ազդեցության ուսումնասիրությանը:

Աշխատանքի նպատակն է՝ ներկայացնել արսենտեիզմի տեսակները,
առաջացման պատճառները և հաղթահարման ուղիները: Անհրաժեշտ ենք
համարում ներկայացնել նաև համառոտ ակնարկ այն մասին, թե ինչպես է
արսենտեիզմը դարձել սոցիոլոգների և քաղաքագետների, իսկ հետագայում՝
նաև իրավագետների ուսումնասիրության առարկա:

«Ընտրական օրենսգիրք» ՀՀ սահմանադրական օրենքի 4-րդ հոդվածի
համաձայն՝ «Ընտրություններն անցկացվում են ընտրական իրավունքի
իրականացման՝ ազատության և կամավորության սկզբունքների հիման վրա:
Ոչ ոք իրավունք չունի պարտադրելու ընտրողին քվեարկելու որևէ թեկնածուի
(կուսակցության) օգտին կամ դեմ, ինչպես նաև հարկադրելու ընտրողին
մասնակցելու կամ չմասնակցելու ընտրություններին»:

Արսենտեիզմի երևույթն առաջացել է հենց վերոնշյալ սկզբունքից և
դարձել է ընտրությունները բոյկոտելու միջոց: Արսենտեիզմը հաղթահարելու
համար անհրաժեշտ է ընտրել այնպիսի ուղի, որը կասկածի տակ չի դնի
ընտրական իրավունքի իրականացման ազատության և կամավորության,
ինչպես նաև ժողովրդավարական պետությանը բնորոշ այլ սկզբունքների
իրագործումը:

Աշխատանքի արդյունքների հիմքում դրված է արտասահմանյան
երկրների փորձը, մի շարք երկրներում տեղի ունեցած ընտրությունների
(նախագահական, խորհրդարանական) ժամանակ բնակչության մասնակ-

ցության աստիճանը, և հատկապես ՀՀ-ում ընտրություններին բնակչության մասնակցության աստիճանը և վերջինիս կրած փոփոխությունները:

Աշխատանքի արդյունքները մեզ թույլ են տալիս եզրակացնել, որ գոյություն ունեն ընտրողների արսենտեիզմի հաղթահարման երեք հիմնական ուղղություններ՝ ընտրությունների ժամանակ քվեարկությանը մասնակցելու՝ քաղաքացիների պարտականության սահմանում, ընտրողների մասնակցության նվազագույն շեմի, ինչպես նաև ընտրությունները կայացած համարելու վերաբերյալ պահանջի բացառում և ընտրողների իրավական մշակույթի զարգացում, ընտրությունների նկատմամբ քաղաքացիների վստահության ամրապնդում և պետական կառավարման գործընթացում վերջիններիս մասնակցության կարևորության գիտակցում:

Բանալի բառեր և բառակապակցություններ. արսենտեիզմ, քաղաքական ակտիվություն, ընտրական գործընթացներ, ընտրողների մասնակցության աստիճան, լեգիտիմ իշխանություն:

ВИДЫ АБСЕНТЕИЗМА: СПОСОБЫ ПОВЫШЕНИЯ ПОЛИТИЧЕСКОЙ АКТИВНОСТИ ГРАЖДАН

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Аннотация

Данная статья посвящена исследованию феномена абсентеизма и его влияния на избирательные процессы.

Цель работы - представить виды абсентеизма, причины абсентеизма, способы преодоления абсентеизма. Необходимо сделать краткий обзор о том, как абсентеизм стал предметом изучения социологов, политологов, а затем и юристов.

Согласно 4-ой статье Конституционного закона РА "Избирательный кодекс", "выборы проводятся на основе принципов свободы и добровольности осуществления избирательного права. Никто не имеет права обязывать избирателя голосовать в пользу или против одного из кандидатов (одной из партий), а также принуждать избирателя к участию или неучастию в выборах".

Явление абсентеизма возникло из вышеупомянутого принципа и стало средством бойкота выборов. Для преодоления абсентеизма необходимо выбрать такой способ, который не ставит под сомнение реализованное принципа свободы и добровольности осуществления избирательного права, а также других принципов, типичных для демократического государства.

Результаты работы основаны на опыте зарубежных стран, степени участия избирателей во время выборов, проведенных в ряде стран (президентских, парламентских), и особенно на степени участия избирателей в выборах в Республики Армения, а также на том, какие изменения произошли.

Результаты исследования позволяют сделать вывод о наличии трех основных путей преодоления абсентеизма избирателей: определение обязанности граждан голосовать на выборах, исключение как минимального избирательного порога, так и требования считать выборы состоявшимися, а также разработка правовой культуры электората, укрепление доверия граждан к выборам и осознанию важности своего участия в процессе государственного управления.

Ключевые слова и словосочетания: абсентеизм, политическая активность, избирательный процесс, степень участия избирателей, легитимная власть.

Introduction

Absenteeism (Latin - *absentis*, absent) is a form of deliberate boycott of elections by voters, refusal to participate in elections, passive protest of the population against the current system of government, political regime, indifference to the realization of human rights and responsibilities. In other words, absenteeism can be understood as a fact of indifference to political life, the notion of certain groups of people that "nothing depends on them in politics", "politics is not our business", etc.

In the beginning, absenteeism has been perceived as a positive phenomenon, a positive feature typical of democracies. However, further studies show that absenteeism is perceived as a negative phenomenon. The issue of illegitimacy of the government arises as a result of absenteeism.

The aim of this study is to present the main causes of absenteeism as a type of electoral behavior, its negative influence on the electoral process, and the formation of government bodies, the main ways of overcoming absenteeism.

Theoretical and methodological bases

Absenteeism is a natural-historical phenomenon, an integral part of the political system, built on the principles of democracy and freedom. It is considered a phenomenon of the political life of every democratic society and state governed by the rule of law. The prevalence of absenteeism, both in classical democracies and in countries that have recently stood in the way of democratic development, is related to the growth of non-functional processes in their political system, the consumption of the creative potential of historically established democratic institutions, the formation of "representative" type of political culture under the influence of the mass media. The scale and expressions of absenteeism are directly related to the historical circumstances of the establishment of democratic institutions, differences in the way of thinking of peoples, and the existence of various traditions and customs in a given society. Recently, sociologists, politicians, and lawyers have been researching processes related to the political sphere of public life. It is connected with a number of objective and subjective reasons, among which, first of all, the four main ones should be distinguished:

1. Social practice convincingly proves that the participation of the population in political processes and, first of all, in the formation of government bodies, is considered a condition for the successful functioning of a society built on the principles of democracy. No scholar, no politician dedicated to the principles of democracy, doubts the fact that the exclusion of certain social groups from active political life, the increase in the number of those who consciously distance themselves from politics, unavoidably prevents the formation of a civil society structure, negatively refers to the efficiency of the elective government bodies. It is obvious that the increase in the number of absentees is a sign of the imperfection of the current political system, an increase in distrust of the institutions of democracy, and an increase in social tension in society.

2. As already known, one of the typical features of the political life of the post-industrial society is the serious decrease in the citizens' political activity. The increase in

the number of absentees is practically recorded in all economically advanced countries, from England to Japan. According to the surveys conducted by some international organizations, in recent years the average voter indicator has decreased from 70% to 64%. It follows that absenteeism has become a constant companion to elections in modern times, which becomes more widespread every year.

3. The number of people who do not want to participate in the formation of community authorities and the election of heads of local self-government bodies is especially growing faster. Today, it is not uncommon for local legislatures to pass acts where elections are considered valid if attended by 20-25% of eligible voters. It is obvious that the decrease in the number of citizens participating in the elections raises the question of the legitimacy of the government, which is already perceived by many scientists as the main problem of the modern phase of development of the post-industrial society. There is no need to prove the fact that a politician who does not receive support from the majority of the population can't be perceived as a bearer of legitimate power, which in general leads to instability of the social organism, and causes many critical phenomena.

4. Some aspects of the problem of absenteeism have not completely been part of scientific sources. Particularly, a common approach to the essence of absenteeism has not been developed, there is no precise idea of the main reasons that make individuals decide to "not participate in politics at all", especially, in the elections. No opinion has been formed, particularly, on how absenteeism relates to the efficiency of functions of the form of government, state, family, education and other institutions [1].

According to some authors, the main reason of absenteeism is the unacceptability of the social structure, the institution of elections for some groups of voters, the absence of interest in politics, and the need to engage in political activities and not the complexity of the technical and organizational discipline.

Generally, there are two main types of absenteeism: passive absenteeism - the low political-legal culture of certain segments of the population, which causes indifference to political processes, avoidance, and estrangement; active absenteeism - refusal to participate in elections based on political motives, for example, disagreement with the referendum question, negative attitude towards all candidates in the presidential election, etc. Absenteeism is considered a type of electoral behavior. It is expressed not only in participation or non-participation in elections but in the avoidance of voting, "indifferent" (conformal) voting, protest voting, etc., too. Each of the above-mentioned forms of voter behavior indicates the acceptance or rejection of social and political norms and values. Electoral behavior is carried out in political processes, which reveal the dynamics of the development and changes of the political system institutions, the participation scale of different groups of the population in political activities.

Some researchers distinguish the following types of absenteeism:

1. Occasional, when due to the circumstances there was a phenomenon of absenteeism in the history of the elections of the given country;
2. Frequent (for certain types of elections);

3. Regular, when the phenomenon of absenteeism occurs in a given country during each election, and it seems normal, expected.

A group of researchers uses only two of these types.

1. Intermittent absenteeism (occasional and frequent);
2. Systematic, systematic absenteeism [2].

Methods

A number of factors have a big influence on voter activity, such as the type of election, the characteristics of the region, the characteristics of the electoral campaign, the level of education, the type of population, the type of political culture prevailing in the society, the type of electoral system, etc.

During the first round of the French presidential election in 2017, Emmanuel Macron won 24.1% of the vote (8.4 million voters) and Marine Le Pen - 21.3% (7.7 million voters). In the second round, almost 75% of voters took part in the voting, and Macron received 66.1% of the vote (20 million 750 thousand voters), and Le Pen - 34% (10 million 644 thousand voters): Interestingly, although almost 75% of the voters participated in the elections, about 11.47% of them participated in the elections (4 million voters) without voting for any candidate by openly throwing ballots in the trash. 3% of the votes were declared invalid [3].

76.2% of voters participated in the Bundestag elections in Germany in 2017, which is 4.7% more than during the previous elections in 2013 [4].

In Switzerland, the level of participation in elections and referendums is quite low. Thus, only 47.2% of voters took part in the referendum in 2017, and 48.5% in the elections in 2015 [5].

The following is the situation in the UK. 67.2% of eligible voters participated in the snap parliamentary elections held in December 2019, which, however, is less than the previous result - of 68.7% [6].

67.54% of the voters took part in the presidential elections in Russia in 2018, and Vladimir Putin received 76.69% of the votes, which was considered a record index. If we take into account the number of people included in the voter lists, V. Putin received, in total, 51.77% of the votes [7].

62.09% of voters participated during the second round of the presidential elections in Ukraine in 2019, where Vladimir Zelensky received 73.22% of the votes, and Petro Poroshenko - 24.45% [8].

In 2020 46.84% of voters participated in the parliamentary elections in Azerbaijan, which is obviously lower than the results of elections in 2015 - 56% [9].

As for the Republic of Armenia, more than 60% of voters participated in the parliamentary elections in 2017, while only 48.63% of voters participated in the snap parliamentary elections held in 2018. And 43.65% of voters participated in the Yerevan city council elections in 2018. During the snap parliamentary elections held in 2021 there was a slight increase of participation - 49.40%.

Results and discussion

Generally, there are three main ways to overcome voter absenteeism.

The first way is to define the obligation of citizens to vote during elections. This method contradicts the principle of free and voluntary exercise of the right of suffrage, which is one of the main democratic achievements of the modern world, the renunciation of which unwittingly doubts the democratic nature of the political regime in the country.

According to the supporters of the second way of overcoming absenteeism, it is necessary to exclude both the minimum electoral threshold and the requirement to consider the election valid. At the same time, it is emphasized that by solving the problem of absenteeism by such a technically easiest means, the government may find itself in a situation of de facto illegitimacy. If there is a minimum electoral threshold, the principle of democracy is distorted, the elective bodies cease to express the will of the majority of the people. The reduction of the minimum electoral threshold is perceived as an expression of concessions to non-professional candidates, parties, and an absence of support and respect by citizens for the election organizers' and the entire state government. The abolition of such a demand contributes not only to the destruction of the legal culture of the voters but to the other participants in the electoral process too.

The technical means of overcoming absenteeism cause legal nihilism of the citizens having sufficient knowledge of the law. The absence of legal opportunity to express their complaints in elections (voting against all, failing to vote by not voting) can lead to illegal protests by citizens. If the voter avoids participating in the elections because of insufficient development of the legal culture, then the abolition of the minimum electoral threshold will not promote the development of the culture under any circumstances.

The third way to overcome absenteeism is to develop the legal culture of the electorate, strengthen the citizens' confidence in the elections, and in realizing the importance of their participation in the process of the state government. This way is the most difficult one, but it is the most perspective one, both in terms of developing a legal culture and ensuring the legitimacy of authorities.

It should be noted that, from the third way's point of view, there are developed programs which envisage the development of legal culture among people starting from the school years [10], which is why it is proposed to involve young people in parties and electoral processes.

Conclusion

Thus, absenteeism is the political behavior of citizens, refusal to participate in politics for a number of reasons: depoliticization of citizens, their indifference to politics ("political apathy"), protection of privacy, the frustration of people in politics, loss of trust in candidates, political institutions, low level of political competence of voters, lack of confidence in making the right choice, doubts about having a serious influence on politics, the low significance of election results for citizens, etc.

We distinguish several types of absenteeism. There are occasional, frequent, and regular types of absenteeism. According to the level of participation in politics, there are active and passive types of absenteeism.

Overcoming absenteeism perspective, there are three ways, the third of which is the most difficult one, perspective and expedient at the same time is to develop the legal culture of voters, to strengthen citizens' confidence in elections and realization of their importance in the state government. For that purpose, it is necessary to develop the legal culture among the people (starting from school years), to encourage the activities of political non-governmental organizations, to involve young people in political and electoral processes, through which young people will have a clear idea of the importance of their participation in elections.

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THE ADAPTATION OF CHESS ASSIGNMENTS FOR STUDENTS IN SPECIAL EDUCATION

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Abstract

Nowadays the participation and the involvement of children with special needs is the main issues of education. The learning environment, learning process, psychological and pedagogical approaches are adapted for children with special needs, their opportunities and development features.

We underline for the effective organizing of learning process from the teacher is required creative approaches, appropriate methodology, teaching with interesting and different methods, working on children’s practical capacities.

The development of children with special needs is endless and continuous process. We need to create developer environment during the lessons in the school and home.

For the organizing effective chess lessons, for the participation and involvement of children with special educational needs teacher should have comprehensive knowledge, cooperative approaches, pedagogical means and tricks.

For the expansion of the cognitive area of SEN children we offer to use chess game-tasks to develop critical and creative thinking.

It is important to take into account the variety of abilities of SEN children and plan the lesson according that fact, use more flexible approaches to make chess assignments suitable them.

In our research we take out the needs of chess teachers having some teaching experience and we study the suggestions they have about chess teaching in public schools. We introduce our research results with tables where we show which difficulties they have during teaching the children with special educational needs. Taking into account the data of the research as a result a system of tasks has been created, which will contribute to the increase of the efficiency of studying chess with SEN students.

Keywords and phrases: Inclusive education, children with special needs, accommodation of learning materials, chess assignments.

**«ՇԱԽՄԱՏ» ՌԻՍՈՒՄՆԱԿԱՆ ԱՌԱՐԿԱՅԻ ԴԱՍԱԳՈՐԾԸՆԹԱՑՈՒՄ
ԿԻՐԱՌՎՈՂ ԱՌԱՋԱԴՐԱՆՔՆԵՐԻ ՀԱՐՄԱՐԵՑՈՒՄԸ ԿԱՊԿՈՒ
ՍՈՎՈՐՈՂՆԵՐԻ ԿԱՐԻՔՆԵՐԻՆ**

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Համառոտագիր

Կրթության առանձնահատուկ պայմանների կարիք ունեցող (ԿԱՊԿՈՒ) երեխաների՝ ուսումնական գործընթացում ներառվելն ու ներգրավվելը կարևոր և առաջնային հարցերից մեկն է: Կրթական միջավայրը, ուսումնական գործընթացը, հոգեբանամանկավարժական մոտեցումներն աստիճանաբար ավելի են հարմարեցվում կրթության առանձնահատուկ պայմանների կարիք ունեցող սովորողների կարիքներին, հնարավորություններին, զարգացման առանձնահատկություններին: Հարկ է նշել, որ ԿԱՊԿՈՒ սովորողների համար ուսումնական գործընթացն առավել արդյունավետ կազմակերպելու համար ուսուցչից պահանջվում է ստեղծագործական մոտեցում, սովորողների բազմակողմանի զարգացման համար անհրաժեշտ համապատասխան մեթոդաբանության կիրառում, դասանյութի ավելի հետաքրքիր ներկայացում, սովորողների գործնական կարողությունների մշակում: ԿԱՊԿՈՒ երեխաների համակողմանի զարգացումը անվերջ և շարունակական գործընթաց է: Անհրաժեշտ բոլոր դեպքերում ստեղծել զարգացող միջավայր թե՛ տանը, թե՛ դպրոցում՝ առարկայական բոլոր դասաժամերին:

Համընդհանուր ներառականության պայմաններում շախմատային ուսուցման արդյունավետ կազմակերպումը, ԿԱՊԿՈՒ սովորողներին շախմատի դասաժամերին ներգրավումն ու մասնակցության ապահովումը ուսուցչից պահանջում է այս երեխաների հետ աշխատելու հոգեբանամանկավարժական գիտելիքներ, պատրաստակամություն, համագործակցային մոտեցում, մանկավարժական միջոցների ու հնարների կիրառում: Շախմատի դասաժա-

մերին բազմաբնույթ խաղ-առաջադրանքների, վերլուծելու և համադրելու, քննադատական, ստեղծագործական մտածողության զարգացման միջոցով հնարավորություն է ստեղծվում ընդլայնել ԿԱՊԿՈւ սովորողների ճանաչողական ոլորտը: Կարևոր է հաշվի առնել այս երեխաների հնարավորությունների և կարողությունների բազմազանությունը, դրանց վրա կառուցել դասագործընթացը, ավելի ճկուն մոտեցում ցուցաբերել շախմատային առաջադրանքներն այս երեխաների կարողություններին հարմարեցնելու հարցում:

Մենք իրականացրել ենք հետազոտություն, վեր ենք հանել տարիների փորձ ունեցող ուսուցիչների կարիքները, ուսումնասիրել առաջարկությունները, որոնք նրանք արել են դասագործընթացի բարելավման վերաբերյալ: Հետազոտությունները ներկայացրել ենք աղյուսակների տեսքով, որտեղ տոկոսային հարաբերությամբ երևում է, թե ինչպիսի դժվարություններ ունեն «Շախմատ» ուսումնական առարկան դասավանդող ուսուցիչները: Հետազոտության տվյալները հաշվի առնելով՝ որպես արդյունք, ստեղծվել է առաջադրանքների համակարգ, որը կնպաստի ԿԱՊԿՈւ աշակերտներն շախմատ դասավանդելու արդյունավետության բարձրացանը:

Բանալի բառեր և բառակապակցություններ՝ ներառական կրթություն, կրթության առանձնահատուկ պայմանների կարիք ունեցող երեխաներ, կրթության հարմարեցում, շախմատային առաջադրանքներ:

АДАПТАЦИЯ ЗАДАНИЙ ПО ПРЕДМЕТУ "ШАХМАТЫ" К УЧЕБНЫМ НУЖДАМ УЧАЩИХСЯ С ОСОБЫМИ ОБРАЗОВАТЕЛЬНЫМИ ПОТРЕБНОСТЯМИ

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Аннотация

Включение детей с особыми образовательными потребностями (ООП) в образовательный процесс является одним из ключевых вопросов. Образовательная среда, образовательный процесс, психолого-педагогические подходы постепенно адаптируются к потребностям, возможностям и особенностям развития учащихся с особыми образовательными потребностями. Следует отметить, что для более эффективной организации учебного процесса для учащихся ООП от преподавателя требуется творческий подход, применение соответствующей методики, необходимой для всестороннего развития учащихся, более интересная подача учебного материала, разработка практических навыков учащихся. Всестороннее развитие детей с ООП — бесконечный, непрерывный процесс. Необходимо создать развивающую среду как предупредительности дома, так и в школе, во время всех уроков.

Эффективная организация шахматного образования в условиях всеобщего включения, вовлечения и участия шахматистов в занятиях по шахматам требует от учителя соответствующих психолого-педагогических знаний работы с этими детьми, предупредительности путем анализа и сопоставления, готовности к сотрудничеству, а также педагогических средств и приемов. На занятиях по шахматам через различные игровые задачи, анализ-объединение, развития критического, творческого мышления можно расширить познавательную сферу учащихся ООП. Следует учитывать многообразие способностей этих детей, строить на них процесс обучения, проявлять более гибкий подход к адаптации шахматных задач к способностям этих детей.

Мы провели исследование, определили потребности учителей с многолетним опытом и изучили внесенные ими предложения по улучшению учебного процесса. Мы представляем исследование в виде таблиц, где в процентных значениях показаны трудности, с которыми сталкиваются учителя, преподающие шахматы. С учетом данного исследования в результате была создана система заданий, которая будет способствовать повышению эффективности занятий шахматами со студентами ООП.

Ключевые слова и словосочетания: инклюзивное образование, дети с особыми образовательными потребностями, адаптация обучения, шахматные задания.

Introduction

According to inclusive education all students regardless of educational difficulties should be included in public education. [6, 12 7]

To make education available for all students we need adapt education to the needs of every student, because the reason of children are different and that is why educational needs are different too.

As we now inclusion is comprehensive term that is defined by Jomiten in 1990 in the context of international discussions on the UN Education for All Agenda. In the base of inclusive education is the concept of person's right to education. [1, 12 7, 9]:

Today, universal inclusion in the context of inclusive education presupposes the adaptation of educational systems to the needs and characteristics of all learners. Here the teacher can focus on the diversity of learners (different abilities, different developmental characteristics). [1, 12 13, 9]:

The adaptation of educational materials should take place in parallel with the adaptation of the educational environment [5]. Students should feel that they are equally valued by both the teacher and those around them; the work of each of them should be examined not critically but analytically. It is clear that in this regard educators need new approaches, new methods and skills.

Methods and Methodology

In order to create equal conditions for SEN students in the educational environment, it is necessary to [6, 12 8]:

- **Provide a positive, warm atmosphere, where they will feel free, at ease & understood.**

- **Have enough time to formulate and express their thoughts.** For example, in order to visualize chess positions in an abstract way, all students should have enough time to perceive the position, to think of ways to solve it, to formulate ideas about the solution.

- **It is desirable that teachers ask guiding, prompting, questions to students with SEN,** for example, emphasizing the key points of the given position, from which the solution of the chess problem arises.

- **In case of success, the teacher should not shy away from encouraging the child, but at the same time should be fair in praising him / her.** It helps students to be self-confident, to develop adequate self-esteem. For example, it is necessary to notice even the smallest success of the child, to make it noticeable to the child & his/her environment, relying on it, to expect more from him. For example, "It's very good that you chose the right checker to make that step, but think again in which square the elephant should be to solve the problem."

- **When expressing an opinion, students should be encouraged to show as much as possible that their opinion is valid.** When solving chess problems, not all students will find the strongest steps and the shortest solutions. Students who suggest other options should be encouraged, and the teacher should discuss their options.

- **Encourage students' activity not only during the given lesson, but also in extracurricular activities, during the events - tournaments dedicated to the holidays** (tournament dedicated to Children's Day, tournament dedicated to Motherhood and Beauty Day, tournament dedicated to the Independence Day, etc.).

- **If there is a change in the child's behavior, you need to understand the reasons for those changes.** If the teacher is not able to identify them alone, one can turn to the help of colleagues or other specialists, such as a psychologist or a special pedagogue

- **The reasons of behavior changes in chess lessons** (frustration, failures, lack of interest in the subject, incomprehensible, misunderstood, uncontrollable emotional activity, etc.) can be the difficult learning materials, an uninteresting speech of the teacher and the absence of motivation to subject.

- **Students' social, academic, emotional and physical development should be recorded as a result, not the results compared to the students who showed the best results. When assessing each child's knowledge and abilities, it is necessary to note the specific achievements, academic achievements, comparing them with his / her previous results.**

- **When creating assignments, the teacher should take into account the characteristics of each student, their strengths and weaknesses.** For example, not to ask students with disabilities more complex questions that he has no idea about, and simple questions to children with relatively strong abilities.

The process of development of children with SEN is continuous. It takes place both in the family and in the environment in which he/she is, that is, it is a chain of work aimed at one goal. The educational work carried out with them can be likened to growing or caring for a tree / garden, which requires good fertile soil, water, sun heat, fortification to protect it from the winds, deep-rooted roots, and so on.

The learning process with SEN students aims to develop their mental processes, in particular, visual-auditory perception, visual memory and visual attention, spatial perceptions-orientation, speech, motor skills, how to ensure their participatory activity in the whole educational process.

It is very possible for a teacher to get to know his students individually, to know well about the possibilities and peculiarities of each of them. Of course, it can also be in terms of teacher motivation, teacher flexibility, providing a classroom atmosphere, preparing and applying a variety of materials, and making them accessible to learners.

Due to this, the teacher can ensure the students' interest and involvement in the lessons, create conditions for the students to see-observe, analyze, compare, comment during the lessons.

Sometimes chess tasks present a certain difficulty for SEN students. The teacher's factor increases in terms of preparing, compiling, and developing new tasks according to the abilities of each of these children. However, not all teachers view themselves as a factor in student achievement.

Results

For this purpose, we conducted a survey among the teachers who teach chess in the schools of Yerevan to find out the attitude of the teachers towards the availability of chess tasks for the students of SEN. The table below shows the results of our survey.

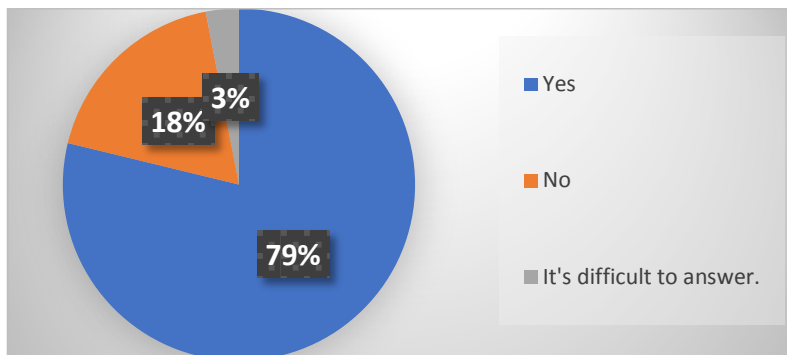


Figure 1. If the responders work with SEN students

According to Figure 1, it is obvious that almost 80% of the teachers surveyed have SEN students in their classrooms.

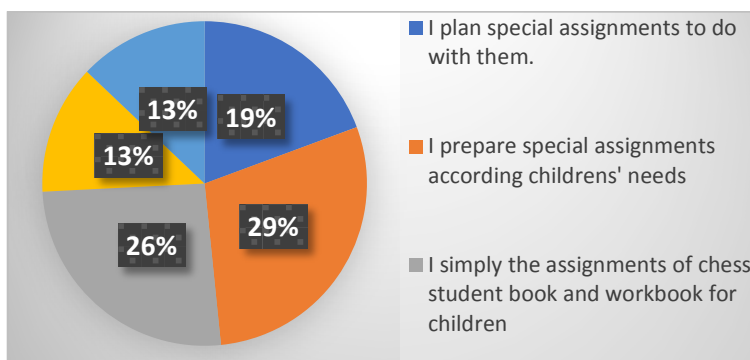


Figure 2. If the teachers organize learning process according the needs of students

To our question about how teachers organize the process of teaching chess for students with special educational needs, 29% of the teachers surveyed said that they create tasks that meet the needs of students, 26% simplify and make them available in the textbook. workbook tasks.

19% of teachers were able to work individually with SEN students, 13% plan work according to the IEP. The other 13% mentioned that due to the large number of students in the class, they do not manage to prepare individual tasks.

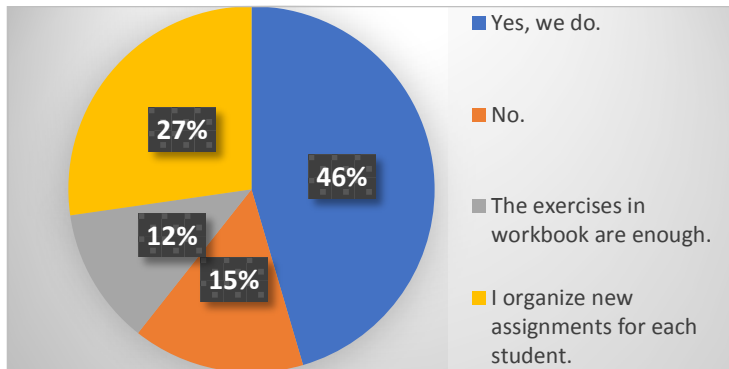


Figure 3. If the teachers prepare learning materials by themselves

According to the results of the survey, 46% of teachers prepare auxiliary materials for SEN students, and 27% develop new tasks. 12% of the surveyed teachers think that the textbook u workbook tasks are completely sufficient for SEN students, while 15% said that they do not create new tasks for SEN children with learning disabilities.

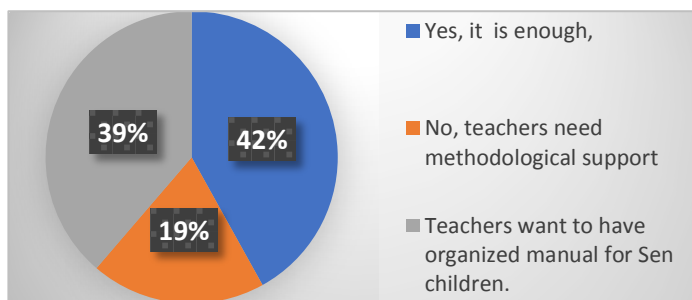
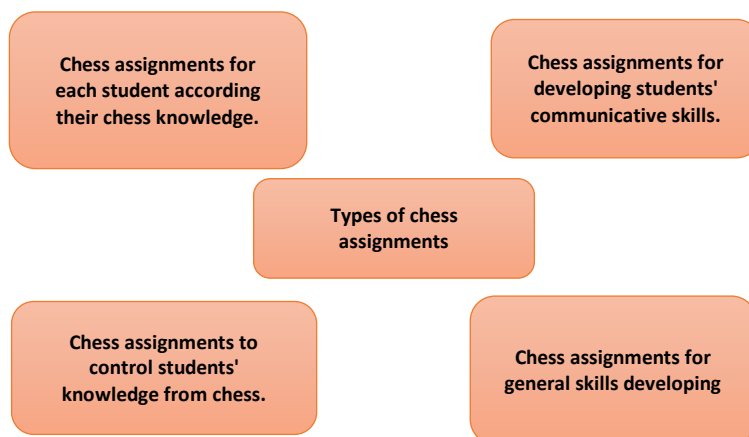


Figure 4. If Chess student book and workbook are enough for teaching in public schools

We were interested in whether the chess textbook and workbook is sufficient for the children with SEN to organize the educational process. 40% of the teachers who took part in the survey stated that they would like to have specially designed assignments for SEN students. 43% of the respondents think that chess textbooks and workbooks are completely sufficient. 17% of the respondents emphasized that they need methodological support, in particular, in the form of a manual, a workbook.

Studying the needs of the teachers who participated in the survey, analyzing the results obtained, when organizing work with SEN students, it is necessary to develop tasks that will relate to one or more of the group of tasks presented in Figure 1. The "Waiting Step" methodical manual presents tasks aimed at developing the abilities of students with educational difficulties in chess lessons, and effectively organizing the work done with them.



Picture 1. The types of assignments

Following the approaches outlined in Figure 1 will enable the teacher to make chess assignments accessible to SEN students, and to ensure that these children are involved and actively participate at chess lessons.

Conclusion

Analyzing and summarizing the results of our survey, we can say that the majority of teachers want to ensure the involvement of SEN students, but do not have the necessary tools - examples of pedagogical-psychological methods, approaches and tricks, ready-made didactic materials available for these children, etc.

Due to this circumstance, as the analysis of the results of our survey showed, 13% of the teachers who took part in the survey do not organize individual work with SEN students, do not give students tasks that meet their needs, or see the need for it. 12% of the respondents think that the tasks of chess textbooks and workbooks are completely sufficient when organizing work with SEN students, while 15% stated that they do not prepare individual tasks.

However, we consider it necessary to mention that based on the pedagogical principles, it is necessary to organize the educational process taking into account the individual peculiarities of each child, ensuring the involvement and active participation of all students.

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DYNAMICS OF INTELLIGENCE AND MOTIVATION OF PRIMARY SCHOOLCHILDREN IN THE PROCESS OF A FORMATIVE EXPERIMENT

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Abstract

The progress of society in recent years has not bypassed the educational environment. The problem of personal development of the primary generation is increasingly being discussed in psychological and pedagogical communities. Excessive requirements for schoolchildren do not always correspond to their age-related psychological characteristics, because the modern school curriculum requires schoolchildren to carry out large intellectual loads. The problem of educating personal qualities in primary schoolchildren that contribute to successful schooling remains relevant. Therefore, it is important that when attending school, children are psychologically ready for new social conditions, schooling.

The article presents the results of a psychological experiment with primary schoolchildren. The study focuses on the polymodality of perception as an important aspect of the educational and cognitive process, the driving factor of which is the intelligence and motivation of schoolchildren.

The practical value of the study lies in the fact that by purposefully developing perception (auditory and visual channels) through interaction with the kinesthetic modality, it is possible to increase the overall level of intelligence and motivation of primary schoolchildren.

Keywords and phrases: primary schoolchild, formative experiment, movable games, motivation, intelligence.

**ԿՐՏՍԵՐ ԴՊՐՈՑԱԿԱՆՆԵՐԻ ԻՆՏԵԼԵԿՏԻ ԵՎ ՄՈՏԻՎԱՑԻԱՅԻ
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Համառոտագիր

Վերջին տարիների հասարակության առաջխաղացումը չի շրջանցել նաև ուսումնական ոլորտը: Հոգաբանա-մանկավարժական համայնքներում ավելի հաճախ է քննարկվում աճող սերնդի անձնային զարգացման խնդիրը: Դպրոցականների հանդեպ չափազանց բարձր պահանջները ոչ միշտ են համապատասխանում նրանց տարիքային հոգեբանական առանձնահատկություններին, քանի որ ժամանակակից դպրոցական ծրագիրը մեծ ինտելեկտուալ բեռնվածություն է պահանջում դպրոցականներից: Արդի խնդիր է մնում կրտսեր դպրոցականների հաջող ուսումնառությանը նպաստող անձնային որակների դաստիարակությունը: Ուստի, կարևոր է, որպեսզի դպրոց ընդունվելիս երեխաները հոգեբանորեն պատրաստ լինեն նոր սոցիալական պայմաններին, դպրոցական ուսումնառությանը:

Հոդվածում ներկայացված են կրտսեր դպրոցականների հետ անցկացրած գիտափորձի արդյունքները: Հետազոտության մեջ շեշտադրվում է ընկալման մոդալականությունը որպես ուսումնական ճանաչողական գործընթացի կարևոր տեսանկյուն, որի շարժիչ ուժերն են հանդիսանում սովորողների ինտելեկտն ու մոտիվացիան:

Հետազոտության կիրառական արժեքը կայանում է նրանում, որ նպատակաուղղված զարգացնելով ընկալումը (աուդիալ և վիզուալ ուղիները) կինեսթետիկ մոդալականության վրա ազդելու միջոցով, կարելի է բարձրացնել կրտսեր դպրոցականների ինտելեկտի և մոտիվացիայի ընդհանուր մակարդակը:

Բանալի բառեր և բառակապակցություններ՝ կրտսեր դպրոցական, ձևավորող գիտափորձ, շարժախաղեր, մոտիվացիա, ինտելեկտ:

ДИНАМИКА ИНТЕЛЛЕКТА И МОТИВАЦИИ МЛАДШИХ ШКОЛЬНИКОВ В ПРОЦЕССЕ ФОРМИРУЮЩЕГО ЭКСПЕРИМЕНТА

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Аннотация

Прогресс общества в последние годы не обошёл стороной образовательную среду. В психолого-педагогических сообществах всё чаще обсуждается проблема личностного развития подрастающего поколения. Завышенные требования к школьникам не всегда соответствуют их возрастным психологическим особенностям, т. к. современная школьная программа требует от учащихся больших интеллектуальных нагрузок. Проблема воспитания у младших школьников личностных качеств, способствующих успешному школьному обучению, остаётся актуальной. Поэтому важно, чтобы при поступлении в школу дети были психологически готовы к новым социальным условиям, школьному обучению.

В статье представлены результаты психологического эксперимента с младшими школьниками. В исследовании акцентируется полимодальность восприятия как важный аспект учебно-познавательного процесса, движущим фактором которого являются интеллект и мотивация учащихся.

Практическая ценность исследования заключается в том, что целенаправленно развивая восприятие (аудиальный и визуальный каналы) посредством взаимодействия с кинестетической модальностью, можно повысить общий уровень интеллекта и мотивации младших школьников.

Ключевые слова и словосочетания: младший школьник, формирующий эксперимент, подвижные игры, мотивация, интеллект.

Introduction

New school programs present requirements on primary schoolchildren, often unbearable for children 5-6 years old. Mental processes at this age are not sufficiently developed for school education, because they are in the stage of active formation (attention, memory, perception). This is associated with additional stress on the child's psyche, and entails educational and cognitive problems [22, 23]. Therefore, when entering school, it is important that the child is psychologically prepared for school. Psychological readiness for school acts as a unified system, the work of which is conditioned by a high level of motivation, intellectual and personal components [1, 8, 9, 18].

The intellectual component refers to the general characteristics of a child's thinking- the development of cognitive processes and speech, intellectual skills that are significant for educational activities, and the breadth of the range of ideas. A primary schoolchild should have developed visual and imaginative thinking, formed conceptual operations and

the ability to accept an educational task, turning it into an activity goal. Therefore, an important criterion for the mental development of primary schoolchildren is intellectual development [2, 3, 4, 12, 14, 20]. Mental development is closely related to intelligence: when attending school, a child should be able to perform such intellectual operations as comparison, generalization, analysis, classification, etc.

Individual readiness for school is usually understood as a motivational sphere [1, 18]. The indicator of individual readiness is the inner position of the schoolchild, her desire to learn. The motivation of a first grader has nothing to do with the content of educational activities. A child should want to know, be able, and not strive to go to school just because they will buy school bag for her [11]. Educational activity should be motivated by adequate motives: these may be the motives of their own growth, improvement. Precisely, the motivation of teaching gives meaning to learning activities. Therefore, the formation of educational and cognitive motives is the most important task of elementary education, and the success of further education depends on the degree of their development. Thus, the motivation and mental development of primary schoolchildren contribute to an increase in the level of learning in elementary school.

Representatives of various scientific fields wrote that the game plays an important role in the harmonious development of a child. The game takes the form of acclimatization a primary schoolchild's lesson, so it is necessary to motivate the child: first with game, and then with educational activities [7]. At the beginning of school education, the child is guided solely by play motivation, which continues to be the main activity throughout the entire education in elementary school [15].

"An immobile child does not learn!" [19, p. 105]. A. L. Sirotyuk came to this conclusion by studying the works of I. P. Pavlov. The great physiologist believed that any thought ends with movement, therefore, when thinking, many people walk or jerk their legs, move small objects in their hands, etc. A primary schoolchild has a natural need for physical activity, which he realizes in physical education lessons.

There are several main groups of games – creative, sports and movable [17]. The most favorable of them for elementary school age are outdoor games. They have a positive effect not only on the development of physical qualities of children, but also contribute to the development of mental processes and formations, and, consequently, to the successful assimilation of the school curriculum [11].

Theoretical and methodological basis

As a result of the analysis of scientific literature, we **hypothesized** that the use of outdoor and didactic games in the process of physical education classes contributes to the increase of intelligence and motivation of primary schoolchildren.

The **purpose** of our study was to find the dynamics of intelligence and motivation of primary schoolchildren in the process of a formative experiment. One of the tasks we set was the development of intelligence and the formation of educational motivation of primary schoolchildren through a combination of movable and didactic games.

The **methodological basis of our research** was the following theoretical provisions: the teachings on the ontogenetic development of L. S. Vygotsky, the hypothesis about the leading type of activity of A. N. Leontiev, K. D. Ushynsky's pedagogical ideas about systematic learning, P. F. Lesgaft's scientific system of physical education.

The following methods were used in the study: analysis of scientific literature, testing, formative experiment, quantitative and qualitative data analysis.

The research was carried out in several stages:

- Stage I – pilot experiment,
- Stage II – psychodiagnostics,
- Stage III – a formative experiment,
- Stage IV – retesting.

A year after the pilot experiment (2014), in autumn 2015, we conducted a psychodiagnostic. As a result, 2 experimental and 2 control groups were formed. The total number of participants in the experiment was 106 schoolchildren.

- 2 experimental groups – 55 schoolchildren:
 - 1st grade – 29 schoolchildren (1-E),
 - 2nd grade – 26 schoolchildren (2-E);
- 2 control groups – 51 schoolchildren:
 - 3rd grade – 25 schoolchildren (3-C),
 - 4th grade – 26 schoolchildren (4-C).

Further, we compiled a program of a formative experiment and conducted physical education lessons according to this program in experimental classes for 5 months [16]. The control groups did not participate in the formative experiment. Initially, 100 schoolchildren (29 first graders and 71 second graders) took part in the formative experiment, but in order to avoid a large spread of data, in order to obtain reliable results, we left only one 2nd grade - consisting of 26 schoolchildren.

For the experiment, the movable games "The Third extra", "Day and Night", "Calling numbers", "Orientation by ear", "Freeze in a pose", "To your flags", etc. were selected [21].

The logical conclusion of our study was the retesting of all participants in the experiment in May 2016.

For psychodiagnostics, we have chosen projective methodology. They are most convenient to use with primary schoolchildren, since it is possible to work simultaneously with a large number of schoolchildren. In addition, children really like to draw, which allowed us to conduct an experiment without taking them away from their favorite activity. We conducted psychodiagnostics using the following methodologies:

1. Goodinough-Harris's projective test "Draw a man",
2. N. G. Luskanova's projective technique "What I like at school".

To determine the level of intelligence of primary schoolchildren, we chose the Goodinough-Harris's "Draw a man" test. In the methodology, children are invited to draw a person without additional explanations. The standardized test was first proposed by F. L. Goodinough in 1926 for the study of cognitive abilities, and in 1963 a new standardization of the method was carried out by her schoolchild D. Harris [5, 6]. The methodology presents normative numbers for each age: for first graders – 18-25 points, for second graders – 20-26, in the third grade – 22-27 points, and in the fourth – 23-28 points.

To assess the level of school motivation, we chose the methodology "What I like about school". The methodology was created in 1985 by N. G. Luskanova as a way to assess the level of school motivation, as well as the dynamics of school adaptation in primary schoolchildren by analyzing their drawings [13]. According to the methodology, children are invited to draw everything they like at school. This projective drawing reveals the attitude of children to school and their motivational readiness to learn [10]. The

methodology is considered as a criterion of psychological readiness for school [8]. And this primarily implies the presence of educational-cognitive motives.

School motivation is assessed as follows:

1. low level of motivation – is estimated at 10 points if there are game plots,
2. external motivation – is estimated at 20 points if non-educational situations are depicted, for example, a school building or a canteen,
3. high level of motivation – is estimated at 30 points if the educational process, educational materials, teacher at the blackboard, etc. are depicted.

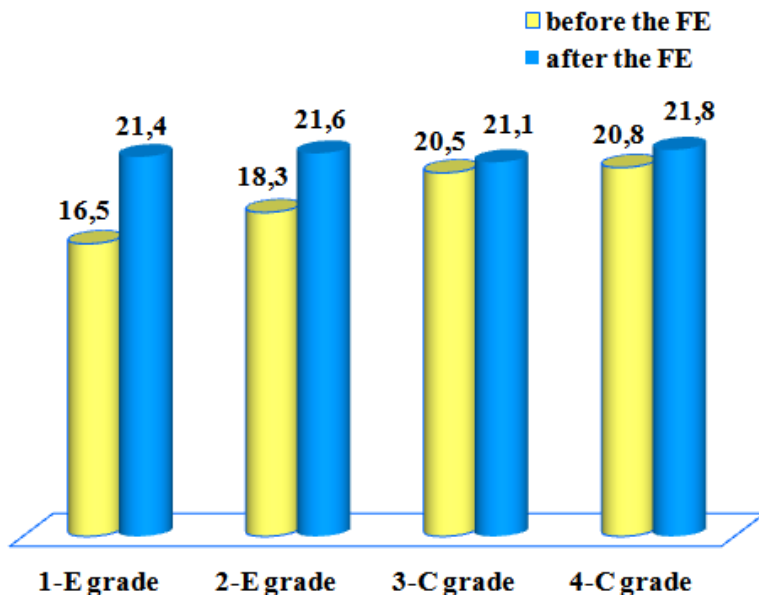
Main results

The results of quantitative analysis of the received data.

The diagrams show the results of psychodiagnostics (stage II) and retesting (stage IV). Accordingly, these are the stages of research before the formative experiment (before the FE) and after the formative experiment (after the FE).

The average intelligence indicators of primary schoolchildren are shown in Diagram 1. Before the formative experiment, we see a natural increase in intellectual development: 1-E grade – 16.5; 2-E grade – 18.3; 3-C grade – 20.5; 4-C grade – 20.8 points. From 1st to 4th grade, the intelligence of a primary schoolchildren develops gradually, without leaps. However, these indicators are below the age norm. This means that the primary schoolchildren participating in this study lag behind in intellectual development throughout their elementary school education.

Diagram 1. Average indicators of intelligence of primary schoolchildren.



After the formative experiment (at the end of the school year), the results change. In the 3-C group, the average intelligence score is 21.1, and in the 4-C group - 21.8 points. As you can see, the average indicator has increased in comparison with the previous stage of the study, while remaining a level below the average.

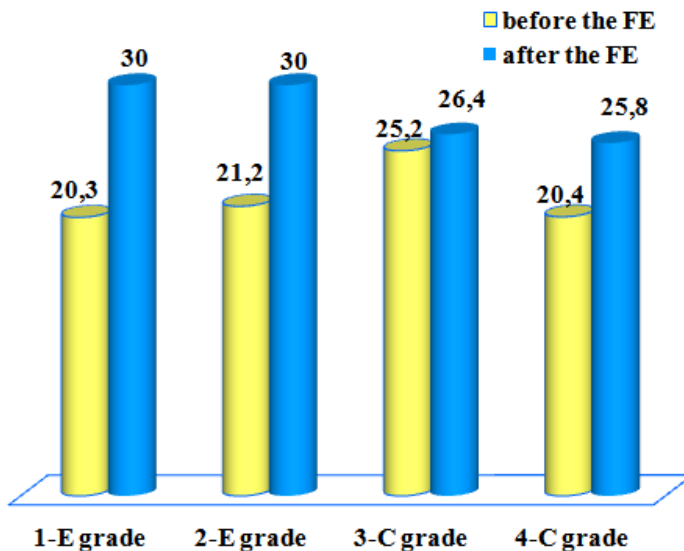
The results of the experimental groups are encouraging. If before the formative experiment the average indicator was below average, then after the FE it is within the normal range: 1st group – 21.4, 2nd group – 21.6 points. Consequently, after FE, the average intelligence score in the experimental groups increased.

Next, let's look at the indicator of motivation of primary schoolchildren (Diagram 2). Prior to the formative experiment, the level of educational motivation of primary schoolchildren in all groups was above average: 1-E grade - 20.3; 2-E grade – 21.2; 3-C grade - 25.2; 4-C grade – 20.4 points. From the 1st to the 3rd grade, the indicator gradually increases, but in the 4th grade it decreases, approaching the average level.

In the 3 class group, the indicators are quite high, but in the 4-C class group, schoolchildren are less motivated in the middle of the school year, scoring 20.4 points than at the end - 25.8 points. Such a leap can be explained by confidence in their knowledge, preparation for final exams and the transition to a new educational level.

In the experimental groups, we see that in groups 1-E and 2-E, the indicator is on the border between external and educational motivation. Here, some of the schoolchildren depicted game plots or non-educational situations (school building, canteen). For first-graders, this is natural, because they are still "getting accustomed ", adapting to school. In the 2-E grade – such an indicator gives reason to think about the general development of schoolchildren and, perhaps, the insufficiently effective organization of the educational process. After the FE, the indicators reach a maximum value of 30 points. At this stage of the experiment, the drawings were dominated by images of the teacher at the blackboard, educational material, lesson, etc.

Diagram 2. Average indicators of motivation of primary schoolchildren.



Consequently, the formative lesson-experiment helped to increase the motivation of primary schoolchildren.

Conclusions

Based on the theoretical analysis of scientific literature, we have studied the importance of classes for the development of intellectual abilities and the formation of motivational readiness of primary schoolchildren for the successful organization of the educational process in elementary school. As a result, we organized and conducted a formative experiment that contributed to the development of mental processes that play a leading role in learning.

Based on an experimental study, we have identified the dynamics of intellectual and motivational indicators, before and after the formative experiment. As a driving factor, we used sensitivity to learning at elementary school age, especially at the beginning of education.

In the 1st and 2nd grades, children are most sensitive to targeted learning technologies used in physical education classes. By developing the perception of primary schoolchildren, using movable and didactic games, we helped to increase the average intelligence and motivation of primary schoolchildren in terms of their individual adaptation mechanisms for learning at school.

Thus, our hypothesis that the use of movable and didactic games in the process of physical education classes contributes to the increase of intelligence and motivation of primary schoolchildren has been fully confirmed.

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REASONS AND DEVELOPMENT OF THE "ALGERIA CRISIS". THE ATTEMPTS AT A POLITICAL SETTLEMENT IN 1991-1995

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Abstract

Algeria's domestic political environment began to change rapidly in 1989 February, after the adoption of the new Constitution, article 40 of which guaranteed the right to form political unions. This democratic process led to the legalization and further strengthening of many parties, including the Islamic.

The purpose of this article is to present the socio-political developments in Algeria, which emerged as a result of the widespread Islamic movements in the country. The systemic crisis in Algeria during this period was one of the most important factors that significantly influenced the spreading of extremist Islamic ideologies in society. The Islamic movement united around the Islamic Salvation Front in a very short time and the latter became the most influential, strong Islamic organization whose primary goal was the Islamization of Algeria. In this context, special emphasis has been required on the role of the army in resolving the Algerian crisis. Due to the peculiarities of historical development, the army had a special role in the political life of the country, it was the only real force that was able to maintain the secular system established in Algeria.

The attempts to resolve the economic, political, and social consequences of the armed struggle launched by the authorities against the Islamists are also studied in this article. The steps taken by the authorities and the opposition parties in the peaceful settlement of the "Algerian crisis" are considered separately. It is noteworthy that despite the fact that the supporters of the Islamization of the country were a huge and influential force, nevertheless, the authorities managed to maintain the established system of the government, preventing the further development of the Islamic extremist movements in the country.

Keywords and phrases: Algerian crisis, Front Islamique du Salut, army, Islam, parties, conflict.

**«ԱԼԺԻՐԻ ՃԳՆԱԺԱՄԻ» ՊԱՏՃԱՌՆԵՐՆ ՈՒ ԸՆԹԱՑՔԸ.
ՔԱՂԱՔԱԿԱՆ ԿԱՐԳԱՎՈՐՄԱՆ ՓՈՐՁԵՐԸ 1991-1995 ԹԹ.**

ԱՐԱՄ ԳԱՍՊԱՐՅԱՆ

ՀՀ Գիտությունների ազգային ակադեմիայի
արևելագիտության ինստիտուտի արաբական երկրների բաժնի
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Համառոտագիր

Ալժիրի ներքաղաքական կյանքը սկսեց արագ փոփոխության ենթարկվել 1989 թ. փետրվարին՝ երկրի նոր Սահմանադրության ընդունումից հետո, որի 40-րդ հոդվածը երաշխավորում էր քաղաքական միավորումներ ստեղծելու իրավունքը: Ժողովրդավարական այս գործընթացը հանգեցրեց բազմաթիվ կուսակցությունների, այդ թվում նաև իսլամական կուսակցությունների օրինականացմանը և հետագա ամրապնդմանը:

Հոդվածի նպատակն է ներկայացնել Ալժիրում տեղի ունեցած հասարակական-քաղաքական զարգացումները, որոնք ի հայտ եկան երկրում իսլամական շարժումների լայն տարածման հետևանքով: Այս ժամանակաշրջանում Ալժիրում հաստատված համակարգային ճգնաժամը կարևորագույն գործոններից էր, որն էապես ազդեց հասարակության շրջանում ծայրահեղ իսլամական գաղափարախոսությունների լայն տարածմանը: Շատ կարճ ժամանակում իսլամական շարժումը միավորվեց Իսլամական փրկության ճակատի շուրջ՝ վերածելով այն ամենաազդեցիկ և ուժեղ իսլամական կազմակերպությանը, որի առաջնային նպատակն էր Ալժիրի իսլամականացումը: Այս համատեքստում հատուկ ուշադրություն է դարձվում բանակի դերակատարությանը «Ալճիրի ճգնաժամի» կարգավորման գործում: Ելնելով պատմական զարգացման առանձնահատկություններից՝ բանակն առանձնահատուկ տեղ էր զբաղեցնում երկրի քաղաքական կյանքում և միակ իրական ուժն էր, որն ունակ էր պահպանել Ալժիրում հաստատված աշխարհիկ համակարգը:

Ներկայացվում են նաև իշխանությունների և իսլամիստների միջև սկսված զինված պայքարի՝ տնտեսական, քաղաքական և սոցիալական հետևանքների լուծման փորձերը: Առանձին դիտարկվում է թե՛ իշխանությունների, թե՛ գործող ընդդիմադիր կուսակցությունների ձեռնարկած քայլերը «Ալճիրի ճգնաժամի» խաղաղ կարգավորման գործում: Ուշագրավ է,

որ, չնայած երկրի իսլամականացման կողմնակիցները բավական մեծ և ազդեցիկ ուժ էին ներկայացնում, այնուամենայնիվ իշխանություններին հաջողվեց պահպանել երկրում հաստատված կառավարման համակարգը և խոչընդոտել իսլամական ծայրահեղական շարժումների հետագա զարգացումը:

Բանալի բառեր և բառակապակցություններ. Ալժիրի ճգնաժամ, իսլամական փրկության ճակատ, բանակ, իսլամ, կուսակցություններ, հակամարտություն:

ПРИЧИНЫ И РАЗВИТИЕ "АЛЖИРСКОГО КРИЗИСА". ПОПЫТКИ ПОЛИТИЧЕСКОГО УРЕГУЛИРОВАНИЯ 1991-1995 ГГ

АРАМ ГАСПАРЯН

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Аннотация

Внутриполитическая жизнь Алжира начала быстро меняться в 1989 году после принятия новой Конституции, статья 40 которой гарантировала право на создание политических союзов. Этот демократический процесс привел к легализации и дальнейшему укреплению многих партий, в том числе исламских.

Цель данной статьи представить общественно-политические процессы в Алжире, возникшие в результате широкого распространения исламских течений. Системный кризис в Алжире в этот период явился одним из важнейших факторов, существенно повлиявших на быстрое распространение экстремистских исламских идеологий в обществе. За очень короткое время исламское движение объединилось вокруг Исламского фронта спасения, став самой влиятельной, сильной исламской организацией, основной целью которой была исламизация Алжира. В этом контексте особое внимание уделяется роли армии в урегулировании алжирского кризиса. В силу особенностей исторического развития армия занимала особое место в политической жизни страны, она была единственной реальной силой, способной поддерживать установившийся в Алжире светский строй.

Рассматриваются также попытки решения экономических, политических и социальных последствий вооруженной борьбы между властями и исламистами. Отдельно рассматриваются шаги, которые предприняли как власти, так и оппозиционные партии для мирного урегулирования «алжирского кризиса». Примечательно, что несмотря на то, что сторонники исламизации страны представляли собой крупную и влиятельную силу, тем не менее властям удалось сохранить сложившуюся систему правления в стране и воспрепятствовать дальнейшему развитию исламских экстремистских движений.

Ключевые слова и словосочетания: алжирский кризис, исламский фронт спасения, армия, ислам, партия, конфликт.

Introduction

In 1989 the new Constitution [1, p.101] proclaimed by Shadley Benjedid¹ launched a rapid change in the political system of Algeria. There was a transition from a one-party state government established in the country to a new democratic, multi-party political system. However, further events revealed that Algerian authorities were not ready for their own democratic reforms. The deep-rooted systemic crisis in the country, the inability of the state institutions to solve the country's social problem, the dominance of the clan elite in the economic and political spheres as well, annoyed and disappointed the Algerian society fought for the independence. In such circumstances, the ideology of Islam quickly spread among the society. The only way to solve the difficult social conditions was the creation of an Islamic state based on the principles of justice and equality.

The tendency of politicization of Islam acquired further momentum. The widespread Islamic movement united around the Front Islamique du Salut (FIS)² (Islamic Salvation Front), turning it into the most influential, strong Islamic organization in a short period of time. The spread of the Islamic ideology clearly shows that at the beginning of the 19th century the pro-secular political forces, especially the Front de libération nationale (FLN) (National Liberation Front)³ lost their longstanding, undeniable political prestige, significantly reduced their influence on various sections of society as well. The best example were the local elections in 1990s when FIS with 54% of the vote gained convincing victory, FLN got 28 % [3, p. 43. 4, 205].

Thus, the change of Algeria's political system led to the formation of various Islamic movements and groups. The latter's proactive activity and consolidation became dangerous for the FLN's monopoly and stability. An undisguised ambition of the Islamists to take their place in the government quickly grew into an uncompromising political conflict with the state system, which culminated in 1991 during the parliamentary elections.

Armed conflict for power

In 1991, December 26, FIS won almost half of the seats in the parliamentary elections in Algeria⁴ [5, p.52], after this the cycle of events significantly changed the course of the country's historical development.

After the promulgation of the elections' results, it was obvious that the Islamists would be a majority in the second round of the upcoming elections which would give them an opportunity to change the Constitution and declare Algeria an Islamic state.

The treat of the Islamization of the country induced an army to take active actions. The army officers were a staunch supporter of the secular state, the armed forces were the

¹ 3th President of Algeria (1949-1992).

² Front Islamique du Salut was formed in 1989.

³ Front de libération nationale was formed in 1989.

⁴ Front de libération nationale won 188, Socialist Forces Front (SFF) 25, Front de libération nationale 15 of the 231 seats.

guarantor of that system, besides the army took an active part in the suppression of the Islamic riot in 1989-1990 [3, p.32-35], so they were fairly concerned about possible persecution by the Islamists. It should be noted that the Algerian elite, the Western-oriented intellectuals, and the Berbers had a similar position. A growing crisis in the country, the establishment of the new political realities, the polarization of the society, the secularism of the state, the will to preserve the secular state and the authority, the influence of the armed forces, eventually led to the latter's counterreaction.

In 1992, On the eve of the second round of parliamentary elections in January, Shadley Benjedid, the president of Algeria, dissolved the National Assembly at the request of the Supreme National Security Council, a few days later the military overthrew the president accusing him of collaborating with the Islamists. The governance of the country headed the State High Committee (SHC)⁵ leading by Mohamed Boudiaf [6, p.53]. At the same time, the state of emergency was restored in the country⁶, the activity of the FIS was banned, the leaders were imprisoned.

Thus, the army not only interfered in the domestic political life of Algeria, but also lead the direct authority of the country. After seizing power, the army attacked the Islamist movement unexpectedly arresting, convicting, and imprisoning more than 20,000 Islamist figures [7, p.179]. However, the military's operations did not yield the expected results. The radical Islamists launched a counterattack, which escalated the situation. Armed attacks were launched on various government institutes, there were armed clashes between the army and the police in different parts of the country, terrorist acts were carried out and so on. All this forced the Algerian leadership to change its tactics, from attacking to defending possible facilities and infrastructure of significant importance. The crisis in Algeria entered a new phase, which led to many casualties, bloodshed, devastation, huge economic losses.

At the beginning of the 19th century, the leadership of the National People's Army saw the only way to resolve the situation in the country in rapid, strong punitive actions, making extensive use of the special forces and the army forces. As a result of such actions, the army managed to achieve some success in the fight against Islamist militant groups.

It should be noted that military clashes between the Islamists and the army sometimes resembled a large-scale war. During the attacks, the army openly used not only the heavy artillery but also the air force.

Taking into consideration the fact that the Islamic groups were mostly settled in the populated areas, such practice led to devastation and many casualties among the civilian population, all this led to retaliatory violence in turn. In addition, many Algerians seeking the revenge joined various Islamist groups. Thus, the abyss between the Islamist forces and the Algerian authority was widening day by day.

⁵ The State High Committee in Algeria consists of five people and is endowed with presidential power. It was established in 1992, January 14.

⁶ The State of emergency was canceled in 1991 for the parliamentary elections.

We consider it possible that if the military leadership had decided to launch a large-scale offensive assault, the victory over FIS would have been guaranteed. But in this case, the possible human casualties and destruction would be comparable to 1954-1962. with the losses of the struggle for independence. And it was clear that the Algerian leaders, who had seen the horrors of that war, did not want to repeat the history leading the country in this way for a second time⁷ [8, p.68, 9, p.48].

In addition, we must take care into consideration that the Algerian crisis, which had been lasting for years, was exhausting itself. The majority of the Algerians, particularly the urban population, was "tired" of terrorist acts, massacres, "pacification" of the districts and the cities, assassinations, arbitrary arrests, torture, embezzlement of the generals, threats and so on [7, p.184]. For the reasons above, in 1993 there was a need to find other ways to resolve the situation.

The beginning of the process of peaceful settlement of the "Algerian crisis"

Considering these circumstances State High Committee considered it possible to achieve national solidarity by restoring the electoral system partially, allowing the Algerian society to participate in that process. To implement this idea, the SHC organized an Assembly of National Accord, during which it was supposed to elect a new head of state and to decide the type of governance for a three-year transitional period, during which it was planned to prepare for parliamentary and presidential elections. Initially, it was decided to elect the head of state by compromise between the SHC and its pro-government forces on the one hand and the Algerian political parties represented at the Assembly of National Accord on the other hand.

However, the authorities failed to involve the opposition in the Assembly, they could not find common ground with either the moderate Islamist movement or the democratic forces. As a result, the conference intended to resolve the situation was ignored by almost all Algerian political organizations and parties, both Islamists (including moderates) and supporters of a secular state. However, it was held in the capital of Algeria in 1994 January. The conference had a predictable ending in such circumstances. The new President of the Presidential Council was simply appointed by the Supreme National Security Council [5, 63-65]. Thus, the sixth President of Algeria was declared the Minister of Defense Liamine Zéroual [9, p.50].

It should be noted that the appointment of Liamine Zéroual would not lead to a significant change in the policy of the military elite. At the same time, Zéroual was a compromise candidate who was accepted and perceived by both the military and at least by part of the Algerian society

The appointment of the army's representative in the public office did not set a precedent for the country. Due to the historical development's peculiarities, the army

⁷ According to official data 27 thousand people died in 1992-1997 during Algerian crisis, according to Algerian military and western researchers death toll rises accordingly to 40-45 and more than 100 thousand.

played a special role in the political life after the independence⁸ [1, p.82]. The real power in the country was more often concentrated in the hands of army commanders, especially in the first years of independence, who defined the most important social and state issues [10, p.157].

The president Liamine Zérroual's one of the first promises was to solve the Algerian conflict politically. However, Zérroual didn't manage to keep his promise. One of the main reasons hindering the negotiation process was the fact that there were two opposing camps around Zérroual. Not all the members of his government were the military, they were in favor of a peace process, they were supporters of a peace process. On the other hand, the president's inner circle, mostly high ranking military officers, were supports of a hard line. This dichotomy prevented any dialogue with the Islamists [3, p.66]. According to the latter, FIS would not make concessions and would not renounce the violence and the terrorist acts. Nevertheless, Zérroual tried to start a dialogue with the leaders of Islamist groups through personal meetings, but that was to no avail. After that Zérroual focused on recovering the economy.

Zérroual rose to power in a time when Algeria was in the throes of crisis, the country was in a tough economic crisis. Zérroual was forced to turn to various international financial and credit organizations in order to end and stabilize Algeria's sharp economic decline. The latter demanded that Zeroual, as a precondition for the loan, resumed dialogue with the parties involved in the Algerian crisis and initiate reconciliation efforts with Islamists and democratic parties.

Taking into an account these requirements, Zérroual yielded and took steps to isolate those who were opposed to negotiations with the Islamists contributing to the creation of a positive atmosphere. In the end, Zérroual managed to get financial aid from the international organizations [3, p 66]. In 1994 and in 1995 Algeria got \$1.8 billion loan from International Monetary Fund [6, p.62] which provided an opportunity to upgrade the army's armament [11, p.148].

It should be noted that the Algerian opposition was also looking for the ways to resolve the crisis. In late 1994 and in early 1995 the representatives of the most reputable opposition parties, met twice in Rome through the mediation of the Catholic community of Sant'Egidio [5, p.73]. After long and difficult negotiations, the parties, including the Front Islamique du Salut, adopted so-called "The platform for a peaceful and political settlement of the Algerian crisis." The platform called to recognize FIS as a legitimate political party, prepare and hold democratic elections, deprive military from the political arena as well [12, p. 98].

Although the demands of the opposition coincided with the plans of Zérroual in some respects, the government had a negative attitude to both the participants and the results of the meeting and declared that they were against the agreements reached in Rome [7, p. 187-189].

⁸ Houari Boumediene, Shadley Benjadid and Laimine Zeroual, the 3 presidents of Algeria, were high-ranking militaries before becoming a president.

The authorities' position can be explained by a number of circumstances. First, the fact that the meeting of the opposition organizations in Rome and their common position was already a matter of concern. At the same time Z roual wanted to solve the crisis in the country on his own terms, he and his supporters had their vision and the plan, so they didn't need someone else's guidance. The elite of Algeria immediately rejected the "Rome Platform" considering it as an attempt of external influence on the domestic political life of the country [13, p.48]. In addition, we must take into account the position of the army, which was not inclined at all, at least during this period, to leave power, leaving it to the Islamists.

At the same time Zeroual was holding secret negotiations with one of the leaders of FIS Ali Benhadj to carry out his plans, he was persuading him to end the violence and start a dialogue. However, they did not yield any positive results [3, p. 67]. Ali Benhadj either did not want or could not have influence on the activities of the FIS.

Various political forces immediately criticized the attempts to reach an agreement with the Islamists. The representatives of democratic circles (Rally for Culture and Democracy, Socialist Forces Front) strongly argued against the authorities' "flirtation" with radical Islamists and blamed them for trying to share power with the Islamists [10, p. 165].

However, Liamine Zeroual's negotiations with the Islamists didn't last long. It soon became clear that the latter were not going to give up the armed struggle. Radical Islamist groups intensified their activities, accompanied by violence and terrorism (political assassinations, explosions, kidnappings, etc.) during 1995.

As the wave of violence escalated, Liamine Zeroual was forced to turn to the security forces again, but this time the main strike force of the authorities was not the regular army, but the police units with special anti-terrorist training. In 1995 their number was reaching 60.000 [14, p. 232].

The country was in need of a radical change in political life. There was only one way to resolve the situation. The Algerians should have the right to vote. Liamine Zeroual chose to legitimize his power through presidential elections which took place in 1995 November. It should be noted that the decision to hold the elections received a negative response from both extremist Islamic forces and some democratic parties, declaring them in advance neither independent nor democratic. The latter called on the Algerians to boycott the elections and not to go to polling stations. The Armed Islamic Group of Algeria threatened to kill anyone who voted [7, p. 191].

The candidates in the election were Liamine Zeroual (independent), Mahfoud Nahnah, (candidate of the Islamist Movement of Society for Peace (MSP), Said Sadi (candidate of the secularist Rally for Culture and Democracy), Nour al-Dine Boukrouh (candidate of the Party of Algerian Renewal (PRA)). Taking into the consideration the Islamists' threats tens of thousands of reservists were conscripted a month before the election to ensure the security of the polling stations [5, p. 74-75]. Thanks to the measures taken, the presidential election took place without any serious obstacles.

The results of the presidential elections in Algeria were predictable for the majority, Liamine Zeroual secured 61 percent of votes, Mahfoud Nahnah won 25 percent, Said Sadi and Noureddine Boukrouh won 9 and 4 percent⁹ [4, p. 69, 15, p.236]. In this context, it should be noted that the ISF was barred from running in the elections, which ensured Zerual's victory.

Conclusion

Thus, the election of Liamine Zeroual not only legitimized his presidency, but also showed once again that the army continued to maintain its influence, remaining the only well-organized and functioning institution. In addition, two important realities emerged as a result of the elections. The low ratings of secular opposition parties and organizations suggest that these parties did not have the confidence of voters to solve the country's problems. The moderate Islamists were in the same situation. The majority of Algerians did not associate peace and sustainable development in the country with them at least in this period. At the same time, it should be noted that the policy adopted by Liamine Zeroual was perceived by some as a guarantee of dialogue. At the same time, it should be noted that the policy adopted by Liamine Zeroual was perceived by some as a guarantee of dialogue, peace and stability in the country with the Islamists, peace and stability in the country.

The presidential elections in 1995 concluded the most difficult period of Algerian political development. Liamine Zeroual and his supporters succeeded in establishing effective cooperation between the military and moderate Islamists, which was a precondition for building a stable political system.

⁹ It is notable that despite the calls to boycott, the elections in 1995 had higher voter turnout (75%) than in 1990 and 1991.

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PRINCIPLES OF CROSS-LINGUISTIC CULTURAL COMPARISON OF ARMENIAN AND ENGLISH EMOTIONAL-ATTITUDINAL EXPRESSIONS

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Abstract

Historically, there have been two approaches to interjections. First, as spontaneous verbal expressions that denoted emotional or mental states, later they were seen within the framework of verbal description. And indeed, interjections have natural expressive and symbolic-relative and communicative contents, which theoretically need to be reconciled to replace the contradiction between the mentioned approaches with a transition. For this purpose, it is necessary to examine emotional-attitudinal expressions (hereinafter EAEs) not only from the point of view of a single language but also from the point of view of cross-linguistic and intercultural comparison.

It is possible to study both semantic-pragmatic features of interjections and modal words of Armenian and English from three perspectives.

- a. what they convey;
- b. how they relate to general conversation;
- c. what language structure they can have.

F. Ameka [1, p101-118] and A. Wierzbicka [2, pp. 155-192] claim that they are semantically diverse linguistic units and have a certain conceptual content.

Another group of linguists, for example, E. Goffman, believes that they are tokens in a broad sense devoid of linguistic meaning [3, pp. 115-157], as they can only exist with the help of accent and paralinguistic means.

These two approaches allow us to assume that EAEs have a border location between linguistic and non-linguistic forms of human activity.

The article comprises the obvious cross-linguistic commonalities such as onomatopoeic words, more complex communicative expressions, volitional and epistemic emotional-attitudinal expressions, volitional-communicative features, and not only not always primary-speech emotional-attitudinal expressions. Another feature of cross-cultural pairing is the ratio of emotional and evaluative, in other words, spontaneous-unconscious and conscious-attitudinal components in EAEs.

Thus, in addition to well-known structural, syntactic and communicative approaches, EAEs can be classified in a cross-linguistic comparison according to the following linguistic and cognitive features.

- 1) degree of consciousness; 2) address; 3) the value attitude towards the reported material**

It is also possible to classify EAEs by types of emotions and attitudes/feelings. So, all EAEs can be classified according to the features mentioned above, one of which has a cognitive, the other- public-cultural, and two have communicative significance. Each of

these classes has its order and is presented as the basis of a complex cross-linguistic pairing of EAEs. To what extent will it be possible to typify EAEs containing this or that set of features as communicative units? It will be possible to find out only through the cross-linguistic comparison of specific examples and quantitative studies of linguistic data.

Keywords and phrases: Emotional-attitudinal expressions, cross-linguistic comparison, cognitive features, degree of consciousness, spontaneous expressions, communicative significance.

**ՀԱՅԵՐԵՆԻ ԵՎ ԱՆԳԼԵՐԵՆԻ ՀՈՒՋԱԳՆԱՀԱՏՈՂԱԿԱՆ
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ԳՈՀԱՐ ԳՐԻԳՈՐՅԱՆ

ՀՀ Գիտությունների ազգային ակադեմիայի
գիտակրթական միջազգային կենտրոնի
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Համառոտագիր

Պատմականորեն ձայնարկությունների կամ միջարկությունների նկատմամբ եղել է երկու տիպի մոտեցում. նախ՝ որպես խոսքային ինքնաբերական արտահայտություններ, որոնք նշանակել են զգացական կամ մտավոր վիճակներ, ապա՝ դրանք դիտվել են բառային բնութագրման շրջանակներում: Եվ, իսկապես, ձայնարկությունները պարունակում են ինչպես բնական արտահայտչական, այնպես էլ նշանային՝ վերաբերական և հաղորդակցական բովանդակություն, որոնք տեսականորեն հաշտեցնելու անհրաժեշտություն կա՝ հիշատակված մոտեցումների միջև եղած հակասությունը անցումով փոխարինելու համար: Այդ նպատակով անհրաժեշտ ենք համարում հուզագնահատողական արտահայտությունները (այսուհետ՝ ՀԳԱ) քննել ոչ միայն մեկ լեզվի, այլև միջլեզվամշակութային զուգադրության տեսակետից:

Թե՛ հայերենի ձայնարկությունները և եղանակավորող բառերը, թե՛ անգլերենի միջարկությունների իմաստաբանական և գործաբանական առանձնահատկությունները հնարավոր է ուսումնասիրել երեք տեսանկյունից.

ա. ի՞նչ են հաղորդում դրանք,

բ. ինչպե՞ս են հարաբերվում ընդհանուր խոսընթացին,

գ. լեզվական ի՞նչ կազմություն կարող են դրանք ունենալ:

Ֆ. Ամեկան [1, p101-118] և Ա. Վեժբիցկան [2, էջ 155-192] պնդում են, որ դրանք իմաստաբանորեն բազմազան լեզվական միավորներ են և ունեն որոշակի հասկացական բովանդակություն:

Լեզվաբաններից Է. Գոֆմանը, օրինակ, կարծում է, որ դրանք լեզվական իմաստից զուրկ լայն իմաստով նշանային *արարողություններ* են [3, էջ 115-157], քանի որ առկայանում են առոգանական և այլ հարալեզվական միջոցների օգնությամբ միայն:

Այս երկու մոտեցումները թույլ են տալիս ենթադրել, որ ՀԳԱ-ները մարդու գործունեության լեզվական և ոչ լեզվական ձևերի միջև սահմանային տեղ են զբաղեցնում:

Միջլեզվական ակնհայտ ընդհանրություններից են բնածայնական արտահայտությունները, ինչպես նաև ավելի բարդ հաղորդակցական արտահայտությունները, կամային և իմացական ՀԳԱ-ները:

Միջլեզվամշակութային զուգադրության մեկ այլ հատկանիշ է ՀԳԱ-ներում հուզականի և գնահատողականի, այլ կերպ, ինքնաբուխ-անգիտակցական և գիտակցված-վերաբերմունքային բաղադրիչների հարաբերակցությունը:

Այսպիսով, ՀԳԱ-ները, բացի քաջածանոթ կառուցվածքային, շարահյուսական և հաղորդակցական մոտեցումներից, միջլեզվական համեմատության մեջ կարելի է քննել՝ ըստ հետևյալ լեզվաճանաչողական հատկանիշների.

1. ըստ գիտակցվածության աստիճանի,

2. ըստ հասցեագրման,

3. ըստ հաղորդվող նյութի նկատմամբ արժեքային վերաբերմունքի:

Ուրեմն՝ բոլոր ՀԳԱ-ները կարելի է դասակարգել ըստ վերը նշված հատկանիշների, որոնցից մեկն ունի ճանաչողական, մեկը՝ հանրամշակութային, իսկ երկուսը՝ հաղորդակցական նշանակություն: Այս դասերից յուրաքանչյուրը համապատասխանաբար ունի իր կարգերը և ներկայանում է որպես ՀԳԱ-ների միջլեզվական համալիր զուգադրության հիմք: Թե որքանով հնարավոր կլինի տիպականացնել հատկանիշների այս կամ այն փունջը պարունակող ՀԳԱ-ները որպես հաղորդակցական միավորներ, հնարավոր կլինի պարզել միայն կոնկրետ օրինակների միջլեզվամշակութային զուգադրման և լեզվախոսքային տվյալների քանակական հետազոտությունների միջոցով:

Բանալի բառեր և բառակապակցություններ. հուզագնահատողական արտահայտություններ, միջլեզվական համեմատություն, ճանաչողական առանձնահատկություններ, գիտակցվածության աստիճան, ինքնաբուխ արտահայտություններ, հաղորդակցական նշանակություն:

ПРИНЦИПЫ КРОСС-ЛИНГВОКУЛЬТУРНОГО СОПОСТАВЛЕНИЯ АРМЯНСКИХ И АНГЛИЙСКИХ ЭМОЦИОНАЛЬНО-ОЦЕНОЧНЫХ ВЫСКАЗЫВАНИЙ

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Аннотация

Исторически сложилось два подхода к междометиям. Сначала как спонтанные словесные выражения, обозначавшие эмоциональные или психические состояния, позднее они стали рассматриваться в рамках словесного описания. И действительно, междометия содержат как естественно выразительное, так и символически-относительно-коммуникативное содержание, которое теоретически необходимо согласовать, чтобы заменить противоречие между указанными подходами переходом. Для этого необходимо рассматривать эмоционально-оценочные выражения (далее ЭОВ) не только с точки зрения одного языка, но и с точки зрения межъязыкового и межкультурного сопряжения.

Как семантико-прагматические особенности междометий, так и модальные слова армянского и английского языков можно изучать с трех позиций:

- а) что они передают;
- б) как они относятся к общему разговору;
- в) какую языковую структуру они могут иметь.

Ф. Амека [1, с. 101-118] и А. Вежбицкая [2, с. 155-192] утверждают, что они являются семантически разнообразными языковыми единицами и имеют определенное концептуальное содержание.

Другая группа лингвистов, например, Э. Гоффман считает, что они являются символами в широком смысле, лишены лингвистического смысла [3, с. 115-157], поскольку они могут существовать только с помощью акцента и паралингвистических средств.

Эти два подхода позволяют предположить, что ЭОВ занимают пограничную позицию между лингвистическими и нелингвистическими формами человеческой деятельности.

В статье выявлены очевидные межъязыковые общности, такие как звукоподражательные слова, более сложные коммуникативные выражения, волевые и эпистемические ЭОВ, волевые-коммуникативные особенности, но не только и не всегда первично-речевые ЭОВ. Еще одной особенностью межкультурного сопряжения является соотношение эмоционально-оценочного, иными словами, спонтанно-бессознательного и сознательно-оценочного компонентов в ЭОВ.

Таким образом, в дополнение к хорошо известным структурным, синтаксическим и коммуникативным подходам, ЭОВ можно классифицировать в межлингвистическом сравнении по следующим лингвистическим когнитивным признакам:

- 1) степень осознанности;
- 2) адресность;

3) ценностное отношение к сообщенному материал.

Можно также классифицировать ЭОВ по типам эмоций и отношений/чувств, так что все ЭОВ можно классифицировать по вышеупомянутым признакам, один из которых имеет когнитивный, другой - общественно-культурный, а два из них - коммуникативное значение. Каждый из этих классов, соответственно, имеет свой собственный порядок и представлен как базис комплексного межъязыкового сопоставления ЭОВ. В какой степени можно будет определить ЭОВ, содержащие тот или иной набор признаков в качестве коммуникативных единиц, можно будет выяснить только путем кросс-лингвокультурного сопоставления конкретных примеров и количественных исследований лингвистических данных.

Ключевые слова и словосочетания: эмоционально-оценочные высказывания, кросс-лингвокультурное сопоставление, когнитивный признак, уровень сознания, спонтанный, языковой стереотип.

Introduction

The emotional-attitudinal system of speech is one of the most complex subsystems of the linguistic reflection of the general cognitive system, in which different regulation degrees of linguistic cognition are visible. Armenian and English grammarians recognize that interjection-evaluative phrases remain undefined in meaning and form as single words or clusters of words.

Indeed, Ed. Sapir [4, pp.3-5] sees them as "no more than one of the decorations of the complex texture of language".

D. Crystal [5, pp.8-12] explains their existence in speech with the need to express emotional or voluntary state. They always appear as a string in speech; in writing, they are separated by a comma.

However, while describing their structure, primary and secondary concepts [6, p.103] are used to subcategorize in one class vocal onomatopoeic uninflected language units from units with verbal, inflectional orders [7, pp.101-118].

ex. Arm. գրողուցու-ի, Տեղ Աստիստ,

Engl. *Hell, shit, etc.*:

Goffman considers all these EAEs as "half-words" [8, pp.124-157], which are reactive both in origin and in their role in speech; that is, they represent a response to a particular motivation or become motivations themselves. Having different opinions on the issue of their being part of speech, representatives of both approaches agree that they can be serial units, so they can also become a separate sentence or, more precisely, as a speech unit, a phrase. (Furthermore, both sides admit that expressing emotional and mental states directly depends on linguistic and cultural conventions.

On the other hand, they directly express an individual's mental and linguistic state, so in many cases, they present obvious cross-linguistic commonalities. They are mostly the so-called primary emotional-attitudinal expressions.

Հայերեն

զզվանք – Յու իսք,

զարմանք – Դու՛հ/ի/ա՛յ,

ցալ – Ը՛խ/ա՛հ

Անգլերեն

անգլ. *Yuk!*

անգլ. *Wow, oh!*

անգլ. *Ouch!*

Among the obvious cross-linguistic commonalities are sound words/expressions: to scold, silence-ss-ss, shh, sus, ps/pisht, and natural consonants expressed in human speech: hap-chi, uh-um, etc.

Also, more complex cross-linguistic commonalities are communicative expressions, such as volitional and epistemic emotional-attitudinal expressions.

- to attract attention հայ. Ը-հը՛ ս անգլ. *Ahem!*
- to silence հայ. Սը՛ս-սս, շը՛շ-շշ անգլ. *psst!, shh!*
- disappointment հայ. Է՛-է՛հ անգլ. *Eh!*
- agreement հայ. ք-հը՛ անգլ. *u-hum!:*

In other words, as G. Jahukyan [9, p.362] mentions, in terms of symbolic-communicative content, they have emotional, evaluative and vocative meanings.

Let's recall complete words such as *yes, no, aha, neha, ok*, and other semantic units that perform a similar function and act separately, connected and semantically different, and even ones with varying orders of inflexion.

Seemingly identical, simple primary emotional-attitudinal expressions depend on the dictates of discourse and cultural conventions. It is, therefore, wrong to think that they are absolute generalities and do not have linguistic and cultural variants. For example,

Armenian *վա՛յ* or English wow! Interjections can express the following in different situations.

Natural reaction -positive/negative Wow, I couldn't even imagine!

Unexpectedness—... and, wow, there he was coming!

Surprise—Wow! You've already done your homework!

Amazement. – Wow! How beautiful is this book!

Tiredness; boredom; disappointment, etc

Thus, we can consider the phonetic feature as one of the stable criteria of cross-linguistic cultural combination, which has invariants and variants.

As mentioned above, the next differentiated feature is volitional-communicative, but not only and not always primary-speech emotional-attitudinal expressions. In other words, EAEs have both a relative and expressive meaning in content and aimed to reflect the phenomena of the external world and express feelings, thoughts and will. On the one hand, they mean, on the other hand, they represent, and on the third hand, they indicate their content plan. In contrast to expressions made up of full-meaning words, which mean one thing and implicitly express something else, for example, arm. *դո՛ւրս* or *ձե՛րք*, and to express a warning, we either need to explain with additional expressions or use extralinguistic means. All these components are expressed in one language form of EAE. On the one hand, they represent invariable semantic and functional features; on the other, they differ according to language and culture.

Ex,

Arm.	English
<i>Լսո՛ւք</i>	<i>Listen! Look here!</i>
<i>Զգո՛ւյ՛շ</i>	Look out! A car is coming at you!
<i>Հեռո՛ւ</i>	<i>Off!</i>
<i>Կորսի՛ր-գնա՛</i>	<i>Get out, get off!</i>
<i>Հեռացե՛ք</i>	<i>Leave me alone!</i>

Examples show that these expressions may have stylistic variations due to the cultural environment. The agreement with the context allows us to assume that the pragmatic side of the issue is of particular interest and that it can be a separate, extensive research subject within the boundaries of cross-linguistic pragmatics.

Another feature of cross-cultural pairing is the ratio of emotional and evaluative, in other words, spontaneous-unconscious and conscious-attitudinal components of EAEs. By logically decomposing the widely used Armenian expressions *սո՛ւսմիտ*, *այ թե՛րք* *բա՛նի, հի՛ստի տե՛ս, լսո՛ւք էլի, օ՛, զգո՛ւյ՛շ, մտաբարձար՛կ, սուշո՛րի, ա՛նք-հա՛, or well known English *Oh, my God!, Wow! Gee! Whoops!, Hurray! Dear me! Ouch! Bah! Ooh-la-la!* from the semantic components of expressions, we can see that there are basically two: expression of emotions and evaluative attitude. Both components have communicative value because they draw the other person's attention to this or that state and attitude of the speaker, and sometimes they draw attention.*

Methods of Classification and Study

The elements of emotion and evaluative attitude are common to all humanity. They are fixed in our consciousness with linguistic symbols to the extent that they are essential and applicable in our activities.

Thus, in addition to well-known structural, syntactic and communicative approaches, EAEs can be classified in a cross-linguistic comparison according to the following linguistic and cognitive features;

1. *degree of consciousness*;

- a. spontaneous-unconscious - interjections,
- b. semi-conscious – or/and,
- c. evaluative – modal words/ expressions

2. *addressing*;

- a. spontaneous - the expression of one's state,
- b. conscious expression of emotion/appreciation of the communicative situation,
- c. emotional-evaluative attitude towards the real or conditional speaker: vocatives, forms of address, rhetorical vocatives,
- d. emotional-evaluative attitude regarding the information given or received, the topic or material;

3. *the evaluative attitude towards the reported material*;

- a. positive, from contentment to joy,
- b. negative, from fear to anger and rage;
- c. unclassified or uncertain: surprise, fear, bewilderment, ignorance, etc.:

Finally, it is also possible to classify EAEs by types of emotions and attitudes/feelings, but classifying linguistic realities on this basis is impractical, as an almost infinite number of speech situations generate an equally large set of emotions.

The number of primary or basic emotions in philosophical sources from antiquity ranges from six to ten with different interpretations: surprise, joy, admiration, indifference, anger, fear, hatred, etc.

Finally, a purely statistical description can become the basis of cross-cultural comparison, providing information about the synchronous movement of EAEs in a language.

We also include the mentioned frequency and diversity statistical feature for further studies

4. *According to the frequency of use and the degree of fixation in the consciousness of language speakers*

- a. eventual;
- b. typical of a particular layer of language speakers and limited by certain universal factors: dialect or slang;
- c. typical to the given language culture.

Another principle of classification or characterization can be considered the expressiveness of EAEs. By expressiveness, some scientists mean the means of linguistic manifestation of emotionality and different attitudes in semantic (A. Bagratuni, N. Kharchenko), syntactic (O. Alexandrova), stylistic or language poetry (G. Jahukyan, M. Kozhina), sociolinguistic and psycholinguistic views [10,1997]. In general, expressiveness is a concept that performs the function of stylistic colouring. Accordingly, it uses all the features specific to stylistic expressions.

Thus, the features mentioned above, which are organized according to human cognition and communication and cultural categories, can serve as a basis for cross-linguistic comparison. For cross-linguistic comparison and the identification of variants caused by language culture, it is also advisable to use the psycholinguistic template of a linguistic sign, which includes both the classical conceptual, factual and semantic components of a linguistic sign, as well as its factual, popular cultural and other

conventional semantic applications and possible displacements of these semantic components.

So, all EAEs can be classified according to the features mentioned earlier, one of which has a cognitive, the other- public cultural, and two have a communicative significance. Each of these classes has its own order and is presented as the basis of a complex cross-linguistic pairing of EAEs. To what extent it will be possible to typify EAEs containing this or that set of features as communicative units will be possible to find out only through the cross-linguistic comparison of specific examples and quantitative studies of linguistic data.

Let's add one more observation regarding the possibilities of structural and formal characterization of EAEs. We partially mentioned above that along with the increase in the awareness of the emotional-attitudinal expressions, the structural characteristics of the emotional-attitudinal expressions expand and become more complex. Higher reflective linguistic, logical units are used than emotional exclamations to express an evaluative attitude. With the predominance of the evaluative component, abstract nouns appear in the emotional-attitudinal expressions, and the part-of-speech range of these expressions is enriched; exaggerations, metaphors and other stylistic devices expressing value and aesthetic meanings are used.

Conclusion

This logical development leads us to conclude that from a genealogical, semantic, and pragmatic point of view, blessings, wishes and curses can also be classified as higher EAEs. Moreover, as proof of the mutual conversion between the latter and primitive sounds(and therefore belonging to the same part of the speech paradigm), it is worth mentioning such exclamations that are frequently used in several languages; initially, they were abbreviated versions of wordy prayers, blessings or curses.

ex. Armenian *Մեղս~: Գրո~դ: Կենս'գդ: Տաղի'դ...:/ Փա~ռք, etc.*

English expression Gee! Cheers! Golly Bless! Goddamn! Damn are built on the same principle.

Thus, the emotional evaluation system of human speech can be safely considered a subsystem of its general pragmatic system, just like the public-ethical norms of speech.

This sketch of the order-conceptual boundaries of EAEs is sufficient to recognize them as a separate means of forming consciousness through speech, that is, linguistic regulation of the psyche.

Moving from the elementary to a complex stage of language cognition, they include onomatopoeic words, speech-forming indicators, and intermediate expressions in the same paradigm.

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GENDER FEATURES OF MALE AND FEMALE SPEECH IN ARMENIAN LANGUAGE

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Abstract

The issue of the status of women and men in society has always been and remains the focus of gender research. Gender subordination is often associated with gender roles. One of the achievements of gender studies in linguistics is the confirmation that even if men and women were born, raised, and lived in the same social environment, they speak different "languages" and perceive the same situation differently, knowing the world differently.

Now gender approaches have an extensive scope, and gender behavior is also subjected to deep analysis. Several scientific studies have been conducted to examine the written and oral communication behavior and speech of men and women. Not only gender characteristics were taken into account, but also age, speech perception characteristics, psychological characteristics, etc. The analysis of men's and women's speech is often the subject of research, and the speech of different gender groups has its features.

Data from similar scientific studies are widely distributed, reinforcing the understanding of differences in spoken communication between men and women. Accordingly, the most common communication genre among men is conversation-information, and among women - personal conversations and dialogue. This difference in genders' psyche has various manifestations in dialect speech. The emotionality of verbal communication is first of all expressed by the tone. Suppose men's speech is more restrained and abrupt. In that case, women's speech is usually more expressive, manifested by the rise and fall of the voice and the prolonged pronunciation of individual syllables. It turns out that men rarely interrupt each other and do not differ from the weaker sex in their talkativeness. Women ask questions and apologize more often. Women need to talk about details when communicating information.

Our research surveyed people living in different administrative-territorial units of the Republic of Armenia. We included people of varying age groups of different genders from the capital city of Yerevan and ten regions of Armenia. The total number of respondents is 360, of which 60 are from the capital Yerevan and 30 from each region. We conducted surveys among people aged 15-65. This article presents the results of the sociolinguistic examination of the linguistic community (60 native speakers) who participated in the survey from the capital city of Yerevan. We made the gender distribution proportional: out of 60 speakers, 30 are male, and 30 are female. To carry out

the research, we used observation and survey methods. Since gender differences, similarities, and speech characteristics are more attractive in the scope of our study, there was no need for video recordings and full speech registration. Therefore, we wrote down the essential parts of the speech for our research, and the respondents filled out anonymous questionnaires. We presented the collected data in the form of tables and grouped them. Accordingly, we evaluated the collected material using the method of mathematical statistics, based on which it was possible to record the gender characteristics of women's and men's speech in the Armenian language.

Our surveys provide an opportunity to identify common gender characteristics of men's and women's speech, such as differences in pronunciation, intonation, emotionality of speech, preferred grammatical structures and words, and more.

Keywords and phrases: gender research, male speech, female speech, gender characteristics of language, gender differences in speech.

**ՏՂԱՄԱՐԴԿԱՆՑ ԵՎ ԿԱՆԱՆՑ ԽՈՍՔԻ ԳԵՆԴԵՐԱՅԻՆ
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Համառոտագիր

Հասարակության մեջ կնոջ և տղամարդու կարգավիճակների հարցը մշտապես եղել և մնում է գենդերային հետազոտությունների ուշադրության կենտրոնում: Գենդերային ստորակարգությունը հաճախ կապում են գենդերային դերերի հետ: Լեզվաբանության ոլորտում գենդերային ուսումնասիրությունների ձեռքբերումներից մեկն այն փաստի հաստատումն է, որ եթե նույնիսկ տղամարդիկ և կանայք ծնվել, դաստիարակվել և բնակվել են հասարակական նույն միջավայրում, նրանք խոսում են տարբեր «լեզուներով» տարբեր կերպ ընկալելով նույն իրավիճակը, տարբեր կերպ ճանաչելով աշխարհը:

Այժմ գենդերային մոտեցումները շատ լայն ընդգրկում ունեն, խոր վերլուծության է ենթարկվում նաև գենդերային վարքագիծը: Մի շարք գիտական հետազոտություններ են իրականացվել՝ ուսումնասիրելու համար տղամարդկանց և կանանց գրավոր և բանավոր հաղորդակցական վարքագիծը և խոսքը: Հաշվի են առնվել ոչ միայն գենդերային առանձնահատկությունները, այլև տարիքը, խոսքի ընկալման առանձնահատկությունները, հոգեբանական բնութագրերը և այլն: Տղամարդկանց և կանանց խոսքի վերլուծությունը առավել հաճախ է դառնում հետազոտության առարկա: Տարբեր գենդերային խմբերի խոսքն ունի իր առանձնահատկությունները:

Նմանատիպ գիտական ուսումնասիրությունների տվյալները լայնորեն տարածվում են՝ ամրապնդելով տղամարդկանց և կանանց խոսակցական հաղորդակցության տարբերությունների մասին պատկերացումները: Ըստ այդմ՝ տղամարդկանց հաղորդակցման ամենատարածված ժանրը զրույց-տեղեկատվությունն է, կանանց շրջանում՝ անձնական զրույցները և երկխոսությունը: Սեռերի հոգեկերտվածքի այդ տարբերությունը իր զանազան

դրսևորումներն է ունենում բարբառային խոսքում: Խոսքի հուզականությունը նախ և առաջ արտահայտվում է հնչերանգով: Եթե տղամարդկանց խոսքը ավելի զուսպ է և կտրուկ, ապա կանանց խոսքը սովորաբար երանգավորվում է ավելի արտահայտիչ հնչերանգով, որը դրսևորվում է ձայնի բարձրացում-իջեցումներով, առանձին վանկերի տևական արտասանությամբ: Պարզվում է, որ տղամարդիկ հազվադեպ են ընդհատում միմյանց, իրենց շատախոսությամբ չեն տարբերվում թույլ սեռից: Կանայք ավելի հաճախ են հարցեր տալիս և ներողություն խնդրում: Տեղեկատվություն հաղորդելիս կանանց համար շատ կարևոր է մանրուքների մասին խոսելը:

Մեր հետազոտության շրջանակում հարցումներ ենք կազմակերպել Հայաստանի Հանրապետության վարչատարածքային տարբեր միավորներում ապրող մարդկանց շրջանում: Ընդգրկել ենք տարբեր տարիքային խմբերի տարբեր սեռի մարդկանց թե՛ մայրաքաղաք Երևանից, թե՛ Հայաստանի տասը մարզերից: Ընդհանուր հարցվողների թիվը 360 է, որից 60-ը մայրաքաղաք Երևանից, և յուրաքանչյուր մարզից 30 անձ: Հարցումներն իրականացրել ենք 15-65 տարեկան անձանց շրջանում: Սույն հոդվածում ներկայացնում ենք մայրաքաղաք Երևանից հարցմանը մասնակցած լեզվական հանրույթի (թվով 60 լեզվակիր) հանրալեզվաբանական քննության արդյունքները: Սեռային բաշխումը կատարել ենք համաչափ. թվով 60 լեզվակրից 30-ը արական սեռի ներկայացուցիչ է, 30-ը՝ իգական: Հետազոտությունն իրականացնելու համար դիմել ենք դիտարկման և հարցումների մեթոդներին: Քանի որ մեր հետազոտության շրջանակում առավել հետաքրքրական են խոսքի գենդերային տարբերությունները, նմանությունները, առանձնահատկությունները, կարիք չկար տեսաձայնագրությունների և ամբողջական խոսքի գրանցման: Հետևաբար՝ գրի ենք առել խոսքի՝ մեր հետազոտության համար առավել կարևոր հատվածները, ինչպես նաև հարցվողները լրացրել են անանուն հարցաթերթիկները: Հավաքված տվյալները ներկայացրել ենք աղյուսակների տեսքով և խմբավորել: Ըստ այդմ՝ մաթեմատիկական վիճակագրության մեթոդով կատարել ենք հավաքված նյութի գնահատում, որի հիման վրա էլ հնարավոր եղավ արձանագրել կանանց և տղամարդկանց խոսքի գենդերային առանձնահատկությունները հայերենում:

Մեր հարցումները հնարավորություն են տալիս պարզելու տղամարդկանց և կանանց խոսքի գենդերային ընդհանուր առանձնահատկությունները, ինչպես, օրինակ՝ արտասանական, հնչերանգային տարբերությունները, խոսքի հուզականությունը, նախընտրելի քերականական կառույցները և բառերը և այլն:

Բանալի բառեր և բառակապակցություններ. գենդերային հետազոտություն, արական խոսք, իգական խոսք, լեզվի գենդերային առանձնահատկություններ, խոսքի գենդերային տարբերություններ:

ГЕНДЕРНЫЕ ОСОБЕННОСТИ МУЖСКОЙ И ЖЕНСКОЙ РЕЧИ В АРМЯНСКОМ ЯЗЫКЕ

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Аннотация

Вопрос о положении женщин и мужчин в обществе всегда был и остается в центре внимания гендерных исследований. Гендерная субординация часто ассоциируется с гендерными ролями. Одним из достижений гендерных исследований в области лингвистики является подтверждение того факта, что даже если мужчины и женщины родились, выросли и жили в одной социальной среде, они говорят на разных "языках", по-разному воспринимая одну и ту же ситуацию, по-разному познавая мир.

Сейчас гендерные подходы имеют очень широкий охват, гендерное поведение подвергается также глубокому анализу. Был проведен ряд научных исследований, посвященных изучению письменного и устного коммуникативного поведения и речи мужчин и женщин. Учитывались не только гендерные характеристики, но и возраст, особенности восприятия речи, психологические характеристики и т.д. Чаще всего предметом исследования становится анализ мужской и женской речи. Речь разных гендерных групп имеет свои особенности.

Данные подобных научных исследований широко распространяются, укрепляя понимание различий в разговорной коммуникации между мужчинами и женщинами. Соответственно, наиболее распространенным жанром общения у мужчин является разговор-информация, а у женщин - личные беседы и диалог. Это различие в психике полов имеет различные проявления в диалектной речи. Эмоциональность речевого общения выражается, прежде всего, тоном. Если, речь мужчин более сдержанная и резкая, то речь женщин обычно более экспрессивна, что проявляется в повышении и понижении голоса и длительном произнесении отдельных слогов. Выясняется, что мужчины редко перебивают друг друга и не отличаются от слабого пола своей разговорчивостью. Женщины чаще задают вопросы и извиняются. При передаче информации женщины нуждаются в обсуждении деталей.

В рамках нашего исследования мы провели опросы среди людей, проживающих в различных административно-территориальных единицах Республики Армения. В качестве лингвистического сообщества мы выбрали людей разных возрастных групп разного пола из Еревана и десяти областей Армении.

Общее число респондентов - 360 человек, из них 60 человек из столицы и по 30 человек из каждой области. Мы проводили опросы среди людей в возрасте 15-65 лет. В статье представлены результаты социолингвистического исследования членов сталичного языкового сообщества (60 носителей языка), принявших участие в опросе. Гендерное распределение выполнено по принципу пропорциональности: 30 мужчин и 30 женщин. Для проведения исследования мы использовали методы наблюдения и опроса. Поскольку гендерные различия, сходства и особенности речи являются более привлекательными в рамках нашего исследования, не было необходимости в видеозаписи и полной регистрации речи. Поэтому мы записывали существенные для нашего исследования части речи, а респонденты заполняли анонимные анкеты. Собранные данные мы представили в виде таблиц и сгруппировали их. Соответственно, собранный материал мы оценили методом математической статистики, на основании чего удалось зафиксировать гендерные особенности женской и мужской речи на армянском языке. В рамках нашего исследования мы проводили опросы среди людей разных возрастных групп и разных полов.

Наши опросы дают возможность выявить общие гендерные характеристики мужской и женской речи, такие как различия в произношении, интонации, эмоциональности речи, предпочитаемые грамматические структуры и слова и многое другое.

Ключевые слова и словосочетания: гендерные исследования, мужская речь, женская речь, гендерные характеристики языка, гендерные различия в речи.

Introduction

The issue of the status of women and men in society has always been and remains the focus of gender research. Gender subordination is often associated with gender roles. As experts note, gender roles are the cultural expectations and attributions given to women and men in several society, and gender subordination is due to how much it is valued and affects people in that society [1; 6]. One of the achievements of gender studies in the field of linguistics is the confirmation of the fact that even if men and women were born, raised and lived in the same social environment, they speak different "languages", perceiving the same situation differently, knowing the world differently [7].

The study of gender is also highly dependent on external factors, such as social status, role, age, social group. One of the most influential researchers in this area is *Deborah Tannen*, with her famous work "*You Just Don't Understand: Women and Men in Conversation*".

The author analyzes the failures of communication between people of different sexes and explains men and women by the demands imposed by society, as well as by the features of socialization in childhood and adolescence, when communication takes place mainly in same-sex groups. Under the influence of these factors, men and women have different behavioral manifestations, different communication strategies and tactics. Men's communicative behavior, as a rule, is determined by the factor of achieving independence and high status. Society expects non-conflict behavior, compromise, emotionality from women. These differences, according to Tannen's concept, lead to differences in communicative behaviors. After all, the same thought can be interpreted or presented in different ways depending on the factors of status, position or consensus, solidarity and assistance.

In the same way, men and women can interpret the speech of the interlocutor in different ways. For example, helping can be interpreted as showing solidarity and strengthening mutual understanding. But in some help you can see a hint that the helper is demonstrating his superiority. Also, every culture has communication traditions and rituals that are not the same for men and women. For example, in our society, toasts are often made by men during holidays and events. Accordingly, Tannen elaborates the concept of *genderlect* [1]. Genderlect is the communication between men and women conditioned by socio-cultural characteristics. Genderlect's theory, however, did not gain general acceptance in linguistics, but this did not prevent Tannen's model from becoming very popular and her work being translated into about 30 languages.

Now gender approaches have a very wide scope, gender behavior is also subjected to deep analysis. A number of scientific studies have been conducted to examine the written and oral communication behavior and speech of men and women. Not only gender characteristics were taken into account, but also age, speech perception characteristics, psychological characteristics, etc.

The analysis of men's and women's speech is most often the subject of research. The speech of different gender groups has its own characteristics [3; 138]. Data from similar scientific studies are widely distributed, reinforcing the understanding of

differences in spoken communication between men and women. Accordingly, the most common genre of communication among men is conversation-information, among women - personal conversations and dialogue. This difference in the psyche of genders has its various manifestations in dialect speech. The emotionality of the speech is first of all expressed by the tone. If men's speech is more restrained and abrupt, women's speech is usually tinged with a more expressive tone, which is manifested by the rise and fall of the voice, the prolonged pronunciation of individual syllables. It turns out that men rarely interrupt each other, they do not differ from the weaker sex in their talkativeness. Women ask questions and apologize more often. When communicating information, it is very important for women to talk about details.

Hypothesis

The purpose of our study is to present the gender characteristics of men's and women's speech or, as is accepted in professional literature, the manifestations of genderlect in Armenian. Examining Deborah Tannen's famous work, *"You Just Don't Understand: Women and Men in Conversation"*, where the latter states that their position in society directly determines the communicative behavior of women and men, we put forward a hypothesis for our research to understand whether this same phenomenon is also characteristic of the Armenian reality [8]. So, our proposed hypothesis is as follows: the communicative behavior of women and men is directly determined by social characteristics, and the speech characteristics of women and men in oral and written speech express this behavioral difference.

Methods

In the segmentation of age problems adopted at the VII All-Union Conference on the Problems of Age Psychology, Physiology and Biochemistry, the beginning of youth for boys is considered to be 16-22 years old, and 15-19 years for girls. This age period is characterized by a desire to conform to a stereotypical form of "masculinity" or "femininity"; what is said is not only about appearance, behavior, but also about speech itself. "The indicator of masculinity and femininity is the most important characteristic of communicative behavior" [4]. For linguistic research, it is especially interesting to follow the "formation of gender differences in speech as a special stage of the anthropological development of speech" in youth" [5; 201]:

Our research surveyed people living in different administrative-territorial units of the Republic of Armenia. We included people of varying age groups of different genders from the capital city of Yerevan and ten regions of Armenia. The total number of respondents is 360, of which 60 are from the capital Yerevan and 30 from each region. We conducted surveys among people aged 15-65. This article presents the results of the sociolinguistic examination of the linguistic community (60 native speakers) who participated in the survey from the capital city of Yerevan. We made the gender distribution proportional: out of 60 speakers, 30 are male, and 30 are female.

To carry out the research, we used observation and survey methods. Since gender differences, similarities, and characteristics of speech are more interesting in the scope of our research, there was no need for video recordings and full speech registration. Therefore, we wrote down the most important parts of the speech for our research, as well as the respondents filled out anonymous questionnaires. We presented the collected data in the form of tables and grouped them. Accordingly, we evaluated the collected material using the method of mathematical statistics, on the basis of which it was possible to record the gender characteristics of women's and men's speech in Armenian language. Our surveys provide an opportunity to identify common gender characteristics of men's and women's speech, such as differences in pronunciation, intonation, emotionality of speech, preferred grammatical structures and words, and more. So, for example, in one of our polls, a question was proposed that implies only a positive answer: "YES" (ԱՅՈՒ "ayo"). However, respondents do not have the right to use the affirmative form "YES" (ԱՅՈՒ "ayo"), instead they should offer any synonym option at their discretion, the answer can be any word, phrase that corresponds to the meaning of "YES" (ԱՅՈՒ "ayo").

Analysis results

As a result of the quantitative analysis of the research material, it was found that women chose 28 options, men - 37 out of 49 "YES" (ԱՅՈՒ "ayo") sample synonym-answers given to respondents. Of these 49 variants, 4 synonyms were characteristic of both groups, 21 variants were found only in men's speech, 12 - only in women. Quantitative analysis of the results shows that men tend to show their "self" more. The results also showed that 17 of the 24 one-word answers were chosen by women and 19 by men. Therefore, it can be assumed that men prefer one-word or two-word responses, while women prefer one-word or structures containing three or more words. Thus, the results of our surveys support the accepted view that "women tend to prefer complex language structures that include several components. Men prefer to use language structures of medium complexity when answering" [2]. We have presented the results of quantitative data analysis with appropriate tables (See Appendices 1-6).

According to the results of the surveys, the most frequent option used by the respondents is the answer "of course" (իհարկև "iharke") (See Appendix 1). The second most frequent word is "naturally" (բնականաբար "bnakanabar") (See Appendix 2). It should be noted that women use this option more than men. The third place in terms of frequency is occupied by the verb "to love" (սիրել "sirel") (See Appendix 3). The fourth place belongs to the verb "to adore" (սպաշտել "pashtel") (See Appendix 4), meaning "to love very much". The ratio of women's and men's answers shows that the verb "to adore" (սպաշտել "pashtel") in the sense of "to love very much" (շատ սիրել "shat sirel") is typical of "feminine" speech. The answer with the adverb "much" (շատ "shat") (See Appendix 5) ranks fifth in terms of its number of uses.

It should also be noted that there are elements of colloquial language in the answers of young people, elements of youth slang. "It has been observed that men deviate more often from conversational norms, resulting in their speech including more

neologisms, slang or dialect words... Whereas women's speech is indicative of patience, wanting to maintain a good tone of communication" [4].

Overall, the qualitative characteristics of the responses made it possible to confirm that gender differences are expressed at all linguistic levels with different frequencies.

Conclusion

Summarizing the results of our surveys and analyzing the respondents' responses, we can state that the hypothesis proposed in our research has been confirmed. Deborah Tannen's claim that social characteristics directly determine the communicative behavior of women and men also corresponds to the Armenian reality. Moreover, the speech characteristics of women and men in oral and written speech express this behavioral difference and the roles "imposed" on the different sexes by society. Let us present the speech characteristics of women and men in oral and written speeches.

During *verbal communication*, the picture is as follows.

1) Women are characterized by the ability to quickly engage in various speech environments, participating in the discussion of various topics.

2) Men have a harder time transitioning from one topic to another. Excited and engrossed in the discussion of an issue, they do not respond to irrelevant observations.

3) Women often speak from personal experience, give examples of specific cases directly from their experience.

4) Men's speech is full of terms, adjusted realities, topics related to "profession" (it is assumed that men talk more about work), expressive, especially stylistically neutral means of use.

5) Researchers believe that women's speech is usually exaggerated and overexpressive, in addition, women often use prepositions and vowels.

6) Thematic and semantic fields of women's and men's speech are also different. sports, hunting, profession, military sphere are characteristic of men, and nature, animals, environment, everyday life are characteristic of women.

7) Women mostly give positive assessments, men more negative, the latter's speech also contains curses.

Men's written speech is characterized by the following features:

1) the use of army and prison slang,

2) frequent use of modal words, especially affirmative: of course, undoubtedly, certainly,

3) the use of a large number of abstract nouns,

4) lack of emotionality,

5) uniformity of vocabulary when expressing feelings,

6) the use of formal and emotionally neutral vocabulary when talking about family and friends,

7) the use of newspaper and journalistic words and phrases,

- 8) the use of obscene words as prepositions,
- 9) the inconsistency of punctuation marks with the emotional intensity of speech.

Women's written speech is characterized by the following features:

- 1) the abundance of modal words,
- 2) the use of high style and bookish and literary forms,
- 3) the use of stylistically neutral words and phrases, euphemisms, such as, for example, to speak obscenely instead of cursing, to use variants of drunk instead of not sober,
- 4) the use of adjectives and adverbs,
- 5) the use of simple and complex sentences,
- 6) syntactic structures with double negation,
- 7) frequent use of punctuation marks,
- 8) high emotionality of speech.

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APPENDIX 1

THE RATIO OF THE "OF COURSE" ANSWER

Answer	Total number	Men	Women
Of course (Իհարկէ “iharke”)	46	19	27
Of course yes (Իհարկէ, այո “iharke, ayo”)	2	-	2
Of course I love it (Իհարկէ սիրում եմ “iharke sirum em”)	2	1	1
Well of course (Դե իհարկէ “de iharke”)	1	-	1
Still asking, of course yes (Դեռ հարցնում եք, իհարկէ, այո “der harcnum ek”)	1	-	1
Of course, definitely (Իհարկէ, անպայման “iharke, anpayman”)	1	1	-
Total	53	21	32

APPENDIX 2

THE RATIO OF THE "NATURALLY" ANSWER

Answer	Total number	Men	Women
Naturally (բնականաբար “bnakanabar”)	16	7	9

APPENDIX 3

THE RATIO OF THE "TO LOVE" ANSWER

Answer	Total number	Men	Women
I love (Սիրում եմ “sirum em”)	15	11	4
I love very much (Շատ եմ սիրում “shat em sirum”)	3	2	1
I love too (Նույնպես սիրում եմ “nuynpes sirum em”)	1	1	-
And who doesn't love? (Իսկ ո՞վ չի սիրում “isk ov chi sirum”)	2	-	2
Total	21	14	7

APPENDIX 4

THE RATIO OF THE "TO ADORE " ANSWER

Answer	Total number	Men	Women
I adore (Պաշտում եմ “pashtum em”)	14	4	10
Absolutely adore (Ընդհանրապես պաշտում եմ “enthanrapes pashtum em”)	1	-	1
Total	15	4	11

APPENDIX 5

THE RATIO OF THE "MUCH" ANSWER

Answer	Total number	Men	Women
Much (Շատ “shat”)	13	6	7

APPENDIX 6

COMPILATION OF UNIQUE ANSWERS

Women’s answers	quantity	Men’s answers	quantity
Very strong (Շատ ուժեղ “shat ujegh”)	1	That’s right (Ծիշտ այդպես “jisht aydpes”)	1
I have a great attitude (Հրաշալի եմ վերաբերվում “hrashali em verabervum”)	1	Like, yes (Ոնց որ, այո “vonc vor, ayo”)	1
How will it be without it?	1	An affirmative nod of the head	

(Ինչպե՞ս կլինի առանց դրա “inchpes klini aranc dra”)			1
I respect (Հարգում եմ “hargum em”)	1	Naturally (Բնականաբար “bnakanabar”)	1
Yes, maybe (Այո, միգուցե “ayo, miguce”)	1		
Especially (Հատկապես “hatkapes”)	1		
I welcome (Ողջունում եմ “voghjunum em”)	1		
It happens that yes (Լինում է, որ այո “inum e, vor ayo”)	1		
I have no words (Խոսքեր չունեմ “khosker chunem”)	1		
Sometimes (Երբեմն “yerbemn”)	1		
By mood (Ըստ տրամադրության “yst tramadrutyanyan”)	1		
Possibly, yes (Հնարավոր է, այո “hnaravor e, ayo”)	1		
Total	14	Total	4

**THE ISSUE OF WOMAN-SUBJECT-IDENTITY
AS AN ATTEMPT TOWARDS SELF-REPRESENTATION OF GENDER¹⁰**

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Abstract

The *aim* of the research is to examine the features of woman-subject's¹¹ [15, p. 900] self-representation, as well as the identification of the gender peculiarities of women's literature in the poems of female authors who lived and worked in the Ottoman Empire in the second half of the 19th century. In the present study the poems are analysed in terms of the gender stereotypes of *femininity* and *masculinity*.

The *actuality* of the paper is conditioned by the attempt and analysis of the subjective manifestations of consciousness of female authors and the problem of woman - subject - identity as a *presence* of writing. Such kind of analysis has been attempted for the first time.

Generalizing the binary gender manifestations of *femininity* and *masculinity*, we notice that they are revealed through aesthetic images, are peculiar to the consciousness of female authors and are expressed through the poetics of their works. Therefore, these texts were viewed from two perspectives: **a.** *expression of gender-related world-image*, **b.** *presentation of a definite gender-related problem*.

Summarizing the study scientifically and theoretically, it should be noted that in the Ottoman Empire female discourse in various literary genres is revealed through structural and paradigmatic specific ethnic elements, therefore, a serious study of the poetics and typology of women's writings with new methodological principles is required.

Keywords and phrases: gender, femininity, masculinity, woman-subject, gender mask, subjectivity, women's writing.

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¹¹ A subject - narrowly meaning an individual who possesses conscious experiences, such as perspectives, feelings beliefs, and desires.

**ԿԻՆ-ՍՈՒԲՅԵԿՏ-ԻՆՔՆՈՒԹՅՈՒՆ ՀԻՄՆԱԽՆԴԻՐԸ
ՈՐՊԵՍ ՍԵՌԻ ԻՆՔՆԱՆԵՐԿԱՅԱՑՄԱՆ ՓՈՐՁ**

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Համառոտագիր

Հոդվածի *նպատակն* է՝ քննել կին-սուբյեկտի ինքնաներկայացման առանձնահատկությունները, ինչպես նաև՝ կանանց գրականության գենդերային առանձնահատկությունների նույնականացումը 19-րդ դարի երկրորդ կեսին Օսմանյան կայսրությունում ապրած և ստեղծագործած կին հեղինակների քերթվածներում:

Հոդվածի *խնդիրն* է՝ վերլուծել կանանց բանաստեղծությունները *կանացիություն* և *առնականություն* գենդերային կարծրատիպերի գործնականության տեսանկյունից:

Հոդվածի *արդիականությունը* պայմանավորված է կին հեղինակների գիտակցության սուբյեկտիվ դրսևորումների և կին – սուբյեկտ - ինքնություն հիմնախնդիրը՝ որպես գրի *ներկայություն* դիտարկելու փորձով և վերլուծությամբ: Այսօրինակ վերլուծություն կատարվում է առաջին անգամ:

Ընդհանրացնելով *կանացիություն* և *առնականություն* գենդերային բինար դրսևորումները նկատում ենք, որ դրանք բացահայտվում են գեղարվեստական պատկերների միջոցով, բնորոշ են կին հեղինակների գիտակցությանը և տրվում են նրանց ստեղծագործությունների պոետիկայի միջոցով: Այդ է պատճառը, որ սույն տեքստերը դիտարկել ենք երկու տեսանկյունից՝

ա. գենդերային աշխարհ-պատկերի արտահայտության,

բ. գենդերային հստակ խնդրի ներկայացման:

Գիտականորեն և տեսականորեն ամփոփելով ուսումնասիրությունը՝ նշենք, որ Օսմանյան կայսրությունում կանացի դիսկուրսը գրական տարբեր ժանրերում բացահայտվում է կառուցվածքային և հարացույցային առանձնահատուկ էթնիկական տարրերի միջոցով, հետևաբար՝ պահանջվում է կանանց տեքստերի պոետիկայի և տիպաբանության լրջագույն ուսումնասիրություն մեթոդաբանական նոր սկզբունքներով:

Բանալի բառեր և բառակապակցություններ: սեռ, կանացիություն, առնականություն, կին սուբյեկտ, գենդերային դիմակ, սուբյեկտիվություն, կանացի տեքստ:

ПРОБЛЕМА «ЖЕНЩИНА-СУБЪЕКТ-САМОБЫТНОСТЬ» КАК ОПЫТ САМОПРЕЗЕНТАЦИИ ПОЛА

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Аннотация

Цель статьи – исследовать специфику самопрезентации женщины-субъекта, а также адекватность гендерных особенностей женской литературы в сочинениях авторов-женщин, живших и творивших в Османской империи во второй половине XIX века.

Задача статьи – анализ стихотворений с точки зрения употребления гендерных стереотипов, связанных с *феминностью* и *маскулинностью*. Актуальность статьи обусловлена обзором и анализом субъективных проявлений сознания авторов-женщин и проблемы «женщина-субъект-самобытность» в контексте *присутствия письма*. Подобное исследование проводится впервые.

Обобщая гендерные бинарные проявления феминности и маскулинности, можно отметить, что они раскрываются с помощью художественных образов, которые характерны для сознания авторов-женщин, и воспроизводятся в поэтике их произведений. По этой причине мы рассмотрели данные тексты в двух аспектах: а) выражение гендерного мирообраза; б) постановка четкой гендерной проблематики.

Резюмируя исследование с научной и теоретической позиций, отметим, что в Османской империи женский дискурс в разных литературных жанрах раскрывается с помощью специфических структурных и парадигмальных этнических элементов, следовательно, требуется серьезное изучение поэтики и типологии «женских текстов» на основе новых методологических принципов.

Ключевые слова и словосочетания: пол, феминность, маскулинность, женщина-субъект, гендерная маска, субъективность, «женский текст».

Introduction

The concepts [8, p. 5-17] of *female discourse*, *woman-subject*, *female identification*, *female image*, *woman's writing*, *gender mask*, and *situational subject* are but little studied. Until now, no clear answers have been given to the issues of women's emancipation and the relationship between men and women. In this context, of course, there exist many hypotheses and theories [5, p. 161] for the study of man-woman relationships. Although the observation of the social status of women in literature does not tend to become an argument of feminist discourse, the fact remains that in order to reveal the patriarchal culture, in general, it is necessary not to act as a female author.

Therefore, although making a woman the main character of a fictional work, communicating [7, p 56-67] her emotions and feelings to the reader, and talking about her fate is not the solution of the problem itself, it is the right approach from the perspective of coordination of these issues, because each of them, depending on the ideological and fictional subtexts, stands out with the typological and individual features of the author's reflection. Some researchers assert that it is not possible to differentiate between the concepts of women's or men's literature, because there are just *female* or *male* approaches, regardless of the gender of the author.

Based on this, the concept of *woman's writing* is actual, because many literary texts are distinguished by their gender characteristics, which are manifested at different levels of poetics: semantic, structural-compositional, genre, plot, imagery, thematic, lexical, syntactic, and other elements. Despite the above-mentioned, the gender-role domain of woman's vitality differs from that of a man's, consequently, the experiences of women and men also differ and the expressions of the life stages in their texts vary. A fictional text is created on the rational bases of the formation of world-images of both men and women, which are manifested by choosing or not choosing certain cultural and lexical signs. They emerge in the domains of self-identifications of *man-woman* relationships. It is here that woman's writing begins to struggle with man's dominant cultural text, and their categorization becomes possible: *feminine*, *masculine*, and *mixed*.

Theoretical and methodological bases

From a methodological point of view, the paper examined the issues of *gender poetics*, *male-female standards*, and *types of women's writing*. The concept *lyrical hero* (as a subject) involved as a *gender mask* has also been theorized.

For the research, collected works by Western Armenian female authors who performed their literary activities in the Ottoman Empire in the second half of the 19th century were selected: "Letters to a Reading Armenian Woman" (1879) by Elpis Kesaratsian, "Glitters" (1902) by Sipil, "Moments of Laziness" (1921) by Haykanush Mark, or the poems "Spring" (1868) [1] and "In Memory of Mr. M. Peshiktashlyan" (1868) [16, p. 4] by Srбуhi Tyusab published in the press, through which the ways of identifying the female *self* have been revealed and the self-representation attempts of female authors have been differentiated.

The selection of the above-mentioned works as research data is accounted for by the possibilities of identifying the concept *lyrical hero*. All the selected poems were written in approximately the same time period, the 1860s-1900s or the first decade of the 20th century, and have the characteristics of a lyrical writing. The authors of all the poems are women. While conducting the research, *comparative* and *gino-critical* methods [13, pp. 216-221] were employed, with the help of which the inner semantic domains of the

poems were identified. Due to these methods, the process of text comprehension¹² [3] (deconstructing, assembling) is most effective, in which each poem can maintain its lyrical independence, thus, ensuring the lyrical untouchability of the collected works as complete systems. This issue at the same time extends towards the structural subtexts of the collected works, which in turn enable analyzing any piece of writing.

Self-Consciousness and Identification

The modern theory of feminism maintains female discourse in its base, the methodological basis of which has not been fully formed yet. On the basis of feminist poetics, the issues of feminist ideology, a woman's self-consciousness, typology, behavior, subjectivity, identification, and individual characteristics of the author are relevant. The feminist literary theory aims at the investigation of social and cultural interpenetrations and transformations of the feminine and the masculine. The study of the works of female writers, who lived and worked in the Ottoman Empire in the second half of the 19th century, allows us to understand the national-ethnic codes of gender consciousness as well, because female consciousness, in this sense, is self-sufficient. Female ethnocultural space, woman's thoughts, and speech systems in fictional texts are among the unexplored topics of literary studies. Such expressions can be found in Elpis Kesaratsian's, Srбуhi Tyusab's, Sipil's, Haykanush Mark's, and Zapel Yesayan's poems.

The typological distinction of the stated can be found in Elpis Kesaratsian's poems, which lack the female *self*, instead, the author's voice concerned about the fate of the nation is present. The above-mentioned female authors' literary techniques and forms (the domain of "how?") are special and are directly related to the peculiarities of methodology and style. She identifies woman's emancipation directly with the freedom of the nation:

Singing to our glorious free Homeland,

It is free, and so are its virgins. [6, p 10]

In this context, Elpis Kesaratsian's, Srбуhi Tyusab's, Sipil's, and Haykanush Mark's poems are noteworthy in terms of revealing the typological, methodological, and functional features of the lyrical hero; they are, in general, manifestations of the author's self in women's poetry.

The depiction of reality enables expanding manifestations of female authors' lyrical emotions and feelings through diverse typological expressions of consciousness. The woman-subject, as a special category and the bearer of *Other's* [2] consciousness, has special manifestations in Sipil's poems, in which the emotional images are also related to the ethnocultural space and peculiar not only to her, Sipil-author but also to all people bearing the collective concept of nation, are noteworthy:

I feel some unfamiliar infinity inside myself,

That does not fit into the narrow shell of my soul,

It will break, will smash, will bleed,

Will shatter like a fine vessel of cloud

From the violent wounded struggle in itself,

But it needs those non-existent storms. [14, p. 117]

Referring to Sipil's poetry, Alexander Shirvanzade writes: "Besides being a talented writer, she was a dreamer." [11, p. 10] In Sipil's poetry, there are various

¹² The application of the *graph-based semantic* method with the text comprehension procedure is similar to the *hermeneutic* method.

expressions of feelings and emotions, in which the speaker and the communicator are always women. Nature and love go together in Sipil's poetry.

In the ether, without air,

My soul will get utterly motionless. [14, p. 137]

Describing the storm of nature in the poem "Blue Girl", [14, p. 30-31] she addresses the virgin burning "in the flame of warm desires", deepening the psychological drama of the drowning of the virgin's love. In women's writings, as a rule (and Sipil is no exception), previously taboo topics, which demonstrate the drama of the individual lives of the characters, are also constantly revealed. On that occasion, Arpiar Arpiaryan observes: "Desirous sadness drips from her sorrowful and painful songs." [4, p. 453]

The multi-layered poeticization of the lyrical hero synthesizes the different levels of the woman subject (the subject of speech or the subject of the Word). Through the textualization of the woman's *self*, female voice, timbre, and style, writing is detached from the compulsion to stay in the shadows, in which the masculine is dominant, and from the world in which only male discourse is present. A woman is able to tell and write about herself from her own experience in a way that no man can describe.

Women's poetry is characterized by features of subconsciousness, which can tentatively be called *the world through a woman's eyes*, or the domain of *thoughts, emotions, and relationships*.

The Problem of Woman-Subject and Subjectivity

The separation of the author from the subject is expressed in the domain of the creation of purely women's writing - in the grammatical, lexical, and stylistic domains, while expressive developments are more characteristic at the communicative level. Haykanush Mark's poems were published in the volume "Moments of Laziness" (1921). [9]

The understanding of the world and reality is given to Mark through woman's subjectivity ("Laziness"): "May nothing be moving in the hall. And may the vases, with roses, be drowsing. The piano strings may be playing no dreams. And may not a single thing be swaying! May the wind rise, and may the willows fall in straight folds. May the Tic Tac of the clock be freezing too! May nothing be moving in the hall. May soft scents be wearing off. May the time not be flowing, and the eyes not be looking! May not a single thing be swaying! And may the drowse be waving slowly over the heart." [9, p. 5]

The revelation of the woman's self-consciousness confirms the universality of lyricism, as the *Other's* feelings are also revealed, accompanied by elements of historicity and biography.

Woman's poetry is summed up in the domains of the female poet's identification with her own body, the experience of love, the discovery of the inner world, and her relationships with men. The authors use the broader meaning of affiliation of feelings and emotions in the domain of modified stylistics of folklore sources (image system, the emphasis of alliteration, etc.).

Tyusab's poem "Spring" [1] is important in terms of examining lyrical feelings and emotions, and the tragedy "In Memory of P.M. Peshiktashlyan" [10, p. 4] is a farewell to a beloved teacher and symbolizes the heavenly freedom - the eternal light reached through death.

Rest, your name will fill the air of union.

Rest, may your name be kept alive,

As long as it is noble and kind,

As long as I worship the genius, rest Spirit! [10, p. 4]

The exposure of a woman's self-consciousness in a fictional text provides a sufficient basis for revealing the woman's subject since the lyrical hero in *epistolary* poetry is a conventional character. So the relation to *Other's* subjectivity allows the author to demonstrate the presentation of female self-consciousness in the poetic text at the most.

The purpose of epistolary poetry is to feel what the *Other* does and to bring the fictional character psychologically closer to the reader.

The author succeeds in feeling and conveying the *Other's* consciousness through the character, to express the *Other's* emotions, which indicates the poet's secret desire to make lyrical thoughts more universal.

In Elpis Kesaratsian's poem "Advancement Invitation to Maidens", the manifestations of lexical and stylistic features, through which the author's subjectivity (in a philosophical sense) is revealed through the expansion of the woman's self-consciousness and the pattern of speech communication in a certain historical period (the second half of the 19th century), are notable.

I come to break your chains of ignorance,
Wrap your soft fingers with rose thorns,
Bring warmth to your dumb tongue,
Bring a sweet taste for learning to you.
I come to give might to your winning arms,
Fly, soar to the boundaries of freedom,
So, virgins, go ahead, unite your hearts,
Embrace your freedom now with your souls. [6, p. 10]

Observing from the point of view of *typological* patterns, it is also possible to identify the autobiographical discourse of women's writings, as a result of which a woman presents herself as a subject of speech in the domain of biographical or memoir politics. In this case, the woman-author gains the opportunity to overcome the circumstance of being in the *shade*, where she was driven by traditions, and social and family statuses.

Reading women's literature helps to reveal the characteristics of poetics, autobiographies and memoirs, biographies, world-gender conflict, creation of means and types of psychologism, escape from everyday life, linguistic and graphic systematization of the text, materiality, and levels of metaphorization.

Conclusion

Having studied the manifestations and standards of women's consciousness of their identity in the fictional text, it can be concluded that its formulations have not been studied in Armenian Literature at all.

In the 1870s and 1880s, women's literature, social and literary-cultural activities developed vertically thanks to Elpis Kesaratsian, Srбуhi Tyusab, Sipil, Haykanush Mark, Mari Peilerian, Arshakuhi Teodik, Zapel Yesayan, and other female authors.

The concepts of *femininity* and *masculinity* are shaped by a particular image of the world as an objective and subjective system of characters, the nature of the author's consciousness, the peculiarities of female and male speech behaviors, text style, gender space, and genre systems. In this context, the purpose of women's poetry is the opportunity to feel what *Other* does, to psychologically convey the aesthetic image to the reader, especially the female reader.

Through the female *mask*, the author acquires the ability to experience *Other's* consciousness and makes the lyrical and gender space of the text more universal.

However, in women's writings, it is also possible to find the multifaceted experience that is always in the domain of marginality and is opposed to the traditional biological, social, and role stereotypes created and accepted by men. The peculiarity of women's literature lies especially in the form and purpose of writing, which is focused on the manifestation of women's *self-determination* and *self-identification*.

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THE MENTAL MODEL AS A MEDIUM TO INFLUENCE AND DIRECT BUSINESS DISCOURSE

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Abstract

The paper aims to analyze the reproduction of mental models in business communication, highlighting the sociocognitive aspect of discourse both on personal and social levels. Discourse is a complex cognitive activity, which, according to some researchers (Graesser, Millis, van Dijk and Kintsch), comprises 5 levels; 1. surface code (words and syntax), 2. text base (semantic representation of the text), 3. situation model (all explicit and implicit factors about discourse), 4. genre and rhetorical structure (narration, description, argumentation, etc. and corresponding rhetorical structures) and 5. pragmatic communication (setting, time, place, social status of the participants, etc.). Discourse is comprehended and activated in accordance with external and internal factors inextricably intertwined in one particular situation. The social dimension of discourse in conjunction with cognitive processes hugely contributes to the formation of mental models that can affect the course of any interaction. Mental models are subjective representations based on personal cognitive processes. The cognitive processes in one's mind (thinking, perceiving, understanding, feeling) create mental models, which are underpinned by the empirical data that one has in his mind or by the acquired knowledge that can be later utilized in various situational discourses. On the one hand, mental models are construed as a form or part of ideology, however, one can detect discrepancies between the ideology shared by a group, society, company, etc. and ideologically based personal attitudes (mental models). The discursive dimension of ideology presupposes cognitive processes in various social situations which makes ideologies susceptible to different interpretations. Values and merits that constitute the foundation of a particular ideology within a group or society are subject to certain alterations in order to minimize the risk of becoming anachronistic since its foremost aim is not only to anchor to its values and merits but also to expand the scope of the people who will share the same ideology. To achieve the above-mentioned goal, one needs discourse as the most effective tool available to target a larger number of "prospective ideologists". For instance, the discrepancies that may exist between the ideology and mental models can be reduced or eliminated by finding a

common base acknowledged by all participants in the communication process. It can be a cultural, social, historical, or even business ground that will be able to persuade participants of the interaction to debate, discuss and achieve mutually beneficial solutions. Since the purpose of this research is to demonstrate how mental models are activated in business discourse, the scope of the research is narrowed to the analysis of the communicative and ongoing business situations by applying SCDS (Sociocognitive Discourse Studies) approach. SCDS is a multidisciplinary type of Critical Discourse Analysis that focuses on the interface between the discourse and society.

Keywords and phrases: Mental models, semantic models, context models, ideology, business discourse.

**ՄՏԱՎՈՐ ԿԱՂԱՊԱՐԸ՝ ՈՐՊԵՍ ԳՈՐԾԱՐԱՐ ԽՈՍՈՒՅԹԻ ՎՐԱ ԱԶԴԵԼՈՒ
ԵՎ ՈՒՂՂՈՐԴԵԼՈՒ ՄԻՋՈՑ**

ՌՈՒՋԱՆՆԱ ԲԱՂՐԱՄՅԱՆ

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Համառոտագիր

Սույն հոդվածը միտված է վերլուծելու մտավոր կաղապարների վերարտադրությունը գործարար հաղորդակցման մեջ՝ ընդգծելով խոսույթի հասարական-ճանաչողական կողմը անձնական և հասարակական մակարդակներում: Խոսույթը բարդ ճանաչողական գործունեություն է, որը, ըստ որոշ հետազոտողների (Գրեյսեր, Միլիս, վան Դեյլ և Կինսշ), ներառում է 5 մակարդակ. 1. մակերեսային ծածկագիր (բառեր և շարահյուսություն), 2. տեքստային հիմք (տեքստի իմաստային ներկայացում), 3. իրավիճակի մոդել (դիսկուրսի վերաբերյալ բոլոր բացահայտ և անուղղակի գործոնները), 4. ժանրային և հռետորական կառուցվածք (շարադրանք, նկարագրություն, փաստարկում և այլն, ինչպես նաև համապատասխան հռետորական կառույցներ) 5. պրագմատիկ հաղորդակցություն (մասնակիցների միջավայրը, ժամանակը, վայրը, սոցիալական կարգավիճակը և այլն): Խոսույթը ընկալվում և ակտիվանում է արտաքին և ներքին գործոնների համաձայն, որոնք անքակտելիորեն փոխկապակցված են մեկ կոնկրետ իրավիճակում: Խոսույթի սոցիալական հարթությունը, ճանաչողական գործընթացների հետ համատեղ, մեծապես նպաստում է մտավոր կաղապարների ձևավորմանը, որոնք կարող են ազդել ցանկացած հաղորդակցության ընթացքի վրա: Մտավոր կաղապարները սուբյեկտիվ պատկերացումներ են՝ հիմնված անձնական, ճանաչողական գործընթացների վրա: Ճանաչողական գործընթացները (մտածել, ընկալել, հասկանալ, զգալ) ստեղծում են մտավոր կաղապարներ, որոնք հիմնված են էմպիրիկ տվյալների վրա, որոնք մարդն ունի իր մտքում կամ ձեռք է բերել գիտելիքների միջոցով, և հետագայում կարող է կիրառել տարբեր իրավիճակային խոսույթներում: Մտավոր մոդելները մեկնաբանվում

են որպես գաղափարախոսության ձև կամ մաս, նկատելի է անհամապատասխանություն՝ խմբի, հասարակության, ընկերության և այլնի կողմից ներկայացվող գաղափարախոսության և գաղափարականորեն հիմնավորված անձնական վերաբերմունքի (մտավոր կաղապարներ) միջև: Գաղափարախոսության դիսկուրսիվ հատկությունը ենթադրում է ճանաչողական գործընթացներ տարբեր սոցիալական իրավիճակներում, որոնք հնարավորություն են ընձեռում գաղափարախոսության տարատեսակ մեկնությունների: Արժեքները և արժանիքները, որոնք կազմում են որևէ խմբի կամ հասարակության գաղափարախոսության հենքը, ենթակա են որոշակի փոփոխությունների՝ ժամանակավրեպ դառնալու վտանգը նվազագույնի հասցնելու նպատակով, քանի որ գաղափարախոսության առաջնային նպատակը ոչ միայն իր արժեքներին և արժանիքներին խարսխելն է, այլ նաև ընդլայնել այն մարդկանց շրջանակը, որոնք կունենան նույն գաղափարախոսությունը: Վերոգրյալ նպատակին հասնելու համար խոսույթն ամենարդյունավետ գործիքն է՝ առավել մեծ թվով «հեռանկարային գաղափարախոսներ» թիրախավորելու համար: Օրինակ՝ նման անհամապատասխանությունները կարելի է նվազեցնել կամ վերացնել հաղորդակցման բոլոր մասնակիցների կողմից ընդունելի ընդհանուր հենքի վերհանման միջոցով: Տվյալ հենքը կարող է լինել մշակութային, սոցիալական, պատմական կամ նույնիսկ գործարար, որի օգնությամբ հաղորդակցության մասնակիցները կարող են բանավիճել, քննարկել և հասնել փոխշահավետ լուծումների: Քանի որ տվյալ հոդվածի շրջանակներում փորձ է արվում ներկայացնել, թե ինչպես են մտավոր կաղապարները ակտիվանում և իրացվում գործարար խոսույթում, ուսումնասիրության շրջանակը ներառում է միայն հաղորդակցական գործարար իրավիճակների վերլուծություն՝ հասարակական-ճանաչողական խոսույթի ուսումնասիրության մեթոդի կիրառմամբ:

Բանալի բառեր և բառակապակցություններ. մտավոր կաղապարներ, իմաստային կաղապարներ, համատեքստային կաղապարներ, գաղափարախոսություն, գործարար խոսույթ:

МЕНТАЛЬНАЯ МОДЕЛЬ КАК СРЕДСТВО ВОЗДЕЙСТВИЯ И НАПРАВЛЕНИЯ ДЕЛОВОГО ДИСКУРСА

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Аннотация

В данной статье делается попытка проанализировать воспроизведение ментальных моделей в деловой коммуникации, рассматривая социокогнитивный аспект дискурса как на личностном, так и на социальном уровнях. Дискурс – это сложный познавательный процесс, который, по мнению некоторых исследователей (Грессер, Миллис, ван Дейк и Кинч), включает 5 уровней: 1- поверхностный код (слова и синтаксис), 2-текстовая база (семантическое представление текста), 3- модель ситуации (все видимые и невидимые факторы дискурса), 4-жанровая и риторическая структура (повествование, описание, аргументация и т.д.), 5- прагматическая коммуникация (обстановка, место, время, социальный статус участников и т.д.). Дискурс осознаётся и активизируется в соответствии с внешними и внутренними факторами, которые неразрывно переплетены в деловом общении. Социальное измерение дискурса в сочетании с когнитивными процессами способствует формированию ментальных моделей, которые могут повлиять на процесс коммуникации. Ментальные модели - это субъективные представления, основанные на личных когнитивных процессах. Когнитивные процессы в сознании (мышление, восприятие, понимание, чувства) создают ментальные модели, подкреплённые эмпирическими данными или знаниями, имеющимися в сознании, которые могут быть использованы в различных ситуационных дискурсах. С другой стороны, ментальные модели рассматриваются как одна из форм или часть идеологии. Вместе с тем следует дифференцировать идеологию, разделяемую группой людей, обществом, компанией и т.д., и идеологию, основанную на личных отношениях, которые определяются как ментальные модели. Дискурсивное измерение идеологии предполагает когнитивные процессы в различных социальных ситуациях, что делает идеологию восприимчивой к различным интерпретациям. Ценности и достоинства, составляющие основу определенной идеологии в группе или в обществе, могут быть изменены с целью сокращения риска анахронизма, поскольку главная цель идеологии - не только закрепить ценности и достоинства, но и расширить круг людей, которые будут разделять ту же

идеологию. Для достижения вышеупомянутой цели нужен дискурс как наиболее эффективный инструмент, доступный для охвата большего числа «предполагаемых идеологов». Разграничения и разницу между двумя типами идеологий можно уменьшить или устранить, найдя общую основу, признанную всеми участниками коммуникативного процесса. Это может быть культурная, социальная, историческая или даже деловая основа, которая может убедить стороны делового общения принимать участие в обсуждении для достижения взаимовыгодных решений. Поскольку цель этого исследования - анализ процесса активизации и реализации ментальных моделей в деловом дискурсе, область исследования включает анализ коммуникативных и текущих деловых ситуаций с применением метода социокогнитивного исследования (SCDS). SCDS (социокогнитивные исследования дискурса) - это междисциплинарный тип критического анализа дискурса, который фокусируется на взаимодействии между дискурсом и обществом.

Ключевые слова и словосочетания: ментальные модели, семантические модели, контекстные модели, идеология, бизнес, дискурс.

Mental Models and Ideology

Mental models are prototypes of verbal interpretations of different situations, events, and phenomena that exist in a human brain based on personal attitudes. The notion was first introduced by Kenneth Craik in his work "Nature of Explanation", which laid the ground for the development and advancement of the theory of mental reasoning developed by Philipp Johnson-Laird and Ruth M. J. Byrne in 1991. The perception of reality may differ from person to person; hence the mental models/images of that reality are not always the same. "If the organism carries a "small-scale model" of external reality and of its possible actions within its head, it is able to try out various alternatives, conclude which is best of them, react to future situations before they arise, utilize the knowledge of past events in dealing with the present and the future and in every way to react in a much fuller, safer, and more competent manner to the emergencies which face it" [7, p. 73]. Any time when a person hears, reads, or is involved in some situation, or event, they construct the mental model of that situation or event, and all participants of the same event create different mental models in their Episodic or Autobiographical Memory. Once the information is perceived, processed, formed and stored during cognitive processes, it can be activated through the application of a meaningful discourse that embodies their personal, biased interpretation of the event, situation, etc. The reproduction of mental models is executed through specific linguistic means relevant to each particular situation; grammar, lexicon, semantics, pragmatics, etc. The theory of mental models is closely related to the script or scenario theory, which includes information about people and the purpose of their actions. The latter is a medium to structure the information or depict the event as a frame, which is important, for instance, for understanding "why a hungry woman would go to get a telephone book" [4, p. 44]. R. Schank and R. Abelson defined the most typical terminals of frame scenarios. In this particular case, the frame scenario is a combination of questions and answers related to a hypothetical situation. For example, the following questions can be used for the "child's birthday party" frame-scenario: "Should there be a dress code for the guests? Has the present been chosen already? Will he/she like it? Where has it been bought from? Where to get money from?", etc. Likewise, we should be aware that when a hungry woman goes to get a telephone book, there are "numbers of take-out restaurants, and that the woman must be looking up such a number in order to achieve her goal of getting food" [4, p. 44]. According to Teun A. van Dijk, in order to completely perceive the discourse, the presence of a situation model is a necessity. "Yet there are also differences between real situations and their cognitive counterparts. For instance:

1. Since we cannot and need not know all facts of the world, cognitive models are typically fragmentary and incomplete.

2. Models may represent real situations at different levels of generality. Thus, we may globally represent in a model the complex action "John made a trip to Portugal," whereas, in reality, this action consists of a highly complex and continuous sequence of events, actions, objects, and people, of which only a small subset appears in the model.

3. The concepts in a model are not arbitrary but reflect socially relevant interpretations of situations. For instance, the transmission of an object from one person to another in some social situations may be seen as "giving a present."

4. Apart from the social constraints on conceptualizations of situations, cognitive models are of course personal or subjective: the same situation may be interpreted in different ways, from different perspectives, and with individually different goals in mind, by different people." [2, p. 171-172].

Teun A. van Dijk also distinguishes between semantic mental models and situation or context/pragmatic mental models. "Context models are specific instances of our ongoing experiences in which we represent (and hence understand) the social situation in which we are currently involved and active (or that define our plans for future)". "Whereas mental models represent what discourse is about (refers to) may be called semantic models" [11, p., 8]. The premise that each individual has a personal attitude, and the individual mental image of a specific situation, or event is a fact. Yet, it should be also noted, that these individuals may also share group or social ideologies, which may either coincide or vary from their mental representations of the same situation or event. To understand these variations, let us refer to the concept of ideology.

The notion of ideology dates back to the 18th century when French philosopher Antoine Destutt de Tracy coined the term and referred to it as a "science of ideas". Since then, a whole host of scientific articles and books have been written about ideology, and yet, it still remains one of the vaguest and disputable notions in social sciences. The representatives of Marxist schools regard ideologies as "false consciousness", that is, "popular but misguided beliefs inculcated by the ruling class in order to legitimate the status quo and to conceal the real socioeconomic conditions of the workers" [11, p. 7]. Due to these perceptions, the concept of ideology has almost invariably been accepted as a negative phenomenon. T. van Dijk proposes a more general interpretation of ideology on the premise that "ideologies need not be negative, they need not be dominant. They can be positive or oppositional" [11, p. 8]. Karl Mannheim calls these positive ideologies 'utopias', and claims that "ideas are products of their times and of the social statuses of their proponents". According to Van Dijk, "Ideologies are the fundamental beliefs of a group and its members" [11, p. 7]. Drawing on this, we can conclude that the path of a gradual evolution of ideology is as follows: first stage - ideas; staples, vital but yet volatile components that need to be refined after a period of contemplation, second stage beliefs; these are already refined ideas that have withstood the test of time and are more stable and sounder, the third stage - when beliefs are transformed into ideology in the form of principles that one adheres to and rarely violates.

The examples below are excerpts from 2 different movies – "The Godfather" and "Pretty Woman" and illustrate group and social ideologies respectively. On both occasions language is the main medium to convey their ideologies. The interactions comprise business negotiation and business-to-customer conversation. The first excerpt, which displays group ideology, is about a negotiation between Mr. Vito Corleone and Mr. Sollozzo. Mr. Sollozzo comes to Mr. Corleone to offer a deal – share in the narcotics

business in lieu of money, protection from the police and courts. Mr. Vito Corleone refuses and the ground is the ideology that the family/group shares. They do not want to get involved in the drug business, which is a dirty and dangerous field.

Mr. Corleone – It’s true, I have a lot of friends in politics. *They wouldn’t be friends long if I was involved* in drugs instead of gambling which they regard as a *harmless vice*, but drugs are a dirty business. It doesn’t make any difference to me what a man does for a living. But your business is... a *little* dangerous [**“The Godfather”**, mins. 0:37:43-0:38:08]¹³.

By saying friends, Mr. Corleone means high-rank officials who protect his gambling business. Through discourse and the application of appropriate linguistic devices, Mr. Corleone presents his ideology. The usage of the second conditional in the first part of the sentence indicates that Mr. Corleone is talking hypothetically and the reality is the opposite, therefore the condition is unlikely to be fulfilled. He emphasizes the undesirable outcome that he can face (*they wouldn’t be friendly long*), in case he accepts Mr. Sollozzo’s proposition. Furthermore, to intensify the effect of the message, Mr. Corleone is trying to communicate it via conditional structure, as well as to display his mental model pertaining to gambling (a type of business he is involved in), in the second part of the sentence, Mr. Corleone employs an oxymoron (*harmless vice*) to juxtapose two different concepts: *harmless* and *vice*, with positive and negative meanings respectively. As is known, an oxymoron is a “phrase that combines two words that seem to be the opposite of each other, such as a deafening silence” [8, p. 502]. The group ideology that Mr. Corleone belongs to is premised on the sentiment that the *vice*, which is defined as a “moral weakness or bad habit” [8, p. 766], they execute, is assuaged by being *harmless* (not able or not likely to cause damage or injury), [8, p. 334]. They will not enter the narcotics business since it is against their principles/beliefs, unlike gambling which is a harmless vice’. In the conflict between profit and ideology, ideology prevails. Concurrently, Mr. Corleone makes an effort to make the refusal less offensive by using the quantifier *little*, which mitigates somewhat the reasoning for the refusal. The pause (which is an indicator of a cognitive process) that Mr. Corleone takes before using the quantifier *little*, indicates that he is trying to find an appropriate word (linguistic expression) that will, to some extent, reduce the polarity that exists between their mental models.

In the second movie, “Pretty woman”, the core ideology refers to the social (upper and lower) class segregation, where society members have deep-seated principles and beliefs pertaining to the poor, and the rich. The film is structured on two main characters Vivien, a prostitute, representing the low class of society and Edward, an affluent businessman representing the upper class of society. After spending a night with Vivien, Edward asks her to accompany him to various business events and gives him some money so that Vivien can purchase appropriate clothes. Irrespective of her “profession”, which has, for all intents and purposes, socially induced roots, Vivien is a kind-hearted, honest woman, who has been brought to prostitution by need. When she enters the shop, she is

¹³ <https://fenglish.ru/movie/the-godfather/>

wearing a small provocative white-blue dress and over-knee, black leather boots. Shop assistants are extremely rude to her based on the way she is dressed. She faces humiliation and contempt due to her “attire”. Below is the dialogue between Vivien and the shop assistants.

Vivien - How much is this?

Shop Assistant (1) - *I don't think this would fit you.*

Vivien - *I didn't ask if it would fit, I asked how much it was.*

Shop Assistant (1)- It's *very* expensive.

Shop Assistant (2)- It's *very* expensive. [**“Pretty Woman”**, mins. 0:40:49-0:41:03]¹⁴

The problem here is the ubiquitous ideology shared by the society members; prostitutes are of low social class; they cannot be treated equally as other class members. Consequently, they were hard on her, without separating her from the deal she was trying to negotiate. The shop assistants humiliate Vivien by using a repetition of words *very*, *very* in close proximity which, combined with such pragmatic features as setting, appearance, and ironic intonation, further escalates the situation. **Repetition** is defined as a **literary device** that repeats the same words or phrases a few times to make an idea clearer. In **rhetoric**, the repetition of a word or a phrase, for the purpose to increase the emphasis, is called **epizeuxis**. Since any business discourse presupposes some elements of rhetoric, the usage of epizeuxis *very*, in conjunction with a falling intonation (which is used when one wants to be definite, clear about something) makes the shop assistants' speech vehement and fervent in advocating their ideology. The participants of business discourse oftentimes avoid exploiting abrupt, rude, or offensive language to reveal or state their positions, and attitudes. Superficially, from the semantic angle, the shop assistant's words do not convey any offensive or rude message, unless they are supplemented with pragmatic features, which contribute to the acknowledgment and recognition of the implied content. Pragmatic features can be viewed as conditions governing the conversation in order to set a particular tone and achieve a desirable outcome. When the shop assistant replies “*I don't think this would fit you*”, it implies that she does not want to serve Vivien. The usage of this sentence, which is a definite divergence from its natural counterpart (the semantic meaning of the words in the sentence does not coincide with the intention of the speaker at the moment of utterance) based on the premise of conversational implicature introduced by H.P. Grice. “Since the truth of conversational implicatum is not required by the truth of what is said (what is said may be true – what is implicated may be false), the implicature is not carried by what is said, but only by the saying of what is said, or by “putting it that way”) [6, p. 59]. Obviously, Vivien's response, her tone, and facial expression (*I didn't ask if it would fit, I asked how much it was*) are not based on the direct understanding of **what is said** by the shop assistant, but rather on the interpretation of **the saying of what is said**. Furthermore, in the sentence, *I don't think this would fit you*, the maxim of Relation is violated by the shop assistant,

¹⁴ <https://fenglish.ru/movie/pretty-woman/>

whose contribution to the conversation is not relevant. Vivien is asking about the price, whereas the shop assistant's response is about fitting. "Make your conversational contribution such as is required, at the stage at which it occurs, by the accepted purpose or direction of the talk exchange in which you are engaged" [6, p. 45]. Grice labels this as Cooperative Principle with its 4 categories and corresponding maxims; Quantity, Quality, Relation, and Manner. The shop assistant ostentatiously violates the maxim and displays her unwillingness to cooperate. At this stage, one can observe how social ideology (which is based on the mental models regarding the role and status of prostitutes in society) in conjunction with pragmatic features (Vivien's appearance, plain manners) interplay with the violation of the maxim of Relation to form a conversational implicature. It can be deduced that Vivien's appearance evokes particular mental models that the shop assistant already has in her mind which, in their turn, instigate the execution of ideological discourse in accordance with her cognition of a particular social situation.

At first sight, ideologies are the mental representations, and attitudes towards a specific event, or situation and they are oftentimes identical to mental models. Polarization between mental models and ideologies occurs when the individual's personal experience, perception, and interpretation of a specific event or situation is not congruent with the company/society/group ideology they belong to. Nevertheless, as a member of the same ideological group or society, they share common socio-cultural knowledge (social cognition), which forms the same mental images and could diminish discrepancies that may arise during the reproduction of mental models and furthermore, guide the course of communication. "Since mental models – as the interface between the social and personal, feature both dimensions, they are ideal as a basis for the explanation of personally variable, but yet, socially based, ideological opinions and discourse" [3, p. 390].

Let us analyze the following dialogue from the movie "Suits" (an American legal drama, that premiered in 2011). The excerpt displays a job interview between Harvey Specter, a senior partner at Pearson Hardman, a prestigious law firm, and Mike Ross, an accidental passer-by, who is trying to escape the police and appears in the room where Harvey is conducting a job interview. The action is taking place in a hotel and the waiting room is full of Harvard graduates. Mike Ross has always dreamed of becoming a lawyer and now a unique chance is presented to him out of the blue. The pragmatic features comprising the setting, the way Mike escaped the police, his appearance, gestures all contribute to the formation of the mental model of the ongoing situation in Harvey's mind. He is impressed with the way he escaped the police and the extensive legal knowledge that he possesses, despite the fact that he did not go to any law school. Harvey presents an ideologically biased discourse based on his company's ideology, which is to hire only Harvard recruits.

Harvey – We should hire you. I'd give you the 25 grand as a signing bonus.

Mike – I'll take it.

Harvey – *Unfortunately, we only hire from Harvard. And you not only did not go to Harvard law school, but you also haven't even gone to any law school.*

Mike - *What if I told you that I consume the knowledge like no one you've ever met and I've actually passed the bar?* That's a Barbri legal handbook right there, right? Open it up. Read me something. *Anything*.

Harvey – Civil liability associated with the agency is based on several factors, including...

Mike – deviation from the path, the reasonable interference of agency...

Harvey - Where did you learn that?

Mike - I learned it when I studied for the bar. [**“Suits”, season1, episode 1, mins. 0:19:13-0:20:07**]¹⁵

Unfortunately, we only hire from Harvard. This sentence displays the corporate ideology shared by the company, assuming that Harvard recruits possess knowledge and skills that others lack. Being a staunch defender of this ideology, the company has been hiring Harvard recruits for many years. Harvey demonstrates his extreme surprise regarding the absence of any legal education, by employing the adverb *even*, which assumes to put a halt to the job interview since the absence of legal education leaves no room for further discussion. However, the usage of another emotionally-charged adverb, *unfortunately*, emphasizes that Harvey's personal attitude, (probably based on personal experience, that not all Harvard graduates are smart enough) that is to say, his mental image is not in line with the company's ideology. The sentence *“And you not only did not go to Harvard law school, but you also haven't even gone to any law school”* is an example of rhetorical parallelism (britannica.com), in which both parts of the sentence express the same idea with slight modifications (extra components which balance the two parts of the sentence) in order to create a definite pattern and support the main idea manifested in the sentence on one hand, and linguistic parallelism, when in two parts of the sentence the same part of the speech is used (in this example the verb *go* is used), on the other hand. The grammatical analysis of the sentence is based on two noticeable grammatical structures; double negation (you not only did not go...) and the usage of correlative conjunction (not only... but also...). The latter is used partly (*but also* is omitted in the sentence), which is normally accepted in a colloquial speech. Correlative coordinators/conjunctions (not only... but also, either... or, neither... nor, both... and) are pairs of words or phrases connecting words, phrases, and sentences [9, p. 81]. Using correlative conjunction *not only* in a sentence suggests that the aim of the sentence is parallelism, which is based on the notion of balance. Referring to the double negatives in the sentence (you not only did not go...), it should also be noted that they are used in colloquial speech. All the above-mentioned linguistic devices are used to intensify the ideological essence of Harvey's utterance. Another “loophole” in Harvey's speech is the usage of the pronoun *we*, which prompts Mike that Harvey speaks for the company and that it may not coincide with his personal position. Mike detects the discrepancy that exists in Harvey's mind; corporate ideology (social dimension of the mental model) on the one hand, and his individual construction of the situation (personal dimension of the mental

¹⁵ <https://fenglish.ru/movie/suits-s01e01/>

model) on the other hand. Mike needs to find a *Common Ground* (a combination of personal and social cognition) to influence the course of communication. In his response “*What if I told you that I consume the knowledge like no one you’ve ever met and I’ve actually passed the bar*”, Mike implies that the underlying “*Common Ground*” is legal knowledge that can be accepted both on personal and social, in this particular case, corporate levels. Legal knowledge is the interface between Harvey’s mental model and his company’s “Pearson and Hardman” ideology. *What if* question structures are generally used to make suggestions about what might happen in the future? In this specific case, it is employed by Mike to propose alternative options to the situation which seems to have ended in deadlock. Mike continues by challenging Harvey to open the legal handbook and read *something*, then he adds the pronoun *anything*. Semantically, the pronoun *anything* does not have any negative meaning and refers to an unlimited set of things. Harvey acts according to the semantic model of the word *anything*. By applying the word *anything*, Mike wants to underline the fact, that he is able to reproduce *any* information related to *any* legal act or law existent in the handbook. He opens the handbook and reads. Providing for Harvey, the interaction is yet constructed on the semantic perception of the dialogue, for Mike, it is quite the opposite. He employs all available pragmatic and linguistic tools, relevant to the situation, to narrow the discrepancy between corporate ideology and the mental representation of the situation in Harvey’s mind. As mentioned above, these are context or pragmatic models, shaped in communicative situations. “They make sure that discourses (and their speech acts and interactions) are **appropriate** in the current communicative situation. This is a specific form of **adaptation**, as is the case for all human interaction (more or less well) adapted to the social situation or the natural or physical environment” [11, p. 8]. Harvey accepts the challenge, he is enthralled by Mike’s vast, encyclopedic knowledge. Nevertheless, he is determined to prove that Harvard graduates are unbeatable.

Harvey – Okay, *hotshot*. Fire up this laptop. I’m gonna show you what a Harvard attorney can do. Pick a topic.

Mike – Stock option backdating.

Harvey – Although backdating options are legal, violations arise....

Mike – You forgot about Sarbanes-Oxley.

Harvey – The statute of limitations renders Sarbanes-Oxley moot post 2007.

Mike – Not, if you can find actions to cover up the violations as established in the Sixth Circuit, May 2008.

Harvey – That’s *impressive*, but you are sitting at a computer.

Mike - *Playing hearts*. [“**Suits**”, **season1, episode 1**]

(By saying so, Mike turns the computer around so that Harvey can see the screen and make sure that Mike is not lying.)

This part of the dialogue displays how the semantic model of Harvard graduate, that Harvey has in his mind, is gradually being altered during the reproduction process under the pressure of pragmatic features of discourse (Mike playing hearts at a computer, his confidence, and calm appearance). The informal word *hotspot* indicates that Harvey has

eliminated the formal border that usually exists between the interviewer and interviewee and is making efforts to demonstrate and convince that Harvard graduates are better. The genre and style of the language are of utmost importance for setting the tone in interactions. Mike's abrupt and indifferent response "*Playing hearts*" is another example of how linguistic units; intonation, pitch, rate, etc. affect mental models in the ongoing process of communication. Harvey is impressed with Mike's competence and profound legal knowledge and his behavior indicates that his ideology, based on a certain mental model, is reshaping.

Eventually, Harvey hires Mike to have mental reasoning for his decision (extensive legal knowledge that Mike consumes), which does not come into conflict with the main thrust of the company's ideology (Harvard graduates consume extensive legal knowledge). This is a vivid example of the complex yet indispensable interaction that exists between sociocognitive and lingo-pragmatic aspects of the discourse on one hand, and ideologically biased discourse and mental models on the other hand.

The interface between discourse and mental models is indubitable. It can be deduced that discourse not only is the reproduction of mental representations that one has, but also, itself, creates or contributes to the creation of new mental models. The research has shown how ideologically based polarized discourses uncover "*Common Ground*" through mental models and, by doing this, allow the participants of the specific discourse to eliminate the existing derogatory attitude among them. Mental models, in their turn, are flexible and are able to be transformed and supplemented with **any** information depending on the situation. Another approach is that a person has an infinite number of models in their mind and given the specific conditions (where, when, with whom, how, etc.), they choose an appropriate model and "dynamically adapt" it to the current situation. Ideologies, acting as a form of social cognition, are also subject to transformations during the communication process as we can see from the above example. When social, linguistic and pragmatic features are astutely employed, a person can reshape the existing mental models representing the specific form of ideology, direct the discourse and gain an advantage.

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PECULIARITIES OF SELF-ACTUALIZATION AMONG PEOPLE WITH PARENTAL DEPRIVATION IN CHILDHOOD

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Abstract

The article discusses the results of our research on self-actualization among people with parental deprivation. For decades, one of the most popular ideas in Maslow's theory is the idea that people have an inborn desire to be self-actualized, in his words "What a man can be, he must be" and parent's love and acceptance lays the groundwork for a child's success in self-actualization. Consequently, there can be an assumption, that people, who had parental deprivation in childhood, either because of absence of a parent(s) or the failure of the main functions of the role of a parent(s), will have difficulties on the path of achieving self-actualization. To illuminate this uncharted area, we have conducted a research and examined 140 people 21-35 years old, of which 70 (research group) had parental deprivation before the age of 10, and the other 70 (normative group) did not have such an issue.

In this article, we will illustrate some experimental results, which will describe the problems that deprived people face in the process of self-actualization. The results of the research group conceded from the results of the control group by only three components from eleven, which are: time orientation, values and auto-sympathy. The differences were not big, but scientifically considerable.

Low results in the scale of time orientation get those people who are immersed in the feelings of the past, with an overestimated desire for achievements in the future. It shows how much a person lives in the present without delaying his life for the future and without trying to find shelter in the past. The other scale is values, high results of which show that the person shares the values of self-actualized personality, in which A. Maslow includes: truth, kindness, beauty, integrity, lack of duality, vitality, uniqueness, perfection, justice, order, simplicity, self-sufficiency. The preference of these values testifies about the desire for harmonious existence and healthy relationships with people without manipulation. Another aspect is auto-sympathy, which is natural foundation of mental health and personal integrity. Low rates are typical to nervous, anxious, insecure people. It does not mean stupid complacency or uncritical self-perception at all, it is just a well-

conscious positive self-concept that serves as a source of sustained adequate self-esteem. The possible explanations for lower results in these scales and implications of the findings are discussed in the article.

The article summarizes the findings and contributions made in our research. The main conclusion that can be drawn is that, though a lot of sources in literature show that people with parental deprivation have more difficulties in the process of self-actualization and less possibilities in becoming a self-actualized person, our study provides evidence that there is only a slight difference in the level of self-actualization between deprived and non-deprived subjects. Broadly translated our findings indicate that parental deprivation does not have unaltered impact on the process of self-actualization.

Keywords and phrases: parental deprivation, self-actualization, time orientation, value, auto-sympathy, unconditional parental love.

**ՄԱՆԿԱԿԱՆ ՏԱՐԻՔՈՒՄ ԾՆՈՂԱԿԱՆ ԴԵՊՐԻՎԱՑԻԱ ՈՒՆԵՑՈՂ
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Համառոտագիր

Հոդվածում ներկայացված են ծնողական դեպրիվացիա ունեցող անձանց ինքնիրացման առանձնահատկությունները: Տասնամյակներ ի վեր Ա. Մասլոուի տեսության ամենահայտնի գաղափարներից մեկն այն էր, որ մարդիկ ինքնիրացման բնածին ցանկություն ունեն և ծնողի սերն ու հոգատարությունը ինքնիրացման գործընթացում հաջողության հասնելու հիմքերից են: Հետևաբար՝ կարելի է ենթադրել, որ այն մարդիկ, ովքեր մանկական տարիքում ունեցել են ծնողական դեպրիվացիա՝ ծնողի(ների) բացակայության կամ դերի խախտման պատճառով, դժվարություններ են ունենում ինքնիրացման ճանապարհին: Այս ենթադրությունը ստուգելու համար մենք իրականացրել ենք հետազոտություն: 140 մասնակիցներից 70-ը ունեցել են ծնողական դեպրիվացիա մինչև 10 տարեկան հասակը, մյուս 70-ը չեն ունեցել ծնողական դեպրիվացիա:

Սույն հոդվածում ներկայացրել ենք որոշ փորձարարական արդյունքներ, որոնք բացահայտում են դեպրիվացված անձի ինքնիրացման գործընթացում հանդիպող դժվարությունները: Հոդվածում քննարկվել են նաև ստացած տվյալների հնարավոր բացատրությունները:

Հոդվածում ամփոփված են հետազոտության արդյունքներն ու հետևությունները: Հիմնական եզրակացությունն այն է, որ թեև գրականության բազմաթիվ աղբյուրներ ցույց են տալիս, որ ծնողական դեպրիվացիա ունեցող մարդիկ դեպրիվացիա չունեցողների համեմատ ավելի շատ դժվարություններ ունեն ինքնիրացման գործընթացում և ավելի քիչ հնարավորություններ՝ դառնալու ինքնիրացված անձ, մեր ուսումնասիրությունը վկայում է այն մասին, որ միայն աննշան տարբերություն կա դեպրիվացված և դեպրիվացիա չունեցող

սուբյեկտների ինքնիրացման մակարդակի միջև: Ընդհանրացնելով՝ մեր բացահայտումները ցույց են տալիս, որ ծնողական դեպրիվացիան անփոփոխ և անշրջելի ազդեցություն չի թողնում անձի ինքնիրացման վրա:

Բալանի բառեր և բառակապակցություններ. ծնողական դեպրիվացիա, ինքնիրացում, ժամանակի կողմնորոշում, արժեքներ, ինքնահամակրանք, ծնողական բացարձակ սեր:

ОСОБЕННОСТИ САМОАКТУАЛИЗАЦИИ ЛЮДЕЙ С РОДИТЕЛЬСКОЙ ДЕПРИВАЦИЕЙ В ДЕТСКОМ ВОЗРАСТЕ

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Аннотация

В данной статье представлены результаты исследования, проведенного с целью выявления особенностей самоактуализации у людей с родительской депривацией. На протяжении десятилетий одна из самых известных идей теории А. Маслоу заключалась в том, что у людей есть врожденное стремление к самоактуализации и что родительская любовь и забота являются основой успеха в этом процессе. Поэтому можно предположить, что люди, пережившие в детстве родительскую депривацию в связи с отсутствием или нарушением роли родителя(ей), испытывают затруднения в достижении самоактуализации. Чтобы проверить эту гипотезу, мы провели исследование. Из 140 участников 70 имели родительскую депривацию в возрасте до 10 лет, а остальные 70 не имели родительской депривации.

В данной статье мы представим некоторые экспериментальные результаты, раскрывающие трудности, возникающие в процессе самоактуализации депривированного человека, а также обсудим возможные объяснения полученных данных. Результаты исследовательской группы уступали результатам контрольной группы только по трем компонентам из одиннадцати: ориентация во времени, ценности и аутосимпатия. Различия были невелики, но с научной точки зрения значительны.

Низкие результаты по шкале временной ориентации получают те люди, которые погружены в переживания прошлого, с завышенной тягой к достижениям в будущем. Исследование показывает, насколько человек живет настоящим, не откладывая свою жизнь на будущее и не пытаясь найти убежище в прошлом. Другая шкала – ценности, высокие результаты которых показывают, что человек разделяет ценности самоактуализирующейся личности, в которые А. Маслоу включает: истину, доброту, красоту, целостность, отсутствие двойственности, жизненность, уникальность, совершенство, справедливость, порядок, простоту, самодостаточность. Предпочтение этих ценностей свидетельствует о стремлении к гармоничному существованию и здоровым отношениям с людьми без манипулирования. Другим аспектом является аутосимпатия, которая является естественной основой

психического здоровья и личной целостности. Низкие показатели характерны для нервных, тревожных, неуверенных в себе людей. Это вовсе не означает глупое самодовольство или некритическое самовосприятие, это просто хорошо осознанная позитивная Я-концепция, служащая источником устойчивой адекватной самооценки. Возможные объяснения более низких результатов по этим шкалам и последствия полученных результатов обсуждаются в статье.

В статье подведены итоги и выводы исследования. Главный вывод, который можно сделать, заключается в том, что, хотя многие источники в литературе показывают, что у людей с родительской депривацией больше трудностей в процессе самоактуализации и меньше возможностей стать самоактуализированной личностью чем у людей без депривации, наше исследование показывает, что существует лишь небольшая разница между уровнем самоактуализации депривированных и недепривированных людей. В целом наши данные показывают, что родительская депривация не оказывает необратимого и безповоротного влияния на самоактуализацию человека.

Ключевые слова и словосочетания: родительская депривация, самоактуализация, ориентация во времени, ценности, аутосимпатия, безусловная родительская любовь.

Introduction

Deprivation is a mental condition that occurs when a person has not been able to satisfy some of his or her basic mental needs adequately for some period of time. The effect of deprivation can be manifested by small oddities that do not go beyond the normal emotional image, to the detriment of very deep thinking and character development.

For the moment it is sufficient to say that what is believed to be essential for mental health is that the infant and young child should experience a warm, intimate, and continuous relationship with his mother (or permanent mother-substitute) in which both find satisfaction and enjoyment. A state of affairs in which the child does not have this relationship is termed "maternal deprivation". This is a general term covering a number of different situations. Thus, a child is deprived even though living at home if his mother (or permanent mother-substitute) is unable to give him the loving care small children need. Again, a child is deprived if for any reason he is removed from his mother's care. This deprivation will be relatively mild if he is then looked after by someone whom he has already learned to know and trust, but may be considerable if the foster-mother, even though loving, is a stranger. All these arrangements, however, give the child some satisfaction and are therefore examples of partial deprivation. They stand in contrast to the almost complete deprivation which is still not uncommon in institutions, residential nurseries, and hospitals, where the child often has no one who cares for him in a personal way and with who he may feel secure **[16, p. 12]**.

What really matters are the consequences, that the deprivation can leave on the psychological development of a person.

The ill-effects of deprivation vary in its degree. Partial deprivation brings in its train acute anxiety, excessive need for love, powerful feelings of revenge, and arising from these last, guilt and depression. These emotions and drives are too great for the immature means of control and organization available to the young child (immature both physiologically and psychologically). The consequent disturbance of psychic organization then leads to a variety of responses, often repetitive and cumulative, the end products of which are symptoms of neurosis and instability of character **[17; 19]**. Complete deprivation has even more far-reaching effects on character development and may entirely cripple the capacity to make relationships. As Bowlby mentions the results of researches leave no room for doubt that the development of the institution infant deviates from the norm at a very early age. If the regime is continued, the deviations become more pronounced. Such evidence is disquieting, but sceptics may question whether the retardation is permanent and whether the symptoms of illness may not easily be overcome. The retrospective and follow-up studies make it clear that such optimism is not always justified and that some children are gravely harmed for life. This is a somber conclusion which must be regarded as established **[16, p. 12-16]**.

We were interested to find out whether parental deprivation in childhood has an impact on process of self-actualization of a person in adulthood.

Theoretical and methodological bases

The concept of self-actualization is best known in psychology in the context of Abraham Maslow's hierarchy of needs. Maslow first introduced his concept in his 1943 paper "A Theory of Human Motivation" and his subsequent book "*Motivation and Personality*". This hierarchy suggests that people are motivated to fulfill basic needs before moving on to other, more advanced needs. As a humanist, Maslow believed that people have an inborn desire to be self-actualized, in his words "What a man can be, he must be". In order to achieve these ultimate goals, however, a number of more basic needs must be met such as physiological, safety, love and belongingness, and self-esteem. [20, p 46].

For Maslow, a person is always "becoming" and never remains static in these terms. Self-actualization is based on leveraging one's abilities to reach their potential, it is a very individual process and can greatly differ from person to person. But the question is: does the person who had parental deprivation in childhood, have the same equal psychological grounds for self-actualization as the one who didn't have such an experience?

In a healthy family, children are provided a healthy and safe environment in which they develop the self. In this environment, the child will start his day already from the third level, having already fulfilled the physiological and safety needs as well as needs for love and belonging. It means that throughout the day, the focus will be on achieving the last two levels of the hierarchy- esteem and self-actualization.

Maslow mentions that his subjects were loved and were loving, and are loved and are loving. This tended to point to the conclusion that psychological health comes from being loved rather than from being deprived of love [3, p. 186].

This lead us to an assumption, that parent's love and acceptance lays the groundwork for a child's success in self-actualization. Consequently, people who had parental deprivation in childhood, either because of absence of a parent(s) or the failure of the main functions of the role of a parent(s) will have difficulties on the path of achieving self-actualization.

To illuminate this uncharted area, we have conducted a research and examined 140 people 21-35 years old, of which 70 (research group) had parental deprivation before the age of 10, and the other 70 (control group) did not have such an issue.

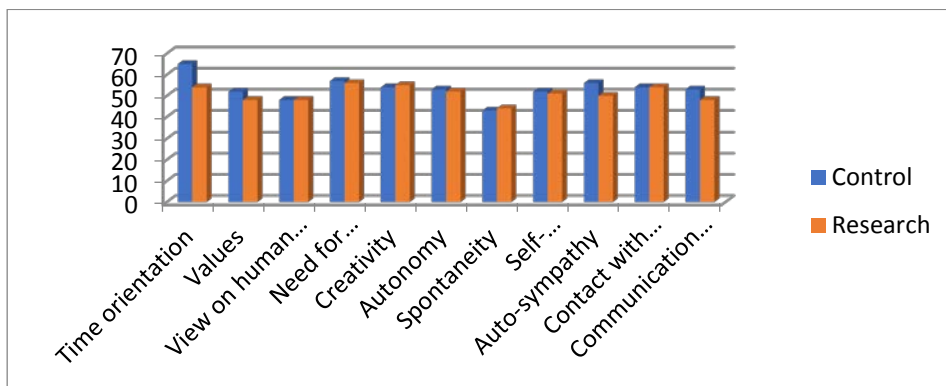
For measuring the level of self-actualization among deprived people, we used the fourth version of Personal Orientation Inventory by Everett Shostrom, which was adopted by N.F. Kalina and A. V. Lazukin in 1998. [15, p 297-302]. The method, in its turn, was adapted into Armenian language by the Laboratory of «Psychology of Personality and Professional Activity» of Yerevan State University. It consists of 11 measuring scales, which are shown in the table 1.

One of the parametric methods of mathematical statistics, the Independent Samples T-Test was used for the scientific validation of comparative analysis of research and control groups.

The calculations were performed with SPSS-23 statistical software package.

Main results

Table 1



As we can see in the diagram, the results of the research group conceded from the results of the control group by only three components, which are: time orientation, values and auto-sympathy. In this article we are going to discuss possible reasons of these differences.

Time orientation: low results get those people who are immersed in the feelings of the past, with an overestimated desire for achievements in the future. The time orientation scale shows how much a person lives in the present without delaying his life for the future and without trying to find shelter in the past. High results are typical of people who understand the existential value of life "here and now", who are able to enjoy the present without comparing it with the joy of the past, without devaluing the expectations of future success [15, p 426-433].

From Buddhist spirituality to the philosophy of new era and modern psychology, we are told to put aside the regrets of the past, the worries about the future, and try to make the most of the present. Time factor is an inseparable element of the whole human mental structure, which has a significant impact on its formation and development.

In general, time orientation is defined as an individual's dynamic view of his or her past, present, and future, which is shaped by the process of social activity that ensures individual self-actualization. Time orientation is also the expression of one's own meaning system, which allows to create a coherent structure of life. Without purposeful, well-developed time orientation, self-actualization and self-determination of a person is difficult.

Time orientation plays an important role in people's lifestyles. As a rule, they separate a certain time category and constantly "apply" it in life, for example, focusing on the past, present or future. The time parameter of the past or future can be positive or negative. In other words, the attitude towards the past, positive or negative, plays an important role in the perception of a present. Focusing on the reflection of the past places limitations on the experience of the present. When creating a picture of the future, a person

evaluates his present and past in accordance with what he has planned. If this combination causes dissatisfaction or frustration, previous meanings and values are re-evaluated and new forms of behavior are formed. How a person views his future prospects depends on his meaningful life orientations, attitudes, goals, and worldview in general. The relationship of his self with the past, present and future is the most promising position for the existence and development of a person. It is in this position that he finds the opportunity to realize the value of human life throughout the perspective of history [10, p 15-21].

The ability to determine life goals independently, as well as the presence of a meaningful, fulfilling time orientation to the future, are extremely important components of a person's mental health. Time is one of the important reserves of a person's mental organization and self-actualization in society [2, p 19-27]. Psychological time is formed on the basis of determinative connections between the main events of human life. The determination of human life has its peculiarities, which lies in the fact that along with the determination of the past (the reasoning of future events by the previous ones), there is also the determination of the future (the predicted results of life activities) [10, c. 15-21]. Time orientation characterizes the subject's behavior and is the dominant direction of that behavior in relation to past, present and future objects and events [8, p 176]. The orientation of time towards the past, present and future L.A. Regush defines as "temporary decentralization". This concept introduces the amount of energy that a person spends on one of the three components of time: past, present or future. Thus, a person's orientation towards the events of a certain time horizon determines their special significance [11, p 352].

Our subjects (21-35 years old) had parental deprivation in childhood because of one or both parents were absent from the family or violated their role. By telling role violation, we mean that they have been present in child's life, but didn't give supposed love, care and support to him. Surely, it has a special meaning for the child and can be an explanation why, even in adulthood his time orientation is directed towards the past.

According to J.V. Gorka, research data on the formation and development of children's personality in a difficult life situation, shows that personality changes that take place are reflected in how he evaluates the past, perceives the present, sees the future and what orientation of time he takes as a possible trajectory of personal development [5, p 110-113].

The results of I. U. Bubnova's and V. I. Rerke's research on "Life perspectives of boarding school students in the context of a subjective picture of the world", show that they have no motives or ideas related to the past, while there is a projection of traumatic factors on the future [12, p 248-250]. It is known that the conscious formation of a person's attitude towards the future begins in adolescence [6, p 492-522]. An adolescent, who has experienced parental deprivation in childhood and continue to live in the same conditions during the adolescence, has great difficulty choosing constructive behavioral strategies. The future can be a lifeline for him, where everything is good, there is no

suffering, everyone loves him and accepts him. In this way he makes the future a model of life and lives in the future, not in the present.

We have tried to explain the reasons of the law results in the scale of time orientation among deprived people and came into this conclusion. The past plays such a crucial role in shaping their lives that when they build their lives, make decisions, take certain steps, they rely on the past, in this case, on the traumatic episodes of the past. Living in the present, they try to fill up the past. For example, if a person was deprived of paternal love as a child, he directs his current activities to filling the love of the past, rather than finding new love. In other way by facing deprivation in childhood, they try to compensate it with such a future where there is no deprivation, where they are in a favorable condition, not compromising others, sometimes even surpassing them. They seem to live with the achievements of the future, not the present life. They often overestimate the future, constantly checking that feeling by referring to their past. The past hinders the present because they feel more secure in the future.

Value scale: high results of this scale show that the person shares the values of self-actualized personality, in which A. Maslow includes: truth, kindness, beauty, integrity, lack of duality, vitality, uniqueness, perfection, justice, order, simplicity, self-sufficiency. The preference of these values testifies about the desire for harmonious existence and healthy relationships with people without manipulation [15, p 426-433].

A number of Russian psychologists have studied this issue and came to the same conclusions. As E. Blyasova mentions, deprivation is the insufficiency or absence of the conditions necessary for normal personal development. Lack of ability to meet the needs of interaction with the environment determines the development of deprivation and negatively affects the mental state of the adolescent. Deprived adolescents have a special attitude towards themselves, others and the world. In such adolescents, the values are directed towards negative assessments of reality, lack of hope for a good future and pessimism. They do not fully possess the qualities necessary for an accurate perception of the surrounding reality [1, p 189-194]. According to E.G. Umanskaya, the most important value orientations among deprived adolescents are "financially secure life" and "happy family life". Values such as interesting work, fun, love are possible, but not prevalent. The most important things for such people are the values that have been actualized to some extent and are a compensation for real life [14, p 22-24]. Galyukova believed that those who were deprived had a contemptuous or indifferent attitude towards universal values [4, p 40-42].

Niyazova and her colleagues obtained interesting results in a study comparing the value orientations of orphans and children without parental care, who live in a state institution and foster families. 61% of orphans and children without parental care, who are brought up in a state institution, have the following value orientations: high financial security (1st degree), respect from others (2nd degree), independence and freedom in actions (3rd degree), self-confidence (4th degree). In the last places are such value orientations as happy family life (16th degree), love (17th degree), happiness of others (18th degree). Thus, among orphaned children raised in state institutions, value

orientations are directed towards their own development, and values such as family, love for other are in the last place for them.

The following values prevail among 67% of orphans and children without parental care growing up in a foster families: happy family life (1st degree), loyal and trusted friends (2nd degree), love for beloved ones (3rd place), well-being of the people around them (4th degree), wisdom of self-judgment (7th degree). The last places are occupied by financial security (16 degrees), freedom (17 degrees), entertainment (18 degrees). Thus, the family values, which they will need to build a strong, harmonious family in the future are predominant for the orphans and children without parental care raised in a foster families. They are able to take care of their loved ones, appreciate the bright moments of life, respect the opinion of others [9].

In our opinion the principles and values of a fundamentally satisfied and dissatisfied person are different. They have profoundly different perceptions of the physical, social, and psychological world that are directly related to the individual value system. A person, who is deprived of parental love and care, has fundamental dissatisfaction towards the life. To him, the world seems to be a dangerous place, inhabited by either those whom he can dominate or with those who can dominate him. His value system is a system of necessity, where lower demands prevail, especially the needs of reproduction and security. The fundamentally satisfied person is in a completely different position. He has much more potential to develop the values that Maslow mentioned.

Some authors connect values with time orientation. For example Vechkanova, describing the peculiarities of the relationship between value-semantic and time orientations of a person, comes to the conclusion that working with a hierarchical structure of meanings and values can lead to changes in time orientations, which can affect the overall picture of an individual's life. "The value-semantic nucleus," Vechkanova writes, "is localized in the psychological present of the subject, but the psychological past and future associated with it, also carry a certain value-semantic burden." Due to the fact that meanings and values are fundamental structures, that regulate human activity in the surrounding reality and are included in the structure of a person's time orientation, as well as based on the fact that in the process of reinterpreting life events, person's time orientation changes are possible, Vechkova talks about the determinative nature of value-semantic formations in the process of time orientation formation [3, p 61-75].

According to A.V. Levchenko, perception and understanding of the past, present and future, "plays a decisive role in the behavior of the individual and act as a 'guiding basis', which crystallizes the meaning of life." [7, c. 206].

In our researches, we haven't found any correlations between time orientation and values both in research and control groups. So we prefer to view these two components of self-actualization separately without connecting one to another.

The next scale in which the research group has lower results than the control group is *auto-sympathy* or in other words self-liking. Auto-sympathy is natural foundation of mental health and personal integrity. Low rates are typical to nervous, anxious, insecure people. It does not mean stupid complacency or uncritical self-perception at all, it is just a

well-conscious positive self-concept that serves as a source of sustained adequate self-esteem [15, p 426-433].

By telling auto-sympathy we understand friendliness and positive emotional treatment towards your own personality, self-acceptance, approval of yourself in general and in essential particulars.

E. T. Sokolova experimentally studying the components of self-relationship, came to the conclusion that self-liking is non-additive and stable system, which forms from unconditional parental love [13, p 120].

Based on this statement, we can say that, as our respondents did not receive so-called absolute parental love from their parent or both parents (due to absence or role violation), they have a low level of auto-sympathy. This does not mean that this phenomenon should necessarily affect their self-esteem. By overcoming the difficulties of life, setting goals and achieving them, they can develop adequate self-esteem [18]. However, this does not increase auto-sympathy. Deprived children, seeing in childhood that the parent does not give them supposed love, care and sense of security, may think that the reason are themselves. They are not good enough, that's why the parent does not love them. They do not deserve love. Consequently, a child may develop low auto-sympathy due to the parent's attitude or the absence of a parent in general.

Conclusion

In the article we have discussed the results of the research that we have conducted to find out the level of self-actualization among people with parental deprivation in childhood. We have seen that the results of the research group were different from the control group only in three scales, which are time orientation, values and auto-sympathy. There were no differences in results from the other 8 scales: view on human nature, need for cognition, creativity, autonomy, spontaneity, self-understanding, contact with people, communication flexibility. It means that people with parental deprivation didn't have any difficulties in developing these aspects. The analysis leads us to the following conclusions that the fact that they didn't have a parent(s) or parental love and care did not hold them back from reaching the same level of growth as the people who have been raised having loving and fully present parents.

The more important are the criteria in which deprived people got lower results than people without deprivation. We have discussed each of them separately and came into the following conclusion:

- The past plays such a crucial role in shaping lives of deprived people, that when they build their lives, make decisions, take certain steps, they rely on the past, in this case, on the traumatic episodes of the past. Living in the present, they try to fill up the past. For example, if a person was deprived of paternal love as a child, he directs his current activities to filling the love of the past, rather than finding new love. In other way by facing deprivation in childhood, they try to compensate it with such a future where there is no deprivation, where they are in a favorable condition, not compromising others, sometimes even surpassing them. They seem

to live with the achievements of the future, not the present life. They often overestimate the future, constantly checking that feeling by referring to their past. The past hinders the present because they feel more secure in the future.

- The principles and values of a fundamentally satisfied and dissatisfied person are different. They have profoundly different perceptions of the physical, social, and psychological world that are directly related to the individual value system. A person, who is deprived of parental love and care, has fundamental dissatisfaction towards the life. To him, the world seems to be a dangerous place, inhabited by either those whom he can dominate or with those who can dominate him. His value system is a system of necessity, where lower demands prevail, especially the needs of reproduction and security. The fundamentally satisfied person is in a completely different position. He has much more potential to develop the values that Maslow mentioned.
- Our respondents have a low level of auto-sympathy, because they did not receive so-called absolute parental love from their parent or both parents (due to absence or role violation). This does not mean that this phenomenon should necessarily affect their self-esteem. By overcoming the difficulties of life, setting goals and achieving them, they can develop adequate self-esteem. However, this does not increase auto-sympathy. Deprived children, seeing in childhood that the parent does not give them supposed love, care and sense of security, may think that the reason are themselves. They are not good enough, that's why the parent does not love them. They do not deserve love. Consequently, a child may develop low auto-sympathy due to the parent's attitude or the absence of a parent in general.

The article summarizes the findings and contributions made in our research. The main conclusion that can be drawn is that, though a lot of sources in literature show that people with parental deprivation have more difficulties in the process of self-actualization and less possibilities in becoming a self-actualized person, our study provides evidence that there is only a slight difference in the level of self-actualization between deprived and non-deprived subjects. Broadly translated our findings indicate that parental deprivation does not have unaltered impact on the process of self-actualization.

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LEXICAL CHALLENGES IN ENGLISH SPEAKING SKILLS AMONG ARMENIAN STUDENTS

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Abstract

In the study we investigated the possible lexical errors that Armenian students encounter while trying to speak English. This is a mixed method research and the sample of the study includes 38 undergraduate students from the Faculty of International Relations. The data was collected from the students via debates. The debates were audio-recorded and after transcribed, the lexical errors were identified and classified according to error taxonomy. Their knowledge of vocabulary was measured through a vocabulary size test in order to find the relationship between the vocabulary size and error rate.

According to anecdotal evidence, Armenian schools put the main focus on English grammar and reading and not on vocabulary and speaking. Moreover, as Nation and Meara [24] state, English vocabulary is complicated, with its three general aspects related to meaning use and form as well as with its many layers of meaning connected to the roots of individual words. At the same time, it has been suggested that there are a number of factors that influence the learning of a lexical item and make the acquisition of vocabulary difficult. Potentially, these factors are classified as intra-lexical traits, i.e., internal features related to the word's form and meaning. That is, vocabulary may be difficult due to various factors, such as pronunciation, grammatical class, similarity to known words, and concreteness or image ability of meaning [23]. Therefore, if the student fails to learn more words, it leads to errors in oral production. As mentioned above, for students to develop greater fluency and expression in English, it is essential for them to acquire more productive vocabulary knowledge [3]. However, in Armenia, after entering university, students take ESP courses without having the command of the basics of vocabulary. In spite of the fact that students learn specific vocabulary related to their professions, they still have difficulties using that vocabulary in argumentative speech, that is to say expressing their arguments during debates or discussions.

Keywords and phrases: speaking skills, vocabulary, lexical errors, error types, vocabulary size test.

**ՀԱՅ ՌԻՍԱՆՈՂՆԵՐԻ ՇՐՋԱՆՈՒՄ ԱՆԳԼԵՐԵՆԻ ԲԱՌԱՊԱՇԱՐԻ
ԽՈՍԱԿՑԱԿԱՆ ՀՄՏՈՒԹՅՈՒՆՆԵՐԻ ԴԺՎԱՐՈՒԹՅՈՒՆՆԵՐԸ**

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Համառոտագիր

Սույն հոդվածի նպատակն է՝ պարզել ուսանողների խոսքում անգլերենի բառապաշարի հնարավոր սխալները: Իրականացվել է խառը մեթոդի հետազոտություն, որի ընտրանքը ներառում է համալսարանների բակալավրի կրթական աստիճանում սովորող 38 ուսանող: Տվյալները հավաքագրվել են ուսանողներից բանավեճերի միջոցով: Բանավեճերը ձայնագրվել են, իսկ գրի առնվելուց հետո բառապաշարի սխալները դուրս են գրվել և դասակարգվել են՝ ըստ սխալների բնույթի: Բառապաշարի իմացությունը ստուգվել է բառապաշարի չափելիության թեստի միջոցով՝ բառապաշարի չափի և սխալի մակարդակի միջև կոռելացիոն կապը գտնելու համար: Համաձայն սովորույթի՝ հայկական դպրոցներում հիմնականում ուշադրություն են դարձնում անգլերենի քերականությանն ու ընթերցանությանը, և ոչ թե բառապաշարին և խոսքին: Ավելին, ինչպես նշում են Նեյշնը և Մեարան [24], անգլերենի բառապաշարը բարդ է՝ իր երեք ընդհանուր ուղղություններով՝ կապված իմաստի օգտագործման և ձևի հետ, ինչպես նաև իր բազմաթիվ իմաստային շերտերով, որոնք կապված են առանձին բառերի արմատների հետ: Միևնույն ժամանակ ենթադրվում է, որ կան մի շարք գործոններ, որոնք ազդում են բառապաշարի ուսուցման վրա և դժվարացնում են բառապաշարի յուրացումը: Այս գործոնները դասակարգվում են որպես ներբառային հատկանիշներ, այսինքն՝ բառի ձևի և իմաստի հետ կապված ներքին հատկանիշներ: Այսինքն՝ բառապաշարը կարող է դժվար լինել տարբեր գործոնների պատճառով, ինչպիսիք են՝

արտասանության կարողությունը, քերականական դասը, հայտնի բառերի նմանությունը և իմաստի կոնկրետությունը կամ պատկերային կարողությունը [23]: Հետևաբար, եթե ուսանողը չի կարողանում ավելի շատ բառեր սովորել, ապա դա հանգեցնում է բանավոր վերարտադրության սխալների: Ինչպես նշվեց, ուսանողների՝ անգլերեն խոսույթի ավելի շատ սահունության զարգացումը կարևորվում է բառապաշարի ավելի արդյունավետ գիտելիքի ձեռքբերմամբ [3]: Սակայն Հայաստանում, համալսարան ընդունվելուց հետո, ուսանողներն անցնում են մասնագիտական օտար լեզվի դասընթացներ՝ չունենալով հիմնական բառապաշարի հիմք: Չնայած այն հանգամանքին, որ ուսանողները սովորում են կոնկրետ բառապաշար՝ կապված իրենց մասնագիտության հետ, նրանք դեռևս դժվարանում են օգտագործել այդ բառապաշարը փաստարկային խոսքում, այսինքն՝ բանավեճերի կամ քննարկումների ժամանակ արտահայտել իրենց պնդումները:

Բառեր և բառակապակցություններ. խոսքի հմտություններ, բառապաշար, բառապաշարի սխալներ, սխալների տեսակներ, բառապաշարի չափելիության թեստ:

ЛЕКСИЧЕСКИЕ ПРОБЛЕМЫ В РАЗГОВОРНЫХ НАВЫКАХ АНГЛИЙСКОГО ЯЗЫКА СРЕДИ АРМЯНСКИХ СТУДЕНТОВ

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Аннотация

В этой статье мы исследовали возможные лексические ошибки, с которыми сталкиваются армянские студенты, пытаясь говорить по-английски. Это смешанный метод исследования, и выборка исследования включает 38 студентов бакалавриата факультета международных отношений. Данные были собраны у студентов в ходе дебатов. Дебаты были записаны на аудио, и после расшифровки лексические ошибки были идентифицированы и классифицированы в соответствии с таксономией ошибок. Их знание словарного запаса было измерено с помощью соответствующего теста на выявление размерности словарного запаса, коррелирующегося с частотой ошибок.

По неофициальным данным в армянских школах основной упор делается на английскую грамматику и чтение, а не на словарный запас и разговорную речь. Более того, как утверждают Нейшн и Меара [24], английская лексика сложна, с ее тремя общими аспектами, связанными со значением и формой, а также с ее многочисленными слоями значения, связанными с корнями отдельных слов. В то же время было высказано предположение, что существует ряд факторов, влияющих на усвоение лексической единицы и затрудняющих приобретение словарного запаса. Потенциально эти факторы относят к интра-лексическим признакам, т.е. внутренним признакам, связанным с формой и значением слова. То есть словарный запас может быть затруднен из-за различных факторов, таких как способность произношения, грамматический класс, сходство с известными словами, а также конкретность и образность значения [23]. Поэтому, если учащийся не заучивает больше слов, это приводит к ошибкам в устной речи. Как упоминалось выше, для того, чтобы учащиеся могли лучше владеть английским языком и выражать свои мысли, им необходимо приобрести более продуктивный словарный запас [3]. Однако в Армении после поступления в университет студенты проходят курсы ESP, в основном не владея базовым словарным запасом. Несмотря на то, что студенты изучают конкретную лексику, связанную с их профессиями, они все еще

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испытывают трудности с использованием этой лексики в аргументативной речи, то есть изложением своих аргументов во время дебатов и дискуссий.

Ключевые слова и словосочетания: разговорные навыки, словарный запас, лексические ошибки, типы ошибок, тест на выявление размерности словарного запаса.

Introduction

Over the years, English has become the language, which is widely understood and used in global communication. Yet many researchers [29, p. 29] found that learners of English as a foreign language mostly encounter difficulties in learning speaking skills rather than reading, listening and writing.

Generally, as students' fluency and expression in English develop, they need to acquire more productive vocabulary knowledge. However, due to the reason that our reality is constantly changing, English vocabulary becomes challenging [26].

According to anecdotal evidence, Armenian schools put the main focus on English grammar and reading and not on vocabulary and speaking. Moreover, as Nation and Meara [24] state, English vocabulary is complicated, with its three general aspects related to meaning use and form as well as with its many layers of meaning connected to the roots of individual words [13; 14]. At the same time, it has been suggested that there are a number of factors that influence the learning of a lexical item and make the acquisition of vocabulary difficult. Potentially, these factors are classified as intra-lexical traits, i.e. internal features related to the word's form and meaning. That is, vocabulary may be difficult due to various factors, such as pronounce ability, grammatical class, similarity to known words, and concreteness or image ability of meaning [23]. Therefore, if the student fails to learn more words, it leads to errors in oral production. As mentioned above, for students to develop greater fluency and expression in English, it is essential for them to acquire more productive vocabulary knowledge [3]. However, in Armenia, after entering university, students take ESP courses without having the command of the basics of vocabulary. In spite of the fact that students learn specific vocabulary related to their professions, they still have difficulties using that vocabulary in argumentative speech, that is to say, expressing their arguments during debates or discussions.

Research studies on vocabulary and speaking proficiency are limited in scope and smaller in number than those on vocabulary and reading proficiency [15]. However, some studies have shown the greater importance of vocabulary in speaking proficiency compared to other linguistic elements such as pronunciation and grammar [16; 17; 21]. Nonetheless, based on the available publications, there have been conducted studies on investigating language errors only in written production in Armenia [4; 22]. Since testing speaking requires much effort and it is time-consuming, what is more, the standardized speaking tests are expensive, and Armenian universities cannot afford them. Therefore, as vocabulary can be used as an indirect measure of language skills and it is more practicable as there is a wide range of reliable standardized vocabulary tests consequently, it is the most practicable option to indirectly assess speaking. For that case, a vocabulary size test was implemented in the research.

The purpose of the study is to identify the most commonly encountered lexical errors that hinder Armenian students to convey their thoughts in English accurately. Furthermore, the study aims to find a relationship between students' vocabulary size and the error rate, and finally recommend pedagogical implications based on the findings and collected data.

Research questions

The study addresses the following research questions:

- What are the lexical errors in the argumentative speech of Armenian university students?
- What are the most frequent error types and what are the causes?
- What is the relationship between vocabulary size and error rate ?

Literature Review

The importance of vocabulary in communication

Words are the means to express meanings and, accordingly, they are the basic elements of verbal communication. If one speaker does not know a word and produces it incorrectly, communication will suffer [2]. As Thornbury [31] states, the lack of lexical knowledge often leads to frustration and even embarrassment. Al- Roud,[5] emphasizes the importance of vocabulary rather than grammar stating that learners might often instinctively recognize the importance of vocabulary for their learning. As Schmitt [26] notes, “learners carry around dictionaries and not grammar books”. In addition, if the vocabulary is relevant for communication, then a deficient lexical competence and lack of lexical knowledge will also affect interaction.

Furthermore, many learners acknowledge the importance of vocabulary acquisition stating that it is the lack of vocabulary, which prevents them from speaking or reading [32]. Some researchers as well [2] came to the conclusion that vocabulary plays a more crucial role in interaction than grammar does. In reality, we do not have to be grammatically correct in order to communicate effectively, but we need to be correct with our use of lexis.

Vocabulary tests are effective placement or diagnostic tests generally since they tap very important ‘enabling’ knowledge and they test a large number of items at one time, allowing reliable decision-making [6, p. 34].

For example, Laufer and Nation [18] in their study state that a vocabulary size test, which is a diagnostic test that measures the size of the learners’ vocabulary, is a reasonable measure of vocabulary growth and the results of the research distinctly show the proficiency of the consecutive frequency levels of the test. In relation to this, Koizumi & In’Nami [16] point out that among many lexical aspects, vocabulary size has been considered the principal one due to the importance of the form-meaning link for vocabulary use. In this matter, Beglar & Nation [23] designed a vocabulary size test which measures foreign learners’ receptive vocabulary. The test consists of 14,000 most frequent word families in English.

Language errors and their causes

“Language learning, like any kind of human learning, involves committing errors” [33, p. 75]. Researchers suggest different variations to the definition of the word error. While giving the definition of error, they often compare error and mistake.

Errors vs. Mistakes

According to Dulay, errors are deviations from a selected rule of language performance. Lennon [20] defines an error as a linguistic form, which in the same context of performance is not produced by the speakers' L1 equivalents. James [8] as well, claims that errors are not exactly what the learner produces, they are the oddity in the learner's L2 system and therefore, they have no connection with the learners' L1, but only with the target language. In this case, Brown (2000) distinctly defines errors and mistakes stating that a “mistake” is a performance error, which occurs when the learner fails to use the structure in a proper way, whereas an “error” is a notable variation of the developed grammar of a native speaker, indicating the interlanguage competence of the learner. James [8] on the other hand, identifies a slip, an odd mistake or a systematic error. A slip is expected to happen due to self-correction, a mistake needs feedback, while an error requires full correction of errors.

Causes of errors

As Maicusi and Lopez state, errors happen due to interference when the learners transfer native language word forms or expressions into the L2. They also indicate that interference takes place whenever there is a difference between the mother tongue and the target language. Furthermore, Touchie [33] states that there are mainly two major sources of errors in second language learning. The first source is interference from the native language, which is defined as interlingual errors, while the second source can be referred to as intralingual and developmental factors: errors caused by the interaction of forms in the target language [28].

Carrió-Pastor and Mestre-Mestre [7] also add conceptual errors, which occur as a result of confusion between concept and term.

According to Wilkins [35], when learning a foreign language an individual already knows his mother tongue, and it is the native language which he attempts to transfer. Dodigovic, Man, and Jing [10] state that the learners may believe that English follows the same structure and form as their language, as a result, it can cause L1 lexical transfer errors. The transfer may prove to be justified as the structure of the two languages may be similar, in that case, it is called “positive transfer” or “facilitation”- or it can be unjustified because the structure of the two languages are different- in that case “negative transfer”- or “interference” is happening[35].

Touchie [33] classifies intralingual errors into eight types, while Shekhzadeh and Gheichi [28] identify only two of them: Overgeneralization and transfer of training.

Overgeneralization: when the learners use one form or construction in one context and extend its application to different other contexts where it is not applicable. For instance, overgeneralization includes the use of “corned” and “goed” as the past tense

forms of *corne* and *go* and the omission of the third person singular *s* under the heavy pressure of all other endless forms as in *I go* [33, p. 78].

Transfer of training: when the errors are caused by the teacher, teaching materials or the order of presentation. These errors also happen because of the hypercorrection of the teacher.

As Touchie [33] states, language errors involve all language components: the phonological, the morphological, the lexical, and the syntactic.

Thornbury [30] classifies errors into three types:

Lexical errors that include, for instance, choosing the wrong word for the meaning the students want to express.

Grammar errors include producing faulty structures, which may involve wrong verbal tenses, incorrect verbal forms, and syntax problems, among others.

Discourse errors are those “which relate to the way sentences are organized and linked in order to make whole texts” [30, p. 114]. As this study investigates lexical errors in speech let us now analyse only lexical errors.

Lexical errors and their types

According to Schmitt [26], native speakers claim that lexical errors are more severe than grammatical errors, as they are more likely to lead only to formal errors without impacting meaning [12]. Augustin Llach [2] compares the utterances made by L2 learners and states that even though the sentence might be grammatically correct, the lexical error is the major factor that prevents students from communicating correctly. Additionally, among second language learning errors, lexical errors happen most often, occurring as frequently as three times more than grammatical errors [12]. Due to their negative impact on communication, lexical errors are considered the most serious types of errors among different types of judges. Lexical errors are believed to be very damaging to communication because they influence the meaning of the message [2].

As Shalaby, Yahya & El-Komi [27] suggest, appropriately selected words promote well-structured language, which helps L2 learners transfer the exact thoughts they have in their minds. On the contrary, if they make lexical errors it leads to misunderstanding and confusion.

In general, there are three main consequences of lexical errors. First, errors adversely affect comprehension, because of their presence the listener fails to comprehend the message, and errors can be the source of misunderstandings, since, because of them ambiguous messages are occurring. In the end, errors irritate the hearer, or may also cause amusement and hilarity, or even satirize the learner and consequently obstruct communication. Augustin Llach [2] states that identification of lexical errors is not an easy task. Therefore, many taxonomies have been created for this purpose.

Shalaby, Yahya & El-Komi [27], Augustin Llach [2] and Carrió-Pastor & Mestre-Mestre [7] identify two major categories: semantic errors and formal errors (produced due to confusion of two similar words).

Of the semantic errors, the primary type with the highest frequency of occurrence is the confusion of sense relations [27, p. 80]. Next in frequency after L1 transfer are the use of a word with inappropriate meaning and wrong near synonyms. Formal errors are fewer than semantic errors.

In the research, conducted by Dodigovic, Li, Chen and Guo [9], six-type error taxonomy is used which includes, context, collocation, part of speech, spelling, word form and structure. The most frequent error type is the word form error type, which is defined as the wrong word: when the learner does not know the correct form of the word. The other frequent types are context, structure and collocation errors respectively. Similarly, Wells [34] in his study identifies “wrong word” as the most common error from semantic area. On the other hand, collocations are found as the second most frequent error type. The results of his study show that the number of lexical errors is significant when compared to the number of total errors. Lexical errors made up more than half of all other errors of language learners, which once again proves them to be the most serious ones.

Lexical errors in oral production

Vocabulary knowledge enables listeners to identify syntactic relationships, a requirement for sentence comprehension. Listeners must first be able to isolate individual words from the speech stream of speakers, using the word information to interpret and understand the message. In other words, oral comprehension relies on vocabulary knowledge [7]. The quality of oral production is influenced by the presence of lexical errors in the discourse [2]. According to Tatham and Morton [29], many people state that they can understand a language, but it is hard for them to speak. Furthermore, Thornbury [31, p. 27] in his study shows that English learners admit speaking is the hardest skill to acquire by answering the question “which aspects of your English do you most want to improve?” They claim that appropriate knowledge of grammar makes it easy to communicate. However, sometimes it is hard for them to find words in order to express their thoughts. Nonetheless, as Biber [6] claims, academic speaking skills such as participating in classroom debates or giving a presentation require not only a large amount of vocabulary knowledge but also grammatical sophistication and discourse competence.

Speech errors most of the time occur because of a lack of vocabulary knowledge.

In her study, Kovac [17] distinguishes three subcategories:

a) idioms, collocations, functional and content words, errors of derivational morphology

b) unintentional use of L1 lexemes

c) non-existent words.

She states that most of the time lexical errors occur due to incorrect selection of L2 lexical units.

Operating in a spoken English environment requires more vocabulary (4000 - 4500 words) than previously thought (2000 words), and the amount required depends on the spoken context [1, p. 48]. The quality of oral production is influenced by the presence of lexical errors in the discourse [2].

In Levelt's theory [17] content and functional words and idioms and collocations are known as “lexical entries”. Errors of derivational morphology, for instance, intelligent instead of intelligence, also belong to the category of lexical errors, because derivations in Levelt's model of the lexicon represent different lexical entries [10]. According to the theory, vocabulary holds a major position in composing a statement with the appropriate meanings, although other types of knowledge, including syntactic, morphological, and phonological, non-linguistic world knowledge and communication approaches, are also essential. The model designates further the necessity of size, depth, and processing speed of vocabulary knowledge in speaking, because speakers use both structure-meaning words and the syntactic and morphological information associated with each word in the mental lexicon, considerably fast, lexical retrieval is called for smooth and effective communication [16].

As Poulisse [25] states, the results of speech error studies show that most of the time lexical errors happen as a result of faulty L2 lexical accesses. In the sense that lexical errors imply a lack of vocabulary knowledge and inadequate use of vocabulary, they contribute negatively to language assessment [2]. Moreover, Koizumi and In’Nami [16] state that L2 learners with bigger and deeper vocabulary knowledge can perform lexical searches more quickly and without difficulties.

Anecdotal evidence shows that Armenian students also make lexical errors during communication and vocabulary knowledge is the main issue. The current study seeks to investigate lexical errors in their speech, their causes and further categorization.

Methodology

The Study

The research required a mixed methodology, with components of both qualitative and quantitative approaches.

The study addresses the following research questions:

- What are the lexical errors in the argumentative speech of Armenian university students?
- What are the most frequent error types and what are the causes?
- What is the relationship between vocabulary size and error rate?

Participants

There were 38 participants in the study, 19–22-year-old Armenian undergraduate students from the faculty of International Relations. They are in their second, third and fourth year of studies. The native language of the students is Armenian. The large majority of them additionally speak Russian, even though English is considered their first foreign language. Apart from English, they study other foreign languages including Persian, Arabic, Turkish, French, German, Spanish, Chinese and Japanese.

Instruments

The instrument of the study is the vocabulary size test (VST). For the study, we used the test designed by Paul Nation which can be found at https://www.lex tutor.ca/tests/levels/recognition/1_14k/.

Speech data was collected via debates. Each group held one debate, the participants already gave their consent verbally during data collection. During the debates, the participants' speech was recorded and later transcribed. Errors were examined in light of the error taxonomy proposed by Dodigovic, Li, Chen, Guo [9].

Error Taxonomy

Lexical Errors

Context errors, Word form errors, Collocation errors, Structure errors, PS errors

Data Collection

We have already received oral consent from the participants. They were informed that they were going to take a vocabulary size test in the framework of research. The participants took part in debates as well. During the discussion, they were audio-recorded. They were aware that participating in the debate was voluntary and they would not be recorded unwillingly.

The vocabulary size test was conducted with 38 students. Nevertheless, only 30 students were able to participate in the debates due to the fact that the rest of the participants had a relatively small vocabulary size. Hence, they either could speak Armenian or did not speak at all.

Data Analysis

As mentioned above, this study is mixed methods research that involves quantitative and qualitative elements. The qualitative data was collected through audio recordings. It was further subjected to coding the types of lexical errors and then categorizing them according to the taxonomy provided by Dodigovic, Li, Chen, Guo [7].

To find the most frequent error types, we performed descriptive statistical analysis to measure the percentages of the errors. Each type of lexical error was coded in the software accordingly; more particularly, five main categories of errors were shown by their percentages, in order to reveal the most common lexical error types of Armenian students' argumentative speech in English.

Correlation analysis was used to examine the relationship between vocabulary size and the error rate.

Results

According to the taxonomy proposed by Dodigovic, Li, Chen, Guo [7] 80 lexical errors were identified in the speech of 30 students out of 38. As can be seen in figure 2, five categories of lexical errors were distinguished: context, collocation, word form, structure and part of speech. Among the five error types, the context errors were seen as

the most frequent ones with 43.8% (35 errors). Students generally had issues with choosing the appropriate word to complete the sentence or expression in their speech. Whereas context errors hold the major part in the pie chart, word form error follows with 22.5% (18 errors). The structure and collocation errors follow the word form error. The latter is equal in number (12,5%). Eventually, PS (8.5%) errors are seen as the least frequently occurring as compared with the other four types of lexical errors. The students made the above-mentioned errors due to the following reason: the instruction is mainly based on teaching the language through content, that is, students enrich their vocabulary via new texts and articles, consequently no particular attention is paid to distinguishing between parts of speech, collocations, word forms and structures.

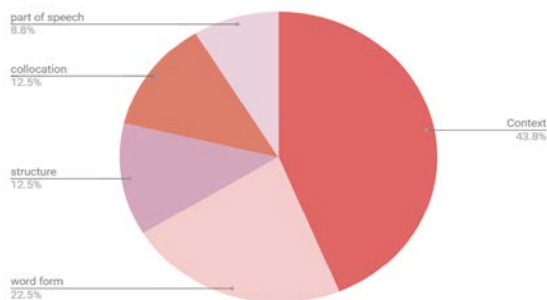


Figure 2. The pie chart of errors.

Table 1

Error Taxonomy with examples

Criteria	Explanation	Example	Correction
Context	wrong word (e. g. “pupil” instead of people)	Don’t answer to the point.	answer >>> speak
Collocation	words used together(e.g. From little ages)	When you see it by book.	by book>>>> in book
Word Form	The form of the word (e. g. “continue” vs. “continues”) number has increase	The number has increase.	increase>>> increased
Structure	Sentence structure required by a particular word(they are used for reading)	People can continue smoke.	People can continue smoke>>>>People can continue to smoke.
PS	part of speech	They can easier break the tablets.	easier >>> easily

Note: In this table, the researcher illustrated all the five categories of lexical errors, their examples and correct forms.

In the process of data analysis and error explanation, the researcher identified two types of sources of errors, while recognizing and classifying the lexical errors: interlingual, the process of the interference from the mother tongue into the target language and intralingual errors, which are caused due to the result of the target language difficulty and partial learning of the rules in the target language.

Surely, all the students learning English as a foreign language mostly rely on their mother tongue, thus Armenian students are no exception, as well. In their speech, many students would think about how to say a certain word or sentence in Armenian, and then they would translate the words into English. Consequently, in that event, the students transfer some words or expressions from their native language, and most of the time they transfer them negatively.

Table 2
Examples of interlingual and intralingual errors.

Interlingual Errors	Intralingual Errors
It depends <u>from</u> the situation. >>> It depends <u>on</u> the situation. Կախված է իրավիճակից: Kakhvats e iravichakits.	They portray many <u>example</u> .>>> They portray many <u>examples</u> .
People can continue <u>smoke</u> . >>> People can continue <u>to smoke</u> . Մարդիկ կարող են շարունակել <u>ծխել</u> : Mardik karogh en sharunakel tskhel.	The quality are enough.>>> The quality is enough.

The above table describes the examples of both interlingual and intralingual errors. The first example of the first column shows that the student made a collocation error by saying “depends from” instead of “depends on”, because in Armenian, the correct version is “depends from”. Hence, this is a typical example of an interlingual error. Another example of interference of the mother tongue is the structure error in the sentence “People can continue to smoke”. In Armenian, the infinitive of the word “to smoke” is “ծխել” which is used without a preposition before the word. Here, while speaking the student negatively transferred the sentence from her mother tongue into the target language without the preposition. At the same time, the second column illustrates the lack of knowledge of the target language, as the plural form of the noun in English forms by adding “s”. Here we see that the student missed the letter “s” while speaking. The second example of intralingual error refers to the singular form of English. This time the student confused the two forms (singular and plural) of the target language.

Figure 2 shows that there were more interlingual errors rather than intralingual errors in the argumentative speech of Armenian students.

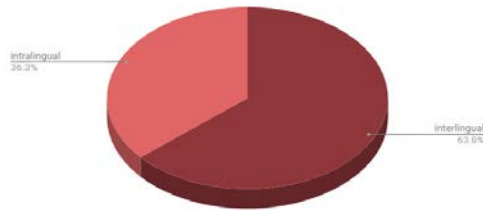


Figure 3. The causes of Errors

The results of the study showed that there is a strong negative correlation between vocabulary size and context errors, word form errors and structure errors. This means that as students' vocabulary size (7000, 7500) increases, the error rate decreases. Moreover, there is a statistically significant negative correlation between context and vocabulary size at the level of 0.01. Consequently, the findings of the research show that the students who have a bigger vocabulary size (7000, 7500) tend to make fewer context errors in their speech compared to the students with a smaller vocabulary size (5100,5300).

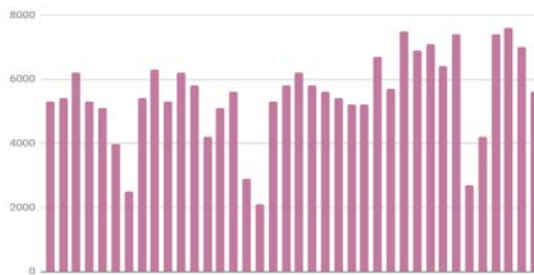


Figure 5. Vocabulary size of students of International Relations

The figure shows that the students' vocabulary size ranges from 2000 to almost 8000. The average score is between 4000 and 6000.

Discussion

Through the identification, classification and analysis of lexical errors in students' argumentative speech, it is found, that Armenian students' lexical errors mainly include context errors, word form errors, structure errors, collocation errors and part of speech errors. The results of the study suggest that Armenian students face more difficulties with choosing the correct word (43.8 % of the total number of lexical errors). These errors are mainly interlingual errors, however intralingual errors can also be found in the context error category. In the research done by Wells [34] wrong word errors are in the first place among all the lexical errors. He suggests that these errors might not only occur because of interference of first language but also, they can occur due to intralingual factors when the students have the certain word in their receptive vocabulary but they do not know whether it is correct to use in the particular context or not[11]Word form errors follow context errors. Unlike in the study done by Dodigovic, Li, Chen, Guo[9]where the context errors

were in third place after word form and PS errors respectively, our findings show that students made a relatively small number of word form errors compared to context errors. The variation between these results and theirs could be attributed to the fact that our errors occurred during oral production, whereas they analysed written errors considered AWL words, hence, as Levelt [21] states L1 speakers conduct the processes of producing the language in parallel and automatically, without using substantial cognitive resources, that is, they do not have to time to think of a proper word in order to use it in their speech.

The findings of the research request us to contemplate the causes of these lexical errors. As mentioned above the majority of errors made by students were caused due to the interference of L1.

Conclusion

The findings of this study showed that there are five main categories of lexical errors in oral production: context errors, word form, structure, collocation and part of speech.

The result of the data analysis showed that there were both interlingual and intralingual errors in the students' speech. The collected data as well showed that among five categories of lexical errors, there were more interlingual errors rather than intralingual errors, which means that the interference of native language plays a significant role in students' lexical errors. However, even though the intralingual errors were in relatively small numbers they still caused lexical errors which supports the fact that there are some areas that students have not yet acquired in their target language as well.

Among all the five categories context errors were in the first place. The sequence of errors is as follows:

Context, Word Form, Structure, Collocation, Part of Speech.

The research showed that there is a negative correlation between vocabulary size and some of the errors (context, word form and structure). There was also a statistically significant negative correlation between students' vocabulary size and context errors, which once again proves the fact that the lack of lexical knowledge affects the learner's speech and that the richer students' vocabulary size is the less they are likely to make lexical errors in their speech.

Limitations and Future Research

The main limitation is the framework of the study, which only includes the students from faculty of International Relations and only Armenian students took part in the research. Consequently, the results cannot refer to the whole population. The study examines only the oral production of English as well.

There are some areas that future research may be considered. To illustrate, the researcher would recommend studying not only argumentative speech but generally students' oral production with several topics in order to gather more lexical errors that can occur during speaking. Further study can also include the participants from other programs rather than only from International Relations.

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VERTEX-DISTINGUISHING EDGE COLORINGS OF SOME COMPLETE MULTIPARTITE GRAPHS

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Abstract

In graph theory, an edge coloring of a graph is a coloring of the edges, meaning an assignment of colors to edges. Edge coloring can be described as function $f: E(G) \rightarrow N$, where $E(G)$ is the set of graph edges and N is the set of natural numbers. Graph coloring has been studied as an algorithmic problem since the early 1970s. The main objective is to minimize the number of colors while coloring a graph. The smallest number of colors required to color a graph G with specified conditions is called chromatic number of that graph and is denoted by $\chi'(G)$. By a result of Holyer [1], the determination of the chromatic index is an NP –hard optimization problem. The NP -hardness give rise to the necessity of using heuristic algorithms. In particular, we are interested in upper bounds for the chromatic index that can be efficiently realized by a coloring algorithm.

A proper edge coloring of a graph G is a mapping $f: E(G) \rightarrow Z_{\geq 0}$ such that $f(e) \neq f(e')$ for every pair of adjacent edges e and e' in G . A proper edge coloring f of a graph G is called vertex-distinguishing if for any different vertices $u, v \in V(G)$, $S(u, f) \neq S(v, f)$, where $S(v, f) = \{f(e) \mid e = uv \in E(G)\}$. The minimum number of colors required for a vertex-distinguishing proper edge coloring of a simple graph G is denoted by $\chi'_{vd}(G)$. The VDP – coloring has been considered in many papers. It was introduced and studied by Burriss and Schelp in [2] and, independently, as observability of a graph, by Cerny et al., Hornák and Soták [3]. The VDP – coloring is computed for some families of graphs such as complete graphs, complete bipartite graphs and cycles. A graph G is called *complete r -partite* ($r \geq 2$) if it's vertices can be partitioned into r non-empty independent sets V_1, \dots, V_r such that each vertex in V_i is adjacent to all the other vertices in V_j for $1 \leq i < j \leq r$. A complete split graph is a graph consisting of a clique and an independent set of vertices in which each vertex of the clique is adjacent to each vertex of the independent set.

In this work we provide lower and upper bounds on $\chi'_{vd}(G)$ for some complete multipartite graphs and for complete split graphs.

Keywords and phrases: Edge coloring, Vertex-distinguishing coloring, Chromatic index, Complete Multipartite graph, Complete split graph.

**ՈՐՈՇ ԼՐԻՎ ԲԱԶՄԱԿՈՂՄԱՆԻ ԳՐԱՖՆԵՐԻ ԳԱԳԱԹ-ՏԱՐԲԵՐԱԿՈՂ
ԿՈՂԱՅԻՆ ՆԵՐԿՈՒՄՆԵՐ**

ՊԵՏՐՈՍ ՊԵՏՐՈՍՅԱՆ

Երևանի պետական համալսարան,
Ֆիզիկամաթեմատիկական գիտությունների թեկնածու
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Համառոտագիր

Գրաֆների տեսության մեջ կողային ներկում է կոչվում կողերի ներկումը, այսինքն՝ գրաֆի յուրաքանչյուր կողին գույնի համապատասխանեցումը: Կողային ներկումը կարելի է ներկայացնել $f: E(G) \rightarrow N$ ֆունկցիայի միջոցով, որտեղ $E(G)$ -ով նշանակվում է գրաֆի կողերի բազմությունը, N –ով բնական թվերի բազմությունը: Գրաֆների ներկման խնդիրները, որպես ալգորիթմիկ խնդիրներ, սկսել են դիտարկվել 1970-ականներից: Հիմնական նպատակն է նվազագույնի հասցնել օգտագործվող գույների քանակը: Գույների փոքրագույն քանակը, որոնց միջոցով կարելի է իրականացնել գրաֆի կողային ներկում, կոչվում է քրոմատիկ համար և նշանակվում $\chi'(G)$: Holyer [1]-ի կողմից ապացուցվել է, որ քրոմատիկ թվի որոշումը NP-բարդ օպտիմիզացիայի խնդիր է: Այդ պատճառով էվրիստիկ ալգորիթմների կարիք է առաջանում: Հեղինակի խնդիրն է՝ գտնել քրոմատիկ թվի վերին սահմաններ, որոնք կարելի է արդյունավետ ձևով ստանալ՝ օգտագործելով համապատասխան ներկման ալգորիթմներ:

G գրաֆի համար ճիշտ կողային ներկում է կոչվում $f: E(G) \rightarrow \mathbb{Z}_{\geq 0}$ արտապատկերումը, որտեղ $f(e) \neq f(e')$ կամայական կից $e, e' \in E(G)$ կողերի համար: Դիցուք, f -ը G գրաֆի ճիշտ ներկում է, և $v \in V(G)$: f ներկման դեպքում կամայական $v \in V(G)$ գագաթի համար $S(v, f)$ -ով կնշանակենք v գագաթին կից կողերի գույների բազմությունը: f ճիշտ ներկումը կանվանենք գագաթ-տարբերակով, եթե գրաֆի կամայական երկու գագաթների համար $u, v \in V(G)$, $S(u, f) \neq S(v, f)$: Նվազագույն գույների քանակը, որոնց միջոցով կարելի է ստանալ գագաթ-տարբերակող կողային ներկում, կոչվում է քրոմատիկ թիվ և նշանակվում $\chi'_{va}(G)$: G գրաֆը կանվանենք r -կողմանի գրաֆ, եթե նրա գագաթների բազմությունը կարելի է ներկայացնել V_1, \dots, V_r

բազմությունների միավորման տեսքով, որտեղ V_i -ին պատկանող յուրաքանչյուր գագաթ միացված է V_j -ին պատկանող բոլոր գագաթներին ($1 \leq i < j \leq r$): G գրաֆը կոչվում է տրոհվող լրիվ գրաֆ, եթե այդ գրաֆի գագաթների $V(G)$ բազմությունը կարելի է տրոհել մեկուսացված գագաթների և լրիվ գրաֆի գագաթների, որտեղ մեկուսացված գագաթներից յուրաքանչյուրը միացված է լրիվ գրաֆի բոլոր գագաթներին:

Տվյալ աշխատանքում ստացվել են որոշ ստորին և վերին սահմաններ՝ բազմակողմ և տրոհվող գրաֆների գագաթ-տարբերակող կողային ներկումների քրոմատիկ թվերի համար:

Բանալի բառեր և բառակապակցություններ. եզրերի ճիշտ գունավորում, vertex-discriminating գունավորում, գագաթը տարբերող քրոմատիկ ինդեքս, ամբողջական բազմակողմ գրաֆիկ, ամբողջական պառակտված գրաֆիկ:

ВЕРШИННО-РАЗЛИЧАЮЩИЕ РЕБЕРНЫЕ РАСКРАСКИ НЕКОТОРЫХ ПОЛНЫХ МНОГОДОЛЬНЫХ ГРАФОВ

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Аннотация

В теории графов рёберной раскраской называется раскраска рёбер графа, то есть при раскраске графа всем рёбрам соответствуют метки или так называемые цвета. Для графа G функция $f: E(G) \rightarrow N$ называется рёберной раскраской графа G , где $E(G)$ -множество рёбер графа, а N -множество натуральных чисел. Рёберную раскраску графов стали рассматривать как алгоритмическую проблему начиная с 1970-ых годов. Главной задачей в теории раскрасок графов является нахождение минимального количества цветов, используемых в раскраске графа. Минимальное количество цветов, необходимое для раскраски графа при определённых условиях, называется хроматический индекс и обозначается через $\chi'(G)$. По результатам исследования Нолуег-а, нахождение хроматического индекса графа является NP-сложной задачей оптимизации. Из-за NP-сложности данной задачи возникает необходимость нахождения эвристических алгоритмов. В частности, авторов интересует нахождение верхних оценок для хроматического индекса раскраски графов путём эффективной реализации раскраски.

Рёберная раскраска f графа G называется правильной, если для любых смежных рёбер $e, e' \in E(G)$, $f(e) \neq f(e')$. Если f – правильная раскраска графа G и $v \in V(G)$, то обозначим через $S(v, f)$ множество цветов рёбер, инцидентных вершин v . Правильная раскраска f графа G называется вершинно-различающей, если для любых различных вершин $u, v \in V(G)$, $S(u, f) \neq S(v, f)$. Наименьшее число цветов, необходимое для вершинно-различающей рёберной раскраски графа G называется вершинно-различающим хроматическим индексом и обозначается $\chi'_{vd}(G)$. Граф G , вершины которого можно представить в виде объединения r независимых, непустых множеств вершин V_1, \dots, V_r , таких, что каждая вершина из V_i смежна со всеми вершинами из V_j для $1 \leq i < j \leq r$, называется полный r – дольный граф. Полным расщепляемым графом называется граф, в котором вершины можно разбить на клику и независимое множество вершин, каждая из которых соединена со всеми вершинами клики.

В данной работе найдены верхние оценки вершинно-различающего хроматического индекса для некоторых полных многодольных графов.

Ключевые слова и словосочетания: правильная рёберная раскраска, вершинно-различающая раскраска, вершинно-различающий хроматический индекс, полный многодольный граф, полный расщепляемый граф.

Introduction

All graphs considered in this paper are finite and simple, and we use West's book [6] for terminologies and notations not defined here. Problems in which we are interested are particular cases of the big variety of ways of labeling a graph. Let $G = (V, E)$ be a graph of order n with the vertex set $V = V(G)$ and the edge set $E = E(G)$. A k -edge coloring of a graph G is an assignment of k colors to the edges of G . Let $f(e)$ be the color of the edge e . Denote by $S(v, f) = \{f(e) \mid e = uv \in E(G)\}$ the multiset of colors assigned to the set of edges incident to v . The coloring f is proper if no two adjacent edges are assigned the same color and vertex-distinguishing proper coloring (abbreviated *VDP – coloring*), if it is proper and $S(u, f) \neq S(v, f)$ for any two distinct vertices u and v .

The minimum number of colors required to find a *VDP – coloring* of a graph G without isolated edges and with at most one isolated vertex is called the *vertex – distinguishing proper edge coloring number* (abbreviated *P – coloring number*) and denoted by $\chi_{vd}'(G)$.

The *VDP – coloring* has been considered in many papers. It was introduced and studied by Burriss and Schelp in [2] and, independently, as observability of a graph, by Cerny et al. [3], Hornák and Soták [4,5]. In [2,4], the *VDP – coloring* is also computed for some families of graphs, such as complete graphs K_n , bipartite complete graphs $K_{m,n}$, paths P_n , and cycles C_n . The following results has been proved by Burriss and Schelp [2].

Theorem 1. *Let n be any natural number. Then*

$$\chi_{vd}'(K_n) = \{n \text{ if } n \text{ is odd}; n + 1 \text{ if } n \text{ is even}..$$

Theorem 2. *Let m and n be any natural numbers. Then*

$$\chi_{vd}'(K_{m,n}) = \{n + 1 \text{ if } n > m \geq 2; n + 2 \text{ if } n = m \geq 2..$$

The original motivation of study is generalizing results for *VDP – coloring* of some special types of complete graphs.

Main results

A complete split graph $CS(n, m)$ is a graph on n vertices consisting of a clique with n vertices and an independent set of m vertices in which each vertex of the clique is adjacent to each vertex of the independent set.

Theorem 3. *For any complete split graph $G = CS_{n,m}$ we have*

$$\begin{aligned} \{\chi_{vd}'(CS_{n,m}) = m + n, \text{ if } m + n \text{ is odd}, m + n \leq \chi_{vd}'(CS_{n,m}) \\ \leq m + n + 1, \text{ if } m + n \text{ is even.} \end{aligned}$$

Proof. Note that $CS(n, m)$ can be considered as complete multipartite graph $K_{m,1,1,\dots,1}$ with m 1-vertex partitions and with a m -vertex partition. Let $V(CS(n, m)) = V_C \cup V_S$ be the vertex set of split graph, where $V_C = \{v_0, v_1, \dots, v_{n-1}\}$ is the vertex set of clique and $V_S = \{v_n, v_{n+1}, \dots, v_{m+n-1}\}$ is the vertex set of independent set and let

$E(CS(n, m)) = \{v_i v_j \mid v_i, v_j \in V_C; 0 \leq i < j < n\} \cup \{v_i v_j \mid v_i \in V_S, v_j \in V_C; 0 \leq i < n, n \leq j < m + n\}$ be the edge set of our graph.

For each edge $v_i v_j \in E(CS_{n,m})$, define a color $f(v_i v_j)$ as follows:

$$f(v_i v_j) = \{(i + j) \bmod (m + n) \text{ if } m + n \text{ is odd}; (i + j) \bmod (m + n + 1) \text{ if } m + n \text{ is even}\}$$

By the definition of f ,

1. if $m + n$ is odd

$$S(v_i, f) = \{[1, m + n] \setminus \{2i \bmod (m + n)\} \text{ if } v_i \in V_C (0 \leq i < n) \cup_{j \in [0, n-1]} \{(i + j) \bmod (m + n)\} \text{ if } v_i \in V_S (n \leq i < n + m)\}$$

2. if $m + n$ is even

$$S(v_i, f) = \{[1, m + n + 1] \setminus \{2i \bmod (m + n + 1)\} \text{ if } v_i \in V_C (0 \leq i < n) \cup_{j \in [0, n-1]} \{(i + j) \bmod (m + n + 1)\} \text{ if } v_i \in V_S (n \leq i < n + m)\}$$

The visualisation of coloring for split graph $CS_{4,3}$ using specified algorithm is presented in **Fig. 1**.

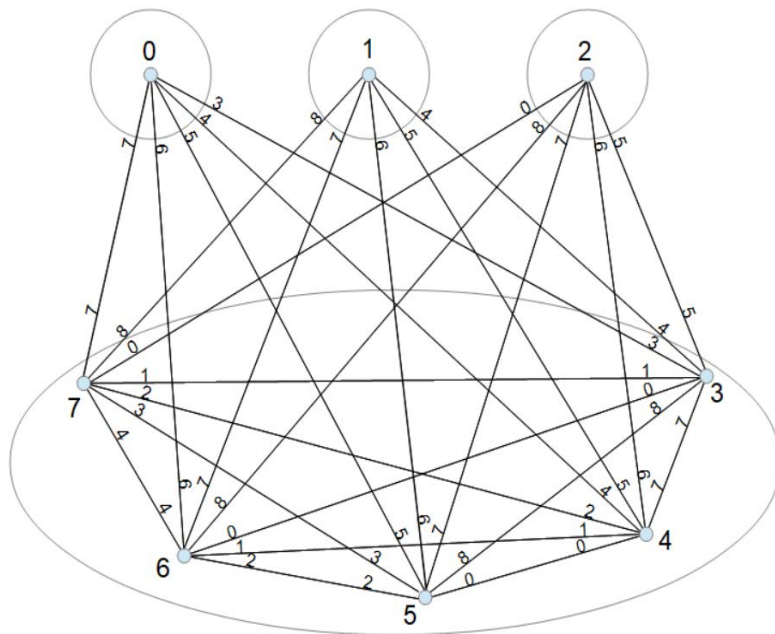


Fig. 1 VDP-coloring of split graph $CS_{4,3}$.

It is easy to see that edges incident to independent set vertices have different color sets. For edges incident to each clique vertex v_i we use all the colors despite for color $2i \bmod (m + n)$ in case $m + n$ is odd and $2i \bmod (m + n + 1)$ in case $m + n$ is even. The exceptional color is different for each pair of clique vertices because It is taken by odd modulo in both cases. Thus, we constructed *VDP – coloring*, using less than $m + n + 1$ colors. The minimum number of colors required for VDP-coloring for complete split graph $CS_{n,m}$ is $m + n$.

Theorem 4. For any different natural numbers n_1, n_2, \dots, n_k .

1. if $\sum_{i=1}^k n_i$ is even

- $n_1 + n_2 + \dots + n_{k-1} + 1 \leq \chi_{vd}'(K_{n_1, n_2, \dots, n_k}) \leq n_1 + n_2 + \dots + n_k;$
2. if $\sum_{i=1}^k n_i$ is odd.

$$n_1 + n_2 + \dots + n_{k-1} + 1 \leq \chi_{vd}'(K_{n_1, n_2, \dots, n_k}) \leq n_1 + n_2 + \dots + n_k + 1$$

Proof. Suppose that $n_1 < n_2 < \dots < n_k$. Denote set of n_k - *partition* vertices by $W_{n_k} = \{w_0, w_1, \dots, w_{n_k-1}\}$, set of n_{k-1} - *partition* vertices by $W_{n_{k-1}} = \{w_{n_k}, w_{n_k+1}, \dots, w_{n_k+n_{k-1}-1}\}$, ... vertices of n_1 - *partition* with colors $W_{n_1} = \{w_{n_k+n_{k-1}+\dots+n_2}, \dots, w_{n_k+n_{k-1}+\dots+n_2+n_1-1}\}$. Let $V(G) = W_{n_k} \cup W_{n_{k-1}} \cup \dots \cup W_{n_1}$ be the vertex set of graph G and $E(G) = \{uv \mid u \in W_{n_i}, v \in W_{n_j} \ (1 \leq i < j \leq k)\}$ be the set of graph edges. Denote $N = n_1 + n_2 + \dots + n_k$.

For each edge $w_i w_j \in E(K_{n_1, n_2, \dots, n_k})$, define a color $f(w_i w_j)$ as follows.

$$f(w_i w_j) = \{(i + j) \bmod N \text{ if } \sum_{i=1}^k n_i \text{ is even}; (i + j) \bmod (N + 1) \text{ if } \sum_{i=1}^k n_i \text{ is odd}\}$$

- 1) if $\sum_{i=1}^k n_i$ is odd

By the definition of f we have.

$$S(v_i, f) = \{\cup_{w \in W_{n_i}} \{(v_i + w) \bmod N\} \ (v_i \in$$

$W_{n_i}) \text{ if } \sum_{i=1}^k n_i \text{ is even}; \cup_{w \in W_{n_i}} \{(v_i + w) \bmod (N + 1)\} \ (v_i \in$

$W_{n_i}) \text{ if } \sum_{i=1}^k n_i \text{ is odd.}$

Sets of edge colors incident to each partition are sets of sequential numbers taken by modulo N in case $\sum_{i=1}^k n_i$ is even and by modulo $N + 1$ in case $\sum_{i=1}^k n_i$ is odd. In both cases the sequential set of numbers is taken by modulo of odd number, which means that set of color for each vertex is different. Sets of edge colors for n_1 - *partition* vertices must be different by the definition of *VDP - coloring*, so we need to use at least $n_2 + n_3 + \dots + n_k + 1$ colors.

Proposition 1. For any different natural numbers m and n we have

$$\max(m, n) + m + n + 1 \leq \chi_{vd}'(K_{m, m, n, n}) \leq \max(m, n) + m + n + 3.$$

Proof. Consider the two pairs of m - *partition* and n - *partition* as complete bipartite graphs $K_{m, n}$. By Theorem 2. there is a *VDP*-coloring for $K_{m, n}$ with $\max(m, n) + 1$ colors. Let's label our graphs using the same $\max(m, n) + 1$ colors. Now let's consider the two constructed bipartite graphs $K_{m, n}$ as complete bipartite graph $K_{m+n, m+n}$. By Theorem 2, there is a *VDP - coloring* for that graph, using $m + n + 2$ colors. As a result, we constructed a *VDP - coloring* for our graph that is using $\max(m, n) + m + n + 3$ colors. On the other hand, for the *VDP - coloring* of our graph we need to use at least $\max(m, n) + m + n + 1$ colors, as the sets of colors incident to different vertices must be different.

The visualisation of specified coloring is presented in **Fig. 2**.

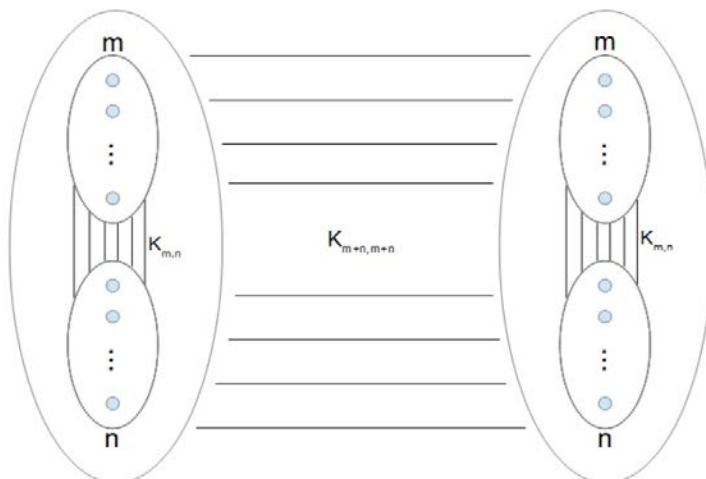


Fig 2. Visualisation of VDP-coloring for graph $K_{m,n,n}$

Proposition 2. Let n and k be any natural numbers. Then for any complete 2^k -partite graph $K_{n,n,\dots,n}$, we have

$$(2^k - 1)n + 2 \leq \chi_{vd}'(K_{n,n,\dots,n}) \leq (2^k - 1)n + 2k$$

Proof. Let's consider each pair of n -partitions as complete bipartite graphs $K_{n,n}$ and construct VDP-coloring for each of them by *Theorem 2.*, using the same $n + 2$ colors. Then consider each pair of bipartite graphs $K_{n,n}$ as bipartite complete graphs $K_{2n,2n}$ and construct VDP-coloring for them by *Theorem 2.*, using the same $2n + 2$ colors. We continue this process until we have complete bipartite graph $K_{n2^{k-1},n2^{k-1}}$ for which we have a VDP-coloring that is using exactly $2^{k-1}n + 2$ colors. Thus, we constructed a VDP-coloring of $K_{n,n,\dots,n}$ graph, using $(1 + 2 + \dots + 2^{k-1})n + k = (2^k - 1)n + 2k$ colors. We need to use at least $(2^k - 1)n + 2$ colors for VDP-coloring of our graph.

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CORRELATIONS OF ADENOSINE DEAMINASE ACTIVITY IN THE PLASMA OF DIABETIC PATIENTS WITH ARTERIAL HYPERTENSION

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Abstract

This work presents the preliminary data of one center study of the total activity of adenosine deaminase (tADA) and its isoforms (ADA1 and ADA2) in the blood plasma of patients with type 2 diabetes mellitus (T2DM), including cases with complication with arterial hypertension. As a nonspecific indicator of cellular immunity, altered serum tADA activity is used to evaluate diseases related to cell-mediated immune responses, it is considered a useful tool in the monitoring of clinical status of various diseases.

The results demonstrated significant differences between ADA activity levels in the blood plasma of type 2 diabetes mellitus patients and non-diabetic relatively healthy controls. This difference was mainly due to an increase in the activity of the ADA2 isoenzyme. In the peripheral blood plasma of patients with type 2 diabetes mellitus, the tADA (20.5 ± 0.39 U/L) and the activity of the ADA2 isoform (16.0 ± 0.75 U/L) were significantly higher than in non-diabetic controls (15.96 ± 0.75 U/L and 11.23 ± 0.38 U/L), tADA and ADA2, respectively, $p < 0.0001$.

The positive correlation between tADA, ADA1 and ADA2 isoform activity was observed with fasting blood glucose, only among type 2 diabetes mellitus patients.

The difference was observed between age groups in nondiabetic patients: there is an increase in ADA2 activity in patients older than 65 years (12.49 ± 1.05 U/L vs. 9.86 ± 0.33 , $p < 0.0106$).

In diabetic group the tADA, ADA1 and ADA2 isoforms activity in insulin-dependent patients was significantly higher than in non-insulin-dependent patients, especially in men group the tADA activity (21.56 ± 1.85 U/L vs. 14.52 ± 1.54 U/L) was significantly higher, $p < 0.0083$.

In nondiabetic patients with hypertension the significant elevation of ADA2 isoform activity was also observed (11.23 ± 0.38 U/L vs. 8.00 ± 0.3 U/L), $p < 0.0001$.

We determined the normative range of peripheral blood plasma ADA activity in relatively healthy controls and proved the alteration in activity of ADA enzyme implication in type 2 diabetes mellitus and arterial hypertension pathogenesis.

In conclusion, we note that the measurement of plasma ADA activity is important for understanding the clinical aspects of T2DM and may be useful in predicting the glycemic and immunological status of patients with type 2 diabetes mellitus and hypertension.

Keywords and phrases: blood plasma, adenosine deaminase 1, adenosine deaminase 2, type 2 diabetes mellitus, arterial hypertension.

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Համառոտագիր

Աշխատանքում ներկայացված է ընդհանուր ադենոզինդեամինազի (tADA) և դրա իզոմերների (ADA1 և ADA2) ակտիվության մակարդակների ուսումնասիրության նախնական տվյալները 2-րդ տիպի շաքարային դիաբետով (ՇԴ) հիվանդների, ներառյալ զարկերակային հիպերտոնիայով հիվանդների արյան պլազայում:

Որպես բջջային իմունիտետի ոչ սպեցիֆիկ ցուցիչ՝ արյան պլազմայում tADA-ի ակտիվությունն օգտագործվում է բջջային միջնորդավորված իմունային պատասխանների հետ կապված հիվանդությունները գնահատելու համար, այն համարվում է օգտակար գործիք տարբեր հիվանդությունների կլինիկական կարգավիճակի մոնիթորինգի համար:

Արդյունքները ցույց տվեցին զգալի տարբերություններ tADA-ի և դրա իզոմերների (ADA1 և ADA2) ակտիվության մակարդակների միջև 2-րդ տիպի ՇԴ հիվանդների և համեմատաբար առողջ, ոչ դիաբետիկ մարդկանց (որպես ստուգիչ խումբ) արյան պլազմայում: Այդ փոփոխությունը հիմնականում պայմանավորված էր ADA2 իզոֆերմենտի ակտիվության բարձրացմամբ:

2-րդ տիպի ՇԴ հիվանդների ծայրամասային արյան պլազմայում tADA-ի ակտիվությունը ($20,5 \pm 0.39$ U/L) և ADA2 իզոֆերմենտի ակտիվությունը ($16,0 \pm 0,75$ U/L) զգալիորեն ավելի բարձր են եղել, քան ոչ ՇԴ հիվանդների մոտ (tADA և ADA2, համապատասխանաբար՝ 15.96 ± 0.75 U/L և 11.23 ± 0.38 U/L, $p < 0.0001$):

Դիտվել է նաև դրական tADA, ADA1 և ADA2 ակտիվության և քաղցած վիճակում որոշված արյան գլյուկոզի մակարդակի միջև միայն ՇԴ հիվանդների մոտ:

tADA ֆերմենտի ակտիվության էական տարբերություններ են նկատվել նաև ստուգիչ տարիքային խմբերի միջև՝ 65 տարեկանից բարձր խմբի մոտ եղել է ADA2 իզոֆերմենտի ակտիվության աճ ($12,49 \pm 1,05$ U/L), ի տարբերություն 65 տարեկանից ցածր խմբի ($9.86 \pm 0,33$ U/L), $p < 0,0106$):

Հատկանշական է, որ ՇԴ խմբում ADA իզոֆերմենտների ակտիվությունն ինսուլինկախյալ հիվանդների մոտ զգալիորեն ավելի բարձր է եղել, քան ոչ ինսուլինկախյալ հիվանդների, հատկապես՝ տղամարդկանց մոտ. tADA ակտիվությունն եղել է 21.56 ± 1.85 U/L vs. 14.52 ± 1.54 U/L, $p < 0.0083$:

Հիպերտոնիայով ոչ դիաբետիկ հիվանդների մոտ ևս նկատվել է ADA2 իզոֆերմենտի ակտիվության զգալի բարձրացում՝ 11.23 ± 0.38 U/L, ի տարբերություն համեմատաբար առողջ մարդկանց՝ 8.00 ± 0.3 U/L, $p < 0,0001$:

Աշխատանքի արդյունքում որոշվել է համեմատաբար առողջ մարդկանց ծայրամասային արյան պլազմայում ADA ֆերմենտի ակտիվության նախնական նորմատիվ տիրույթը և ապացուցվել 2-րդ տիպի ՇԴ-ի և զարկերակային հիպերտոնիայի պաթոգենեզում ADA ֆերմենտի ակտիվության փոփոխությունները: Եզրափակելով կարելի է նշել, որ արյան պլազմայի ADA-ի ակտիվության որոշումը կարևոր է 2-րդ տիպի ՇԴ-ի կլինիկական հայեցակետերը հասկանալու համար և կարող է օգտակար լինել 2-րդ տիպի ՇԴ-ով և հիպերտոնիայով հիվանդների գլիկեմիկ և իմունոլոգիական կարգավիճակը որոշելու համար:

Բանալի բառեր և բառակապակցություններ՝ արյան պլազմա, ադենոզինդեամինազ 1, ադենոզինդեամինազ 2, շաքարային դիաբետ 2-րդ տիպ, զարկերակային հիպերտոնիա:

ВЗАИМОСВЯЗЬ УРОВНЯ АКТИВНОСТИ АДЕНОЗИНДЕЗАМИНАЗЫ В ПЛАЗМЕ КРОВИ БОЛЬНЫХ САХАРНЫМ ДИАБЕТОМ С АРТЕРИАЛЬНОЙ ГИПЕРТОНИЕЙ

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Аннотация

В работе представлены предварительные данные исследования суммарной аденозиндезаминазы (tADA) и ее изоформ (ADA1 и ADA2) активности в плазме крови больных сахарным диабетом 2-го типа, в том числе с осложнением артериальной гипертонией. В качестве неспецифического маркера клеточного иммунитета изменение tADA в сыворотке крови используется для оценки тяжести заболеваний, связанных с клеточно-опосредованными иммунными реакциями, и считается полезным инструментом для мониторинга клинического состояния. Наши результаты выявили существенные различия в активности tADA в плазме крови больных сахарным диабетом 2-го типа и относительно здоровых лиц без диабета (контроль). Это возрастание активности фермента происходит, в основном, за счет увеличения активности изоформы ADA2.

В плазме периферической крови больных сахарным диабетом 2-го типа активности tADA ($20,5 \pm 0,39$ U/L) и изоформы ADA2 ($16,0 \pm 0,75$ U/L) были достоверно выше, чем в контрольной группе ($15,96 \pm 0,75$ U/L и $11,23 \pm 0,38$ U/L) для суммарной ADA и ADA2, соответственно, $p < 0,0001$.

Выявлена положительная корреляция между активностью tADA (ADA1, ADA2) и уровнем утренней глюкозы в крови, в группе больных диабетом в контроле корреляции не наблюдалось.

Существенные различия в активности ADA наблюдались также между возрастными группами в контроле: отмечается повышение активности изоформы ADA2 у пациентов старше 65 лет (12.49 ± 1.05 U/L) против (9.86 ± 0.33 U/L) у пациентов до 65 лет, $p < 0,0106$.

В группе пациентов с сахарным диабетом активность изоформ аденозиндезаминазы у инсулинозависимых пациентов была достоверно выше, чем у инсулинонезависимых пациентов, в особенности у мужчин активность tADA составляла 21.56 ± 1.85 U/L к 14.52 ± 1.54 U/L, $p < 0.0083$.

У пациентов с артериальной гипертонией без диабета также наблюдалось повышение активности изоформы ADA2 (11.23 ± 0.38 U/L к 8.00 ± 0.3 U/L), $p < 0.0001$.

Нами определен нормативный диапазон активности ADA в плазме крови относительно здоровых лиц, и доказана роль изменения активности фермента в патогенезе сахарного диабета 2-го типа с артериальной гипертонией.

В заключение отметим, что измерение активности ADA в плазме крови важно для понимания клинических аспектов сахарного диабета 2 типа и может быть полезным для прогнозирования гликемического и иммунологического статуса пациентов с сахарным диабетом 2-го типа и артериальной гипертонией.

Ключевые слова и словосочетания: плазма крови, аденозиндезаминаза 1, аденозиндезаминаза 2, сахарный диабет 2-го типа, артериальная гипертония

Introduction

The prevalence of diabetes mellitus (DM) is increasing worldwide and it is now one of the leading causes of death [1]. Insulin resistance and impaired insulin secretion are the main physiological abnormalities associated with type 2 diabetes mellitus. Immunological disturbances involving the cell mediated immune system and improper T-lymphocyte function, also contribute to the pathophysiology of DM [2].

Hypertension is an important comorbidity, which presents in more than 50% of people with diabetes about 50% of them demonstrate insulin resistance [3, 4]. The co-existence of diabetes and hypertension significantly increases the risk of cardiovascular disease [5, 6].

In order to effectively manage diabetes and hypertension, an understanding of their underlying pathophysiology is important. As these two conditions commonly co-exist, it is postulated that they share similar pathogenetic mechanisms [7].

An increasing amount of evidence highlights the critical role for the adenosine system in regulation of glucose homeostasis, the pathophysiology of diabetes mellitus, including both, type 1 diabetes mellitus (T1DM) and type 2 diabetes mellitus (T2DM), as well as the associated complications [8]. This system has considered as a central player in some pathophysiological conditions, particularly those linked to inflammatory responses such as diabetes and hypertension [9]. Although several studies have revealed that DM and hypertension are major risk factors for complications and death from COVID-19, it is still unclear whose are the mechanisms related to this condition [10-11]. Evidently, much more research on these specific topics is required.

The purinergic signaling pathway constitutes a ubiquitous system of cell–cell communication and expressed in almost every cell type [12]. The potential role of this system is explored in the regulation of many other biological functions such as inflammatory responses [13, 14].

While ATP acts as an excitatory neurotransmitter, adenosine (Ado), the main metabolite of ATP degradation, presents antagonist neuromodulatory effect acting primarily in neuroprotection. Extracellular ATP and its breakdown product Ado are also well-known mediators of inflammatory responses. ATP generally functions as a pro-inflammatory molecule while Ado is recognized as an anti-inflammatory agent [16, 17].

The participation of Ado in the modulation of glucose metabolism in T1DM and T2DM has been proposed. Ado functions mostly as an anti-inflammatory mediator through binding to its cell-surface receptors, also largely expressed on immune cells [12]. Changes in β cell metabolism commonly cause toxicity and result in cell death by apoptosis or necrosis [18]. In the early stage of DM, there is an increase in pro-inflammatory cytokines, such as TNF- α , IL-1, and IL-6 [19]. A chronic inflammatory state is established as the disease evolves, with the persistence of pro-inflammatory cytokines above normal levels, a process that may be associated with atherosclerosis in diabetic individuals [20]. Furthermore, immune cell infiltration triggers a releasing of pro-inflammatory cytokines, macrophages, and T cells, all of which contribute to insulin resistance [21].

The final key component of the adenosine pathway is adenosine deaminase (ADA) that is present in humans in two genetically and catalytically different isoforms – ADA1 and ADA2 and is catalyzing the irreversible deamination of (2'-deoxy) adenosine into (2'-deoxy) inosine. The result of ADA activity is depletion of adenosine in the local microenvironment, limiting its immunomodulatory effects. Considering the relevance in the purinergic cascade, ADA1 has a more prominent role and is widely expressed in

intestine, thymus, spleen and other lymphoid and non-lymphoid tissues and it is also involved with neurotransmission [22]. ADA1 can also be expressed as an ectoenzyme on the surfaces of lymphocytes [23] and dendritic cells [24].

ADA2, with a low substrate affinity (K_m for adenosine ~ 2 mM) is a major component of the tADA activity in serum or plasma and is also found in liver, and monocytes/macrophages in negligible amounts [25]. This isoform has a key role in the regulation of immune responses, can induce proliferation of T helper cells and macrophages and prompt the differentiation of monocytes into macrophages and dendritic cells [26]. ADA2 can be active at sites of inflammation during hypoxia and in areas of tumor growth, etc.

Ubiquitous ADA isoenzymes are considered as suitable markers of cell-mediated immunity and have been used for monitoring severe diseases associated with immune system disorders [9, 27].

A number of reports are devoted to the studies of ADA in T2DM. An increase in the ADA activity level of, which is mainly due to ADA2 isoform, was observed in the blood plasma of diabetic patients compared to healthy controls. In diabetes, ADA activity correlated with the level of the glycosylated hemoglobin and other clinical parameters [28, 29].

Our study showed differences in the activity of two ADA isoenzymes at T2DM. The normative range of ADA2 activity in peripheral blood of healthy Armenian population was established. We demonstrated specific sex- and age- changes in the activity of the ADA2 isoform in the plasma of relatively healthy subjects (controls) and patients with hypertension and T2DM with and without hypertension. The changes were mainly associated with the ADA2 isoform. Our findings demonstrated the importance of alterations in the ADA activity in T2DM and in patients with hypertension. Therefore, testing of the ADA activity may be useful in assessing the severity of the disease and the effectiveness of the therapy, helping in developing new approaches to the prevention and treatment of diabetes.

Materials and methods

Chemicals Adenosine and erythro-9-(2-hydroxy-3-nonyl)adenine (EHNA) were purchased from Sigma-Aldrich (St. Louis, MO, USA). The other reagents were of high purity degree.

Patients The patients with type 2 diabetes mellitus (T2DM) and non-diabetic (NDM) (case/control study) were patients of Maralik Medical Center (Shirak, Armenia). Informed consent was obtained from all patients included in the investigation in accordance with Good Clinical Practice (GCP) standards and the WMA Declaration of Helsinki – Ethical Principles for Medical Research Involving Human Subjects. Patients with T2DM were diagnosed according to guidelines of American Diabetes Association [30].

The preliminary study comprises of 359 patients (249 women and 110 men), in the age from 18 to 89 years, 165 (120 women and 45 men) with T2DM of different duration and 194 (129 women and 65 men) NDM patients, including those with hypertension, as controls. Individuals with any kind of infection or inflammatory diseases, which lead to increase in ADA activity, were excluded. The exclusion criteria were acute or chronic liver, kidney or cardiac diseases, malignancy, surgical operations and recovering from SARS-CoV-2 disease and vaccination.

Procedures were performed at the Maralik Medical Center. All the participants were examined early in the morning, fasted, having avoided caffeinated beverages, cigarettes and strenuous exercise since the previous evening.

The glycemc control and counting blood cells in the Goryaev chamber were performed in clinical laboratory.

Isolation of peripheral blood plasma A blood sample was taken from the antecubital vein in Biochemical Laboratory in Maralik Medical Center. Freshly obtained venous blood was drawn into vacuum blood collection tubes (Lind-Vac) with 3.2% sodium citrate anticoagulant. After centrifugation at 6000 rpm for 10 min, the supernatant, plasma, free of platelets, was obtained and immediately used in the assay. Stability of the ADA enzyme in the serum lasts 24 hours at 25°C, 7 days at 4°C and 3 months at -20°C.

ADA assay The total ADA activity in plasma was assessed by measuring of ammonia, produced in the catalyzed reaction of adenosine deamination at incubation at 37°C for 40 min of assay mixture, containing in 0.5 ml: 0.04 M K-phosphate buffer, pH 7.0; 6 mM adenosine and an aliquot of a sample. The enzymatic reaction was stopped by addition per 1 ml of phenol-nitroprusside and hypochlorite reagents [30]. The intensity of the developed color was measured at 630 nm against blank with all the reagents, excluding substrate adenosine. The ammonia content was evaluated using ammonium sulfate as a standard. The ADA activity was expressed as μmole of produced ammonia per 1 L of plasma for 1 minute (U/L). ADA2 activity was obtained in identical experiment conducted in the presence of 0.04 mM EHNA, a selective inhibitor of ADA1. ADA1 activity was calculated by subtracting ADA2 activity from the total ADA activity. All samples were duplicated/triplicated.

Statistical analysis The data were analyzed using GraphPad Prism 3 (GraphPad Prism Software Inc. San Diego, CA, USA) [31]. The results were expressed as the mean (M) \pm standard error of the mean (SEM). The nonparametric Mann-Whitney test was used for statistical analysis of different biochemical parameters. Spearman's correlation coefficient (r) was assessed. The differences among groups were considered as statistically significant when the two-tailed p values were <0.05 .

Results and discussion

The preliminary study comprises 359 of T2DM cases (165) and NDM controls (194) which were age and sex matched (case/control). The study was carried out in Maralik Medical Center (Shirak, Armenia) over a period of 12 months.

The following groups of the patients with T2DM included in this study: 1) T2DM: new-onset, who was diagnosed with the first manifestation of diabetes and long term patients; insulin-dependent diabetes mellitus (IDDM) and insulin-independent (IIDM); with hypertension (T2DMH) and without hypertension (T2DMNH - type 2 diabetes mellitus non-hypertension). Patients distributed into two groups by sex: adult women and men; and subgroups by age: patients from 18-65 years old (<65); adults over 65 (>65) years old; 2) NDM: non-diabetic patients with arterial hypertension (NDMH) and without (NDMNH).

T2DM patients studied were 73% - women, and 27% - men; IDDM - 67% women, 33% - men. The total activity of ADA and the activities of its isoenzymes ADA1 and ADA2 in the blood plasma regarding the sex and age for the T2DM and NDM patients presented in **Tables 1** and **2**, respectively.

Table 1 — ADA activity in type 2 diabetes mellitus patients and nondiabetic controls by sex and age

Variables	Age (years), median (range)	Total ADA U/L p value	ADA1 (U/L) p value	ADA2 (U/L) p value
T2DM patients (165)				
Women (120)	63.1 [28-85]	19.23±0.93 (<0.7230)	4.42±0.4 (<0.4646)	16.32±0.9 (<0.5505)
Men (45)	60.6 [39-79]	19.93±1.43 (<0.7230)	4.84±0.66 (<0.4646)	15.23±1.33 (<0.5505)
NT2DM controls (194)				
Women (129)	50.7 [18-87]	14.36±0.58 (<0.2656)	4.21±0.28 (<0.3059)	11.27±0.38 (<0.068)
Men (65)	48.9 [18-84]	12.87±0.64 (<0.2656)	3.49±0.31 (<0.3059)	10.1±0.58 (<0.068)
Patients <65 years (150)	47.4 [18-65]	13.3±0.38 (<0.1057)	4.00±0.21 (<0.4696)	9.86±0.33 (<0.0106)
Patients >65 years (44)	71.6 [66-87]	16.03±1.29 (<0.1057)	4.33±0.91 (<0.4696)	12.49±1.05 (<0.0106)

Data are presented as mean ± SEM

The data in **Table 1** show, that there was not differences of the ADA activity level between sex groups of T2DM and NDM patients. The difference observed between age groups in NDM patients; there is an increase in ADA2 activity in patients older than 65 years ($12.49 \pm 1.05 U/L$ vs. $9.86 \pm 0.33 U/L$, $p < 0.0106$), which confirmed by the literature data [32]. In T2DM group the age difference was not observed (data not shown).

The comparison of ADA activity in T2DM and NDM showed that both, tADA and ADA2 activities in T2DM patients ($20.5 \pm 0.39 U/L$ and $16.0 \pm 0.75 U/L$, respectively) were significantly higher than in NDM controls ($15.96 \pm 0.75 U/L$ and $11.23 \pm 0.38 U/L$, tADA and ADA2, respectively), $p < 0.0001$, **Table 2, Fig. 1**. There was no difference between T2DM and NDM patients in ADA1 activity.

Table 2 — ADA activity in plasma of T2DM and NT2DM patients with and without hypertension

Patients	total ADA (U/L) p value	ADA1 (U/L) p value	ADA2 (U/L) p value
T2DM (165)	20.5±0.39 (<0.0001)	4.69±0.40 (<0.3946)	16.0±0.75 (<0.0001)
IDDM women (53)	21.8±1.44 (<0.0306)	5.11±0.64 (<0.1008)	18.5±1.46 (<0.0830)
IIDM women (67)	17.61±1.25 (<0.0306)	3.82±0.51 (<0.1008)	14.65±1.17 (<0.0830)
IDDM men (18)	21.56±1.85 (<0.0083)	5.41±1.1 (<0.1738)	16.41±1.8 (<0.0641)
IIDM men (27)	14.52±1.54 (<0.0083)	3.08±0.52 (<0.1738)	11.81±1.41 (<0.0641)
T2DMH (77)	19.44±1.1	4.80±0.5	15.56±1.17

	(<0.8401)	(<0.0772)	(<0.9007)
T2DMNH (88)	19.03±1.04 (<0.8401)	3.96±0.45 (<0.0772)	16.22±1.2 (<0.9007)
NDM (194)	15.96±0.75 (<0.0001)	3.88±0.27 (<0.3946)	11.23±0.38 (<0.0001)
NDMNH (91)	11.18±0.35 (<0.0001)	3.51±0.20 (<0.2310)	8.00±0.3 (<0.0001)
NDMH (103)	16.02±0.61 (<0.0001)	4.48±0.38 (<0.2310)	11.94±0.53 (<0.0001)

Data are presented as mean ± SEM

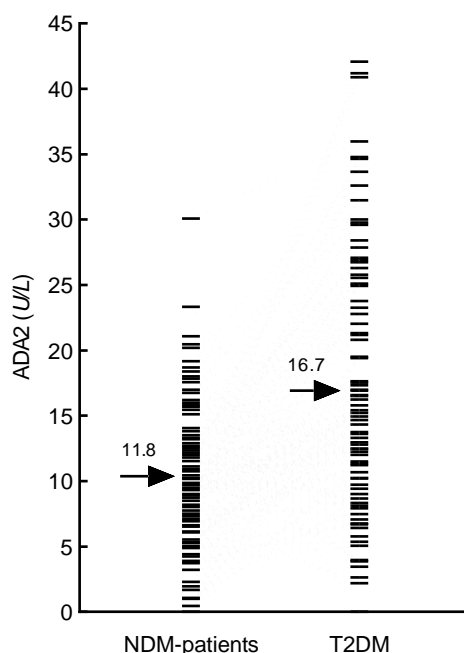


Fig. 1 – ADA2 activity in blood plasma of patients with T2DM and NDM controls

Arrows show the mean values of ADA2 activity

Table 2 presented data concerning the total activity of ADA and the activities of its isoenzymes ADA1 and ADA2 in the blood plasma of T2DM and NDM patients, and those with and without hypertension. There is an increase in the activity of tADA and ADA2 in NDMH patients, which is higher in relation to NDMNH patients, but lower, than ADA activity level in all T2DM subjects, (*p* value is 0.0001 for ADA2 and tADA). The differences were observed in tADA activity level in T2DM patients between IDDM and IIDM groups, but in men group the tADA activity in IDDM patients was significantly higher, 21.56±1.85 U/L vs. 14.52±1.54 U/L, *p*<0.0083.

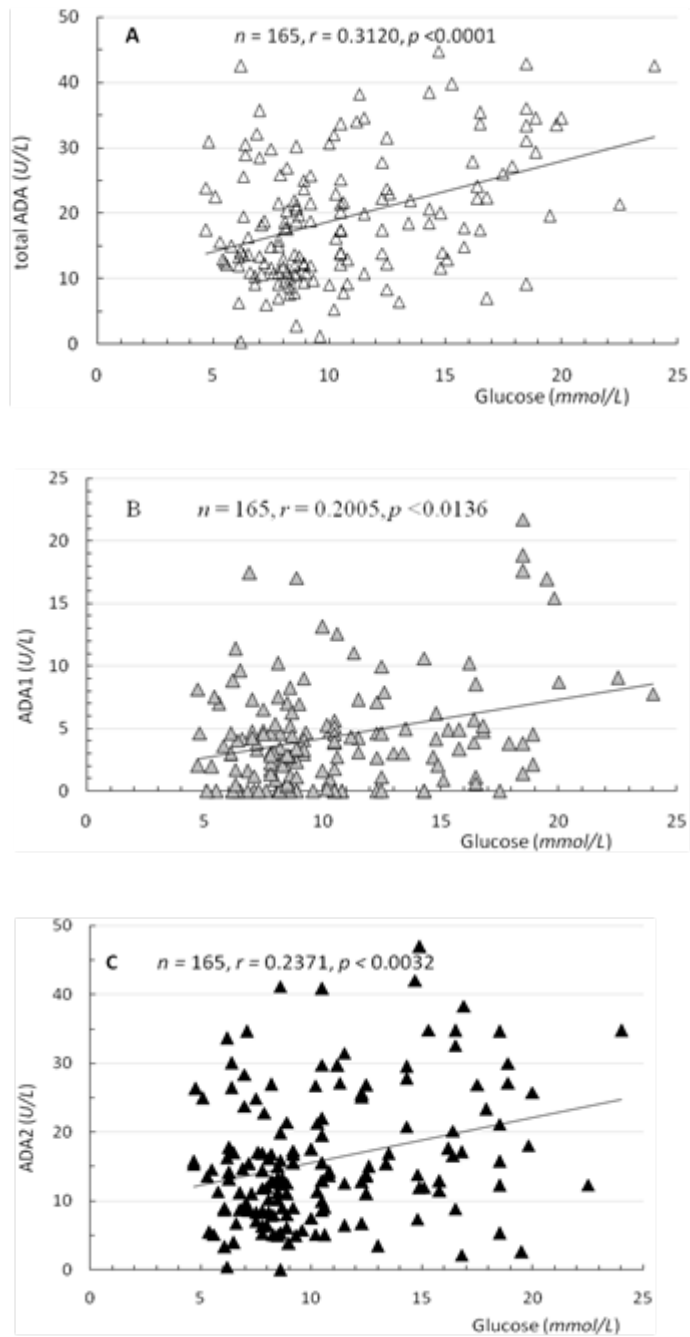


Fig. 2 – The correlation between fasting blood glucose and ADA (tADA, ADA1 and ADA2) activity in plasma of T2DM patients

As presented in **Fig. 2** plasma tADA (A) and ADA1 (B) and ADA2 (C) level showed a positive correlation with fasting plasma glucose ($r = 0.3120$; $p < 0.0001$ – tADA; $r = 0.2005$; $p < 0.0136$ – ADA1 and $r = 0.2371$;

$p < 0.0032$ – ADA2) level only among T2DM subjects, but no significant correlation was observed in NDM controls (data not shown).

The ADA2 activity of plasma in T2DMH patients is comparable to ADA2, observed in patients with T2DM. The hypertension as a complication of T2DM does not significantly add to ADA2 activity, **Fig. 3**.

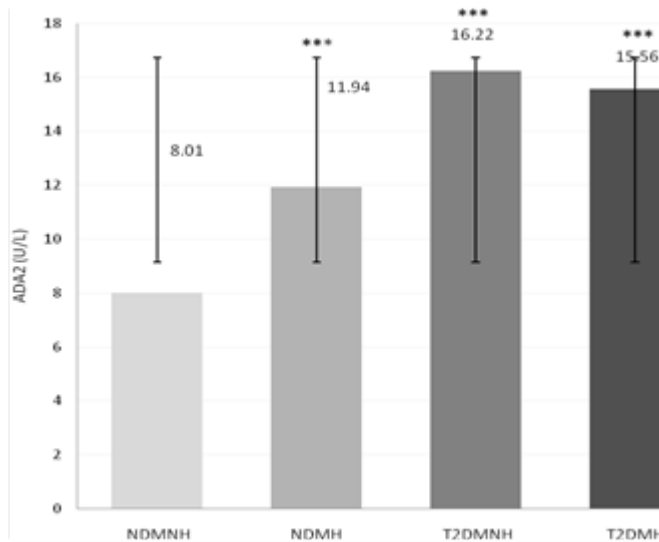


Fig. 3 – ADA2 activity in plasma of patients with T2DM, complicated with hypertension
*** $p < 0.0001$ – between NDM and patients with T2DM with and without hypertension

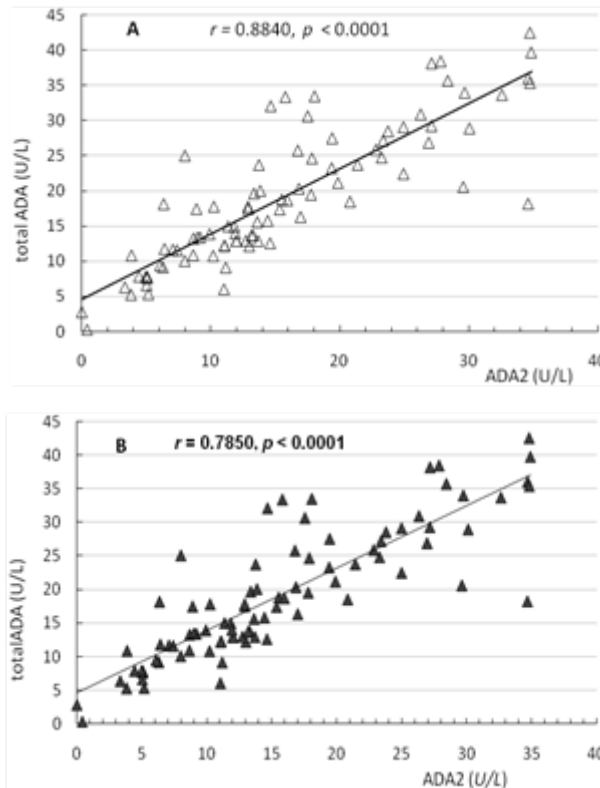


Fig. 4 – Correlation between plasma tADA and ADA2 activity
 A – in 88 T2DMNH patients, B – in 77 T2DMH patients
r – Spearman's correlation coefficient

The comparison of correlations between tADA and ADA2 activities in plasma of T2DMNH (A) and T2DMH (B) patients shows, that the difference is not significant ($p < 0.0001$, is the same), but Spearman coefficient - a little lower for patients with diabetes, complicated with arterial hypertension, **Fig. 4**, confirming the additional changes in ADA2 activity in plasma of diabetic patients with hypertension (**Fig. 3**).

T2DM is a multifactorial disease and characterized by deranged protein and fat and carbohydrate metabolism, secondary to insulin resistance [2]. The role of ADA1 in the cellular immunity was first identified in patients with severe combined immune deficiency [33]. The pathogenesis of ADA2 deficiency includes lymphoproliferation, cytopenia, and variable degrees of immunodeficiency, and still is poorly understood [34]. During inflammation, increased ADA2 activity has been found in macrophage-rich tissues and was considered to be a reflection of immunological disturbance observed in these severe diseases, making ADA2 activity a convenient marker to improve the diagnosis and follow-up treatment of these disorders. In clinical laboratory, ADA activity detection has been used for diagnosing tuberculous pleural effusion and tubercular meningitis. In contrast to ADA1, ADA2 activity for adenosine requires high levels of adenosine and low optimum pH of 6.5, and it shows a weak affinity for substrate. This suggests that ADA2 expresses its activity only at conditions that are associated with hypoxia or inflammation [32, 34–36].

As a nonspecific indicator of cellular immunity, altered serum ADA activity is used to evaluate diseases related to cell-mediated immune responses, and is considered a useful tool in the monitoring of clinical status.

Conclusions

The results demonstrated significant differences between ADA activity levels in the blood plasma of T2DM patients and NDM relatively healthy controls. This increase was mainly due to an elevation in activity of the ADA2 isoenzyme.

The positive correlation between tADA, ADA1 and ADA2 isoforms activity was observed with fasting blood glucose only among T2DM patients.

We determined the normative range of peripheral blood plasma ADA2 activity in NDMNH relatively healthy patients and proved the alteration in activity of ADA enzyme implication in T2DM and arterial hypertension pathogenesis.

Our study revealed also the elevation of ADA2 activity with aging in NDM group of relatively healthy individuals, but not in T2DM patient group. The measurement of plasma ADA activity is important for understanding the clinical aspects of T2DM and may be useful in predicting the glycemic and immunological status of patients with type 2 diabetes mellitus and hypertension.

Competing Interests

None declared.

Acknowledgments

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**THERMOSTABLE SUPEROXIDE-PRODUCING COMPLEX BETWEEN
NADPH-CONTAINING LIPOPROTEIN (NCL) AND Fe (III) FROM BOILED
COW MILK: ACTIVATION OF IMMUNE CELLS NADPH OXIDASE BY NCL
IN VITRO**

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Abstract

O_2^- -producing complexes or associates have recently been isolated from blood serum, goat milk, erythrocyte, leukocyte membranes, and medicinal plant membranes. Fe(III) ions in these complexes act as bridges for electron transfer from NADPH-containing lipoprotein (NCL) to molecular oxygen, reducing it up to O_2^- . On the other hand, NADPH oxidase (Nox) of erythrocytes and leukocytosis are activated by NCL in vitro. In fact, both serum and milk contain NCL.

The main systems for the production of O_2^- in mammalian milk and blood, as previously stated, are polymorphonuclear leukocytes, as well as O_2^- -producing complex between NCL and Fe (III). At the same time, Fe(III) ions can be found in milk, and anemia can result from a Fe(III) deficiency in milk. The superoxide (O_2^-) - producing thermostable complex between NCL and Fe(III): NCL-Fe(III) was isolated and purified from raw and boiled cow milk, for the first time. The specific O_2^- -producing activity of NCL-Fe(III) complex from milk, before and after boiling, practically does not change as a result of milk boiling (this activity decreases by only 7-8%).

After incubating an aqueous mixture of NCL (5 mg/ml) with an aqueous solution of Nox1 + Nox2 (erythrocytes or leukocytes membranes) isoforms, 5 mg/ml, at 37°C for 40 minutes, an ion exchange chromatography was performed on the column of DE cellulose, equilibrated by water at pH9.5. The hNCL-Nox associate eluates from this column with water at pH9.5

The specific O_2^- -producing activity of hNCL-Nox isoforms of EM and LM basically does not decrease when compared to the NCL-Fe(III) complex. This is a promising finding, suggesting that milk NCL has stimulating the Nox from erythrocytes or leukocyte membranes in vitro does not decrease even after boiling.

In contrast to these O_2^- -producing associates or complexes, NCL isolated from them, suppresses the oxidation of adrenaline to adrenochrome, exerting a reducing-antioxidant effect due to NADPH electrons in its composition (the Cu, Zn-SOD does not inhibit this process). The NCL isolated from this complex, at the expense of NADPH, has a reductive (antioxidant) influence and forms a hybrid O_2^- -producing associate with isoforms of the NADPH oxidase from erythrocytes and leukocytes membranes.

Thus the properties of the thermostable complex NCL-Fe(III): O_2^- -producing activity, as well as the reductive (antioxidant) activity of NCL, are practically preserved after milk boiling during 10-12 min.

Keywords and phrases:NCL, superoxide, thermostable complex.

**NADPH ՊԱՐՈՒՆԱԿՈՂ ԼԻՊՈՂՐՈՏԵԻՆԻ ԵՎ FE(III)-Ի ՄԻՋԵՎ
ՋԵՐՄԱԿԱՅՈՒՆ ՍՈՒՊԵՐՕՔՍԻԴ ԱՐՏԱԴՐՈՂ ՀԱՄԱԼԻՐ ԿՈՎԻ ԵՌԱՑՐԱԾ
ԿԱԹԻՑ: ԻՄՈՒՆԱՅԻՆ ԲՋԻՋՆԵՐԻ IN VITRO NADPH ՕՔՍԻԴԱԶԻ
ԱԿՏԻՎԱՑՈՒՄ NADPH ՊԱՐՈՒՆԱԿՈՂ ԼԻՊՈՂՐՈՏԵԻՆՈՎ**

ՌՈՒՉԱՆՆԱ ՍԻՄՈՆՅԱՆ

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Համառոտագիր

Արյան շիճուկից, այծի կաթից, էրիթրոցիտների և լեյկոցիտների թաղանթներից և դեղաբույսերի թաղանթներից մեկուսացվել են O_2^- -արտադրող կոմպլեքսներ կամ ասոցիատներ:

Այս կոմպլեքսներում $Fe(III)$ իոնները միջնորդներ են NADPH պարունակող լիպոպրոտեինից մոլեկուլային թթվածին էլեկտրոնների փոխանցման գործընթացում՝ նվազեցնելով այն մինչև O_2 : Մյուս կողմից, *in vitro* պայմաններում NADPH օքսիդազը (Nox) ակտիվանում է էրիթրոցիտների և լեյկոցիտների NADPH պարունակող լիպոպրոտեինով: Փաստորեն, և՛ շիճուկը, և՛ կաթը պարունակում են NADPH պարունակող լիպոպրոտեին: Կաթնասունների կաթում և արյան մեջ O_2 -ի արտադրության հիմնական համակարգերը պոլիմորֆոնուկլեար լեյկոցիտներն են, ինչպես նաև NADPH պարունակող լիպոպրոտեինի և Fe -ի (III) միջև O_2 -արտադրող համալիրը: Միևնույն ժամանակ, $Fe(III)$ իոնները կարող են հայտնաբերվել կաթում և $Fe(III)$ անբավարարությունից կարող է առաջանալ սակավարյունություն:

Կովի եռացրած կաթից առանձնացվել և մաքրվել է սուպերօքսիդի (O_2^-) կոլոիդային լուծույթ (ակտիվությունը նվազում է մինչև 7-8 %), որը NADPH պարունակող լիպոպրոտեինի և $Fe(III)$ -ի միջև առաջացող համալիր է:

NADPH պարունակող լիպոպրոտեինի (5 մգ/մլ) ջրային խառնուրդի ինկուբացիայի արդյունքում $Nox1 + Nox2$ (էրիթրոցիտների և լեյկոցիտների թաղանթներից) իզոմերի ջրային լուծույթով (5 մգ/մլ $37^\circ C$ -ում, 40 րոպե), իոնափոխանակային քրոմատոգրաֆիան իրականացվել է ցելյուլոզային 52 DE-ով առանձին սյունների վրա և հավասարակշռվել է ջրով (pH9.5): NADPH պարունակող լիպոպրոտեին -Nox հիբրիդային միավորը չի մնում այս դիրքում և գտվում է ջրով՝ pH 9,5 պայմաններում:

Այդ համալիրը, ինչպես նաև լիպոպրոտեին ունեն բարձր ջերմակայունություն՝ գործնականորեն պահպանելով օպտիկական սպեկտրային պարամետրերը և ակտիվությունը ինկուբացիայից 10-15 րոպե հետո:

Ի տարբերություն այս O_2 -արտադրող համալիրի՝ դրանցից առանձնացված NADPH պարունակող լիպոպրոտեինը ճնշում է ադրենալինի օքսիդացումը մինչև ադրենոքրոմ՝ իր բաղադրության մեջ պարունակվող NADPH էլեկտրոնների օքսիդավերականգնող ազդեցության պատճառով (Cu , Zn -SOD-ը չի արգելակում այս գործընթացը): Պարզվում է՝ այս համալիրից մեկուսացված լիպոպրոտեինը ունի վերականգնող (հակաօքսիդանտ) ազդեցություն և ձևավորում է հիբրիդային O_2 -արտադրող և ջերմակայուն կապ NADPH օքսիդազի, էրիթրոցիտների և լեյկոցիտների թաղանթների իզոմերների հետ:

Այսպիսով՝ կաթը եռացնելուց 10-12 րոպե հետո գործնականորեն պահպանվում է ջերմակայուն լիպոպրոտեին- $Fe(III)$ համալիրի O_2 արտադրող ակտիվությունը, ինչպես նաև լիպոպրոտեինի վերականգնող (հակաօքսիդանտ) ակտիվությունը:

Բանալի բառեր և բառակապակցություններ: NADPH պարունակող լիպոպրոտեին, սուպերօքսիդ, ջերմակայուն համալիր:

**ТЕРМОСТАБИЛЬНЫЙ СУПЕРОКСИД-ПРОДУЦИРУЮЩИЙ КОМПЛЕКС
NADPH СОДЕРЖАЩЕГО ЛИПОПРОТЕИНА (НЛП) С Fe (III) ИЗ
КИПЯЧЕННОГО МОЛОКА КОРОВЫ: IN VITRO АКТИВИРОВАНИЕ ЭТИМ
НЛП ИЗОФОРМ NADPH ОКСИДАЗЫ ИММУННЫХ КЛЕТОК**

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Аннотация

O_2^- -продуцирующие ассоциаты или комплексы были выделены из сыворотки крови, из молока коз, из эритроцитарных и лейкоцитарных мембран и из мембран лекарственных растений.

Как известно, основными системами продуцирования O_2^- в молоке и крови млекопитающих являются полиморфонуклеарные лейкоциты, а также O_2^- -продуцирующий комплекс между NADPH содержащего липопротейна (НЛП) и Fe(III). При этом ионы Fe(III) присутствует и в молоке, а при дефиците Fe(III) в молоке наблюдается анемия. Из кипяченого молока коровы выделили и очистили коллоидный раствор супероксид (O_2^-) – продуцирующего комплекса между NADPH содержащим липопротейном и Fe(III). Этот комплекс, а также НЛП имеют высокую термостабильность, практически сохраняя оптические спектральные показатели и активность после инкубации в течение 10-15 мин.

Удельная O_2^- -продуцирующая активность комплекса НЛП-Fe(III) из молока до и после ее кипячения практически не изменяется, в результате кипячения молока эта активность снижается всего на 7-8 %.

Интересно и то обстоятельство, что удельная O_2^- -продуцирующая активность гибридного ассоциата НЛП молока с изоформами Nox эритроцитарных и лейкоцитарных мембран также практически не снижается по сравнению с O_2^- -продуцирующей активности комплекса НЛП-Fe(III). Это положительное явление, свидетельствующее об иммуномодулирующей активности НЛП молока, которая практически не снижается даже после кипячения молока.

В результате инкубации водной смеси НЛП (5 мг/мл) с водным раствором изоформ Nox1+Nox2 (эритроцитарных и лейкоцитарных мембран) по 5 мг/мл при 37°C в течение 40 мин осуществляли их ионообменную хроматографию на отдельных колонках с целлюлозой DE, уравновешенной водой при pH9,5. Гибридный ассоциат НЛП-Nox не задерживается на этой колонке и элюируется водой, а также при pH9,5.

В отличие от этих O_2^- -продуцирующих ассоциатов или комплексов, отделенный от них НЛП, наоборот, за счет электронов NADPH в своем составе, подавляет окисление адреналина в адренохром, оказывая восстановительный – антиоксидантный эффект (Cu,Zn-СОД не влияет на этот процесс). Изолированный от этого комплекса НЛП оказывает восстановительный (антиоксидантный) эффект и образует гибридный O_2^- -продуцирующий и термостабильный ассоциат с изоформами NADPH оксидазы (Nox) мембран эритроцитов и лейкоцитов.

Таким образом, после кипячения молока в течение 10-12 минут практически сохраняются O_2^- -продуцирующая активность термостабильного комплекса НЛП-Fe(III), а также восстановительная (антиоксидантную) активность НЛП.

Ключевые слова и словосочетания: НЛП, супероксид, термостабильный ассоциат.

O_2^- -producing complexes or associates have recently been isolated from blood serum, goat milk, erythrocyte and leukocyte membranes, and medicinal plant membranes. Fe(III) ions in these complexes act as bridges for electron transfer from NCL to molecular oxygen, reducing it up to O_2^- . On the other hand, NADPH oxidase (Nox) of erythrocytes and leukocytes are activated by NCL in vitro. In fact, both serum and milk contain NCL [1-4]. The main systems for the production of O_2^- in mammalian milk and blood, as previously stated, are polymorphonuclear leukocytes, as well as O_2^- -producing complex between NCL and Fe(III). At the same time, Fe(III) ions can be found in milk, and anemia can result from a Fe(III) deficiency in milk [5-7].

Using the elaborated and universal method for isolation and purification of above mentioned thermostable O_2^- -producing associates and complexes from animal and plant-origin membranes and biofluids [8], is necessary from raw and boiled cow milk to isolated and purified thermostable O_2^- -producing complex NCL-Fe(III), which can be generated O_2^- in homogeneous phase (in solution), as well as, in the gas phase.

The goal of this study: is to isolate and purify of thermostable O_2^- -producing NCL-Fe (III) complex from raw and boiled cow milk to determine its composition, optical spectral parameters, the mechanism of O_2^- production by this complex, and hybrid associates with Nox from erythrocytes and leukocytes membranes in vitro; to determine the stationary concentration of produced O_2^- in solution and gas phase.

Material and methods

Isolation and purification of the O_2^- -producing NCL-Fe (III) complex from cow milk

The O_2^- -producing NCL-Fe(III) complex was isolated and purified from raw and boiled cow milk using a universal method, that included precipitation of the complex at pH4.8 and dissolving the precipitate at pH9.5. This complex's aqueous opalescence solution was subjected to ion exchange chromatography at pH9.5 on the DE-52 cellulose column. The O_2^- -producing complex does not remain within the column and is free evaluated. Under these conditions, the acidic proteins were adsorbed on this column. This fraction of the NCL-Fe(III) then underwent gel-filtration on the Sephadex G-100 column (Pharmacia, Sweden) at pH9.5. The eluted fractions with symmetrical elution diagrams were collected.

Determination of the Fe(III) in the composition of NCL-Nox

Using the orthophenantroline optical spectral method [9], the content of Fe(III) in this complex was determined, after separation of the Fe(III) by 50 mM EDTA and reduction of Fe(III) to Fe(II) by sodium dithionite.

Isolation and purification of the total fraction of Nox1 + Nox2 isoforms from erythrocyte (EM) and leukocyte membranes (LM)

The pH of aqueous mixtures of EM and LM was adjusted to 9.5 by adding 0.1 M KOH and 50 μ M ferric hemoglobin (Hb), isolated from human erythrocytes, and incubated at 37°C for 1.5 hours. After centrifugation at 5800 xg for 10 min, supernatants were subjected to ion exchange chromatography on the column with DE-52 cellulose. After elution of the Hb fraction with 0.005 M potassium phosphate buffer, pH7.4 (PPB), the total fraction of Nox1 + Nox2 isoforms of EM or LM was eluted by 0.2 M PPB from these columns. Following gel filtration of the total fraction of Nox1+Nox2 isoforms on a Sephadex G-100 column, traces of Hb in the complex with Nox were removed using an ethanol-chloroform solution (9:1 ml/ml, for 10 ml of solution).

Isolation of NCL from NCL-Fe(III) complex

EDTA (2×10^{-4} M) was used to remove Fe(III) from this complex, followed by ion-exchange chromatography on DE-52 cellulose at pH9.5. Under these conditions, EDTA with Fe(III) is absorbed on this column, and NCL is eluted quickly.

The preparation of hybrid NCL-Nox associate (h NCL-Nox) between NCL from NCL-Fe(III) complex and total fraction of Nox1 + Nox2 isoforms from EM and LM

After incubating an aqueous mixture of NCL (5 mg/ml) with an aqueous solution of Nox1 + Nox2 (EM) or (LM) isoforms, 5 mg/ml, at 37°C for 40 minutes, an ion exchange chromatography was performed on the column of DE cellulose, equilibrated by water at pH9.5. The hNCL-Nox associate eluates from this column with water at pH9.5

Determination of NADPH

The presence of NADPH in the complex of NCL-Fe(III), hybrid associate hNCL-Nox, or NCL was determined using a spectrofluorimetric method on a «Perkin Elmer» spectrofluorimeter (USA). NADPH has an emission peak at 430 nm and an excitation peak at 370 nm [10]. It was determined the fluorescence intensity «F» in relative units.

Determination of O_2^- -producing activity of the complex of NCL-Fe(III) and hybrid associates

The adrenaline method was used to determine the O_2^- -producing activity of the complex of NCL-Fe(III) and hybrid associates hNCL-Nox, as well as the reductive (antioxidant) effect of NCL [11]. As a unit of the O_2^- -producing activity is 50% stimulation of the formation of adrenochrome (at 500 nm) during oxidation of adrenaline by superoxide radicals, was produced by 1 mg NCL-Fe(III) complex or associate: U/mg.

Determination of the stationary concentration of produced O_2^-

The stationary concentration of O_2^- , produced by a complex of the NCL-Fe(III) or hybrid associate: hNCL -Nox was determined by the adrenaline method also, determining the maximal optical absorbance of adrenochrome (at 500 nm), was formed during oxidation of adrenaline with produced O_2^- [11].

At the same time, the stationary concentration (M) of produced O_2^- is equivalent to the concentration of formed adrenochrome, with the molar extinction (E) to $750 \text{ M}^{-1} \text{ cm}^{-1}$. By determining the value of A_{500}/E , the stationary concentration (M) of O_2^- , produced by these sources in the solution was determined. As a control, the optical absorbance of adrenochrome formed during the oxidation of adrenaline by the air oxygen was used. The stationary concentration of gas phase O_2^- , was generated during bleeding by O_2 (0,1atm, at room temperature, during 5 min) of the solution of NCL-Fe(III) and transferring of the O_2^- - O_2 mixture by glass or silicone tube to the adrenaline solution.

The malondialdehyde (MDA) product of lipid peroxidation in NCL was determined using the Vladimirov and Archakov method [12].

The electrophoresis of NCP-Fe(III) was carried out on the 7% PAAG for the proteins with acidic and basic character.

Cellulose DE-52 ("Whatman", England) and Sephadex G-100 ("Pharmacia", Sweden) were used. During the investigation, the spectrophotometer "Cary 60" UV/VIS, spectrofluorimeter "Perkin Elmer" (USA), centrifuge K-24 and K-70 ("Janetzki", Germany) were used.

The statistical processing of the obtained results was carried out by the Student-Fisher variation statistics method, with the determination of the reliability criterion «p» ($M \pm m, n = 6$).

Results and discussion

Using the universal method, from raw and boiled (10-15 min) cow milk was isolated and purified the O_2^- -producing complex NCL-Fe(III) for the first time. The aqueous opalescence solution of the NCL-Fe(III) complex is not adsorbed on DE-52 cellulose at pH9.5. After the concentration of this fraction, the gel filtration on the Sephadex G-100 at pH 9,5 was carried out. The fractions evaluated with a symmetric elution diagram were collected.

In PAAG electrophoresis for the acidic and basic character proteins, the O_2^- -producing complex NCL-Fe(III) from cow's milk was aggregated on the exit of the PAAG-containing tubules. It is possible, that under the influence of the electricity the aggregation of the NCL-Nox on heterogeneous phase (on PAAG) was carried out. The presence on the PAAG of acidic and basic character proteins, which are colored by amido black, was not detected. This is the first indirect factor of the purity of the NCL-Fe(III). The second factor of the purity is a symmetrical evaluation diagram from G-100 Sephadex and the third factor is invariable of the relation A_{412}/A_{280} during further purification of NCL-Fe(III).

The presence of MDA in NCL from raw and boiled milk is up to $2,4 \times 10^{-5}$ M/mg and $2,1 \times 10^{-5}$ M/mg, respectively.

The specific content of NCL-Fe(III) in raw and boiled milk, determined after desalting and vacuum lyophilization is 17.1 ± 0.12 mg/ml and 16.7 ± 0.11 mg/ml of milk ($p < 0.05$), respectively. The content of the Fe(III) in the composition of the NCL-Fe(III) from raw and boiled milk were $2,4$ mkM/ml $\pm 0,01$ and $2,1$ mkM/ml $\pm 0,03$ ($p < 0,005$, $n=6$), correspondingly.

The form of optical absorption spectra of the opalescence solution of NCL-Fe(III) complex from raw and boiled milk and NCL are not changed in the visible UW region of the spectra (Fig. 1).

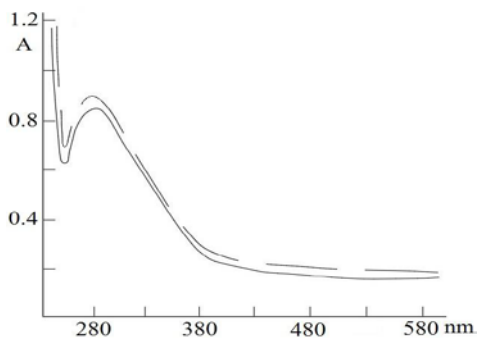


Fig. 1. Optical absorption spectra of opalescence solution of NCL-Fe (III) complex from milk or NCL before (-----) and after milk boiling (____) at pH 9.5.

There is a protein-specific optical absorption at 280 nm in the UV region. The forms of optical absorption spectra and the intensity of the optical absorption of NCL do not change after Fe(III) removal. As shown in Fig. 2, there is characteristic background absorption of the isoforms of a hybrid associate of NCL between Nox from erythrocyte or leukocyte membranes (hNCL-Nox).

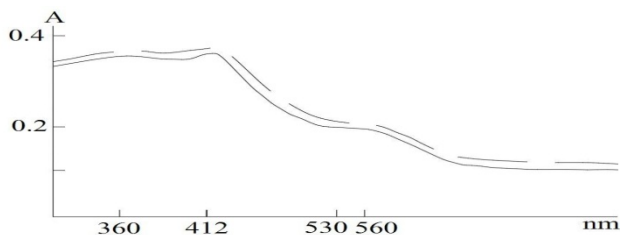


Fig. 2. Optical absorption spectra in the visible region of opalescence solutions (at pH9.5) of O_2^- -producing hybrid associate between Nox from EM or LM and NCL from cow milk complex NCL-Fe(III) (raw (---) and boiled (___) milk).

In Fig.2 there are characteristic optical absorbances for the Nox in hybrid associates in the oxidized state (360 nm, 412 nm, 530, and 560 nm). In the UV region, the characteristic spectra for the protein optical absorption at 280 nm were indicated for the isoforms of hNCL-Nox (EM) and hNCL-Nox (LM).

Furthermore, ion-exchange chromatography and gel filtration do not decay the complex of NCL-Fe(III) and hybrid associates.

The higher thermostability of the O_2^- -producing complex NCL-Fe(III) from cow milk and hNCL-Nox can be connected with the increase in the temperatures to 280-300°C, during nanosecond, for transmission of oxidation/reduction metabolic process [13].

The fluorescence intensity «F» (in relative units) of the NADPH in the composition of the complex NCL-F(III) for the raw and boiled cow milk was practically similarly: $45,5 \pm 2,2$ and $44,3 \pm 0,7$ ($p > 0,005$, $n=6$), correspondingly.

The immediate mechanism of O_2^- production by the complex of NCL-Fe(III) was conditioned with the transfer of electrons from NCL to Fe(III), then to O_2 , reducing it up to O_2^- . The immediate mechanism of O_2^- production by hNCL-Nox associate was conditioned with transfer of the electron from NCL to the Fe(III) of the heme group of Nox, then to O_2 , reducing it up to O_2^- . The Cu, Zn-SOD completely inhibits adrenaline oxidation by the produced O_2^- .

The specific O_2^- -producing activity of NCL-Fe(III) complex from milk, before and after boiling, practically does not change as a result of milk boiling (this activity decreases by only 7-8%). The specific O_2^- -producing activity of hNCL-Nox isoforms of EM and LM basically does not decrease when compared to the NCL-Fe(III) complex. This is a promising finding, suggesting that milk NCL has stimulating the Nox from erythrocytes or leukocyte membranes in vitro does not decrease even after boiling. In contrast to these O_2^- -producing associates or complexes, NCL isolated from them, suppresses the oxidation of adrenaline to adrenochrome, exerting a reducing-antioxidant effect due to NADPH electrons in its composition (the Cu, Zn-SOD does not inhibit this process).

The stationary concentration of gas phase O_2^- , generated from complex NCL-Fe(III) from raw and boiled cow milk were: $1,6 \pm 0,04$ mkM and $1,4 \pm 0,1$ mkM ($p > 0,005$, $n=6$) by 1mg complex, during 1 min at room temperature (the catalytically amount Cu, Zn-SOD inhibited also the formation of gas phase O_2^-).

In fact, oxygen can stabilize the gas phase O_2^- by forming the coordination band between O_2 and O_2^- . On the other hand, it is known, that the gas phase O_2^- is formed in the air, by reducing the molecular oxygen by negative metal ions traces; during reduction of oxygen by the electrochemical way; within plant photosynthesis, called "gas-phase superoxide generator" [14-16].

The generated monocomponent and regulated stationary concentration of gas phase O_2^- by enzymatic way from cow milk NCL-Fe(III), can be used with the oxygen mask at the lung infection diseases in experiments, as well, in perspective, in clinics, also. In comparison with the other gas phase O_2^- , the monocomponent and regulated stationary concentration of produced O_2^- continuously and enzymatically by milk NCL-Fe(III) complex is preferential. The fundamental significance of the obtained results: 1) the immediate mechanism of the production of O_2^- by complex of NCL-Fe(III) from milk and hNCL-Nox. By this mechanism as an electron bridge it was used the connected NADPH in the composition of NCL, but not free NADPH; 2) the formation of the monocomponent and regulating the stationary concentration of gas phase O_2^- from solutions of this complex of NCL-Fe(III) or hNCL-Nox associate; 3) the stabilization of the gas phase superoxide radicals by molecular oxygen.

The practical significance of obtained results, in particular, the qualitative and quantitative changes of NCL-(FeIII) complex as new sensitive tests for evaluation of the quality of the milk; the use of the gas phase O_2^- as an antimicrobial and anticancer agent; as a stimulator of the proliferation of bone marrow stem cells in culture, etc.

In fact, NCL can be a component of milk immunomodulation and can have a positive effect on immunodeficiency [17], by stimulating the O_2^- -producing activity of Nox isoforms of immune cell membranes. However, for this conclusion, it is necessary that similar investigations in experiments, after feeding of the NCL to the animals will be carried out. On the other hand, the O_2^- -producing complex and hybrid associates can be used as natural, potential bactericidal and antiviral agents, particularly at high temperatures.

Conclusion

Thus after boiling cow milk, the physicochemical properties of O_2^- -producing complex NCL-Fe (III) practically remain unchanged.

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THE STUDY OF THE IMPACT OF “NEW ORGANIC FERTILIZER, DERIVED FROM BIOHUMUS” AND “BIOHUMUS, DERIVED FROM ORGANIC WASTES” ON THE AGRONOMIC CHARACTERISTICS OF TOMATOS IN THE RA ARARAT VALLEY

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Abstract

We studied the impact of biohumus, derived from organic wastes, and Organomix, an organic fertilizer derived from biohumus, the two products of ORWACO, Armenian-Norwegian joint venture, on the growth, development and yield of tomatoes. We studied and estimated the impact of different varieties of “New organic fertilizer, derived from biohumus” and “Biohumus, derived from organic wastes” on the biological and economical valuable characteristics and features of various species of tomatoes.

The following samples were tested: Control- Without fertilization, I sample- Fertilized with Organomix into seeding pits followed by single feeding with biohumus (4.5 T for 1 ha), II sample- Fertilized with Organomix into seeding pits followed by double feeding with biohumus (5 T for 1 ha), III sample- Fertilized by biohumus, derived from organic wastes, into seeding pits followed by single feeding with biohumus (4.5 T for 1 ha), IV sample- Fertilized by biohumus, derived from organic wastes, into seeding pits followed by double feeding with biohumus (5 T for 1 ha), V sample- Fertilized by Organomix 20 and 40 days after seeding (4 T for 1 ha), VI sample- Fertilized by biohumus, derived from organic wastes, 20 and 40 days after seeding (4 T for 1 ha).

The results of the study demonstrate significant differences referring to blossoming, fruiting and ripening. The number of days to germination-overall blossoming in the tested samples of Renaissance species was 60-68 days. Samples 4 and 2 of Renaissance species blossomed 8 and 7 days earlier in comparison with the tester of the same species grown without fertilizers (68 days). The same pattern was tracked in germination-overall maturity phase of Renaissance species with 85 and 87 days correspondingly regarding the same samples as in the previous phase. The number of days to germination-biological ripening

in the studied varieties of Renaissance species was 99-110 days. Samples 4 and 2 had the best indices of biological characteristics. During the studies we tracked the morphological indices of tomato crops within the period of seeding to the end of vegetation stage. The tested fertilizers did not have significant influence on the morphological properties. The plants did not catch diseases in different phases of growth and development. Samples 4 and 2 stood out in different phases by their vegetative growth and height. Samples 4 and 2 excelled by quantitative changes of vegetative and generative organs as a result of tomato respective studies. In the fruiting phase of these samples of Renaissance tomato species the following parameters were recorded: plant height – 52,7cm and 50,4cm, the total length of branches on one plant – 280,5cm and 271,4cm, the number of branches – 9,1 and 8,5, the number of leaves – 102,4 and 96,5. The results of fertilizer studies demonstrated that the early and average yield of the samples of Renaissance species was 90,5-250,4 and 530,5-950,4cw/ha. All the samples had higher yield as compared to the tester. Sample 4 of Renaissance species demonstrated the highest crop yield of 250,5cw/ha (early) and 950,4cw/ha (average), which exceeded the crop yield of the tester (90,5cw/ha early, and 530,5cw/ha average) by 160cw/ha and 419cw/ha. The average crop mass was 65,3-85,4g in the tested samples. The crops of sample 4 had the highest average mass (85,4g). The average crop length of the tested samples was 5,2-8,8 cm. The crops of samples 4 and 2 stood out by their length which was 8,8cm and 8,4cm respectively. The studied samples differ in their qualitative parameters as well. In the phase of the biological ripening the crops of Renaissance species had 6,2-7,3% of dry matter, 3,3-5,4% of sugars, 18,45-35-25mg% of vitamin C. The qualitative parameters are the same as those determined for tomato. Samples 4 and 2 stood out by their high qualitative parameters.

The results of the studies demonstrate high indices of the growth, development, yield and crop quality of local tomato species when fertilized by Organomix into seeding pits followed by biohumus double feeding (5 T for 1 ha) and when fertilized by biohumus, derived from organic wastes into seeding pits followed by biohumus double feeding (5 T for 1 ha).

Keywords and phrases: tomato, organic wastes, biohumus, biological characteristics, economical valuable features.

**ՀՀ ԱՐԱՐԱՏՅԱՆ ՀԱՐԹԱՎԱՅՐԻ ՊԱՅՄԱՆՆԵՐՈՒՄ ՕՐԳԱՆԱԿԱՆ
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Համառոտագիր

Հոդվածում բերված են հայ-նորվեգական «ՕՌՎԱԿՈ» կազմակերպության կողմից սնկարտադրության ախտահանված կոմպոստից արտադրված «Օրգանական թափոններից ստացված կենսահումուս»-ի և կենսահումուսի կալիֆորնիական կարմիր որդերի և միկրոօրգանիզմների կողմից օրգանական թափոնների վերամշակման արդյունքում ստացված «Կենսահումուսային հիմքով ստացված օրգանական պարարտանյութ»-ի փորձարկման արդյունքները մեր կողմից բուծված և ՀՀ-ում արտոնագրված լոլիկի՝ Ռենեսանս սորտի աճի, զարգացման և բերքատվության վրա: Փորձարկվել են հետևյալ տարբերակները՝

- Ստուգիչ - առանց պարարտացման,
- 1 տարբերակ - «Կենսահումուսային հիմքով նոր օրգանական պարարտանյութ»՝ տրված սաժիլման ժամանակ, բների (փոսիկների)

մեջ, այնուհետև սնուցում կենսահումուսով մեկ անգամ, 1հա-ին՝ 4,5տոննա հաշվով,

- 2 տարբերակ – «Կենսահումուսային հիմքով նոր օրգանական պարարտանյութ»՝ տրված սածիլման ժամանակ, բների (փոսիկների) մեջ, այնուհետև սնուցում կենսահումուսով երկու անգամ, 1հա-ին՝ 5 տոննա հաշվով,
- 3 տարբերակ – «Օրգանական թափոններից ստացված կենսահումուս»՝ տրված սածիլման ժամանակ, բների (փոսիկների) մեջ, այնուհետև սնուցում կենսահումուսով մեկ անգամ, 1հա-ին՝ 4,5 տոննա հաշվով,
- 4 տարբերակ – «Օրգանական թափոններից ստացված կենսահումուս»՝ տրված սածիլման ժամանակ, բների (փոսիկների) մեջ, այնուհետև սնուցում կենսահումուսով երկու անգամ, 1հա-ին՝ 5տոննա հաշվով,
- 5 տարբերակ – «Կենսահումուսային հիմքով նոր օրգանական պարարտանյութ»՝ տրված սածիլումից 20 և 40 օր հետո, 1հա-ին՝ 4տոննա հաշվով,
- 6 տարբերակ – «Օրգանական թափոններից ստացված կենսահումուս»՝ տրված սածիլումից 20 և 40 օր հետո, 1հա-ին՝ 4տոննա հաշվով:

Ուսումնասիրված տարբերակներում լոլիկի՝ Ռենեսանս սորտի «ծլում-զանգվածային ծաղկում» փուլը տևել է 60-68 օր: Ստուգիչի (68 օր, առանց պարարտացման) համեմատ՝ 8 և 7 օր շուտ են ծաղկել 4 և 2 տարբերակների լոլիկի բույսերը: Նույն օրինաչափությունն է նկատվել նաև «ծլում-զանգվածային պտղակազմակերպում» փուլում, և այն նշված տարբերակներում տևել է համապատասխանաբար՝ 85 և 87 օր, ստուգիչի՝ 92 օր դեպքում: «Ծլում - կենսաբանական հասունացում» փուլը լոլիկի ուսումնասիրված տարբերակներում տևել է 99-110 օր:

Կենսաբանական առանձնահատկությունների լավագույն ցուցանիշներով աչքի են ընկել 4 և 2 տարբերակները: Պարարտանյութերի փորձարկման արդյունքները ցույց են տվել, որ ուսումնասիրված տարբերակներում լոլիկի Ռենեսանս սորտի վաղ և միջին բերքատվությունը կազմել է 90.5-250.4 և 530,5-950,4 g/հա: Փորձարկված բոլոր տարբերակներում լոլիկի բերքատվությունը բարձր է եղել ստուգիչի համեմատ:

Լոլիկի Ռենեսանս սորտի մոտ ամենաբարձր՝ 250.5g, հա վաղ և 950,4g հա միջին բերք է գրանցվել 4 տարբերակում, որը ստուգիչի տարբերակին (90.5g/հա վաղ և 530,5 g/հա միջին) գերազանցել է 160 և 419 g/հա-ով:

Փորձարկված տարբերակներում պտուղների միջին զանգվածը կազմել է 65.3-85.4 գրամ: Ամենաբարձր՝ 85.4գ. միջին զանգված են ունեցել 4 տարբերակի բույսերի պտուղները: Լոլիկի Ռենեսանս սորտով չոր նյութերի պարունակությունը կազմել է 6.2-7.3%, շաքարինը՝ 3.3-5.4%, վիտամին C-ինը՝ 18.45-35.25մգ%: Որակական բարձր ցուցանիշներով աչքի են ընկել 4 և 2 տարբերակները:

Ուսումնասիրությունների արդյունքները ցույց են տվել, որ լուրիկի տեղական Ռենեսանս սորտի աճի, զարգացման, բերքատվության և պտուղների որակի բարձր ցուցանիշներ են գրանցվել «Կենսահումուսային հիմքով նոր օրգանական պարարտանյութ»-ի՝ տրված սաժիլման ժամանակ, բների (փոսիկների) մեջ, այնուհետև երկու անգամ սնուցման (1հա-ին՝ 5տոննա հաշվով) և «Օրգանական թափոններից ստացված կենսահումուս»-ի՝ տրված սաժիլման ժամանակ բների փոսիկների մեջ, այնուհետև սնուցում կենսահումուսով երկու անգամ (1հա-ին 5 տոննա հաշվով) տարբերակների կիրառման դեպքում:

Բանալի բառեր և բառակապակցություններ. պոմիդոր, օրգանական թափոններ, կենսահումուս, կենսաբանական հատկություններ, տնտեսական արժեքավոր հատկանիշներ:

**ВЛИЯНИЕ «НОВОГО ОРГАНИЧЕСКОГО УДОБРЕНИЯ НА ОСНОВЕ
БИОГУМУСА» И «БИОГУМУСА, ПОЛУЧЕННОГО ИЗ ОРГАНИЧЕСКИХ
ОТХОДОВ» НА АГРОНОМИЧЕСКИЕ СВОЙСТВА ТОМАТОВ В
УСЛОВИЯХ АРАРАТСКОЙ РАВНИНЫ РА**

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Аннотация

В статье представлено изучение действия биогумуса, полученного от армянско-норвежской организации «ОРВАКО» в переработанной грибной продукции, и биогумуса органических отходов на рост, развитие и урожайность томатов сорта Ренессанс. Испытывались следующие варианты: Контроль - без внесения удобрений, 1 вариант - при всходах вносили "Новое органическое удобрение на основе биогумуса" в гнезда /ямки/, затем подкармливали биогумусом однократно/на 1 га из расчета 4,5 тонны. /, 2 варианта - «Новое органическое удобрение на основе биогумуса» в гнезда /ямки/, затем двукратно биогумусом (5 т на 1 га) удобрение биогумусом однократно /из расчета 4,5 т/га/, 4 варианта - при посадке «Биогумуса, полученного из органических отходов» в гнезда /ямки/, затем двукратная подкормка биогумусом (из расчета 5 т/га), 5 вариантов - через 20 и 40 дней после посадки «Новый биогумус на основе органическое удобрение» /4 тонны на гектар/, 6 вариантов - 20 и 40 дней после всходов «Биогумус из органических отходов» /из расчета 4 т/га/. В изучаемых вариантах стадия «всходы-массовое цветение» сорта томатов Ренессанс длилась 60-68 дней. По сравнению с контролем / 68 дней / без удобрений / 4 и 2 растения томатов зацвели на 8 и 7 дней раньше. Такая же закономерность наблюдалась и в фазе «всходы — массовое плодоношение». Фаза «прорастание – биологическое созревание» в изучаемых вариантах длилась у томатов 99-110 дней. Варианты 4 и 2 отличались лучшими показателями биологических признаков. Результаты испытаний удобрений показали, что ранняя средняя урожайность томатов сорта Ренессанс в изучаемых вариантах составила 90,5-250,4 и 530,5-950,4 ц/га. У всех испытываемых вариантов урожайность томатов была выше контроля. Самая высокая урожайность томата сорта Ренессанс - 250,5 ц/га ранний и 950,4 ц/га зарегистрирована на 4 вариантах, что превышает контроль

(90,5 ц/га ранний и 530,5 ц/га средний) 160 и 419 ц/га. Средняя масса плодов в испытываемых вариантах составила 65,3-85,4 грамма. Плоды 4 сортов растений имели самую высокую /85,4 г/ среднюю массу. Содержание сухого вещества томата сорта Ренессанс составило 6,2-7,3%, сахаров - 3,3-5,4%, витамина С - 18,45-35,25 мг%. Варианты 4 и 2 отличались высокими показателями качества.

Результаты исследований показали, что местный сорт томата Ренессанс показал высокий рост, развитие, урожайность и высокое качество плодов до 5 т/, при двукратном внесении биогумуса (по 5 т/га) и «биогумуса, полученного из органических отходов» в отверстия гнезд при посадке

Ключевые слова и словосочетания: томат, органические отходы, биогумус, биологические свойства, хозяйственно ценные свойства.

Introduction

According to the decision taken by the Government of the Republic of Armenia in 2015, the termination of the program "State support for the purchase of nitrogen, phosphorus and potash fertilizers at affordable prices for land users of the Republic of Armenia", as well as the low efficiency of the solid fertilizers used, gave rise to a thorough work on the development and production of housing and communal services [1.9.10].

For the nutrition of plant fertilizers, both liquid and solid complex fertilizers use three main nutrients: nitrogen, phosphorus and potassium. Nitrogen is especially necessary for plants during the growing season, it contributes to the growth of the plant body (stem, branches) and fruits and the growth of green mass. Phosphorus increases the tolerance of plants to drought by helping to retain water at the cellular level and increasing the nutrient content of fruits. Potassium contributes to the absorption of carbon dioxide (CO₂) from the atmosphere, increases frost resistance and drought resistance of plants [2;4;5 6; 7].

For this reason we have initiated tests with the use of the organic fertilizer derived from biohumus and biohumus derived from organic wastes on tomato crops. Organomix, the new organic fertilizer derived from biohumus and biohumus, derived from organic wastes are produced by ORWACO, an Armenian-Norwegian company, and are provided by "Armenian Women for Health and Healthy Environment" NGO to the Scientific Center for the tests on tomato crops. ORWACO aims at transforming organic wastes into valuable organic fertilizers. Biohumus is derived from decontaminated compost, a by-product of mushroom farming. It is referred to as "Biohumus derived from organic wastes". Biohumus is produced as a result of waste processing by Californian red worms and microorganisms. It is brittle, with pleasant smell and looks like black soil [7;8;9].

The chemical constituents of biohumus. Biohumus contains 53% of dry organic matter, 30-50% level of humidity, 1.8% of total nitrogen, 0.85% of total phosphorus, 0.72% of potassium, 6.4% of calcium, 0.67% of magnesium. Besides, it contains almost all the microelements, as well as biologically active substances. The mixed organic fertilizer, Organomix, is a mixture of biohumus, peat and compost. It is referred to as a "New organic fertilizer, derived from biohumus" [8;11;12;13].

Subject and methodology

The research was conducted within 2013-2014 period in the experimental household of Darakert community (the Ararat valley) of Scientific Center of Vegetable and Industrial Crops. Biohumus, derived from organic wastes and the new organic fertilizer, Organomix derived from biohumus, were the subject for research. The experiments with the aforementioned fertilizers under the conditions of the Ararat valley were conducted over a local selection of tomato called Renaissance, which is certified in the RA. The seeding of tomatoes was conducted in the second half of May by the planting plan /90-70/-20cm.

The phenological observations were carried out during the main phases of plant growth and development, the terms of overall germination, blossoming, fruiting and ripening were indicated [11;12;13].

The biometrical measurements were performed over 10 plants by measuring the bush height, the number of branches and their length. The number of leaves and crops, the average crop mass and crop length were measured. The crop mass was determined by weighing. The phenological observations, biometric measurements, plant disease resistance and crop weighing were performed by the "Global methodological collection of instructions for solanaceous vegetables" [15;16].

The experiment was carried out according to the “ Methodological regulations of randomized block experimental design” of the World Vegetable Center [14].

Biochemical tests of crop overall productivity were carried out over ripe crops. Dry matter was estimated by weighing, the sugars by Bertrand’s and vitamin C by Murray’s methods [3].

The following samples were tested [11;12;13].

Samples	Activities
Control	Without fertilization
I sample	Fertilized with Organomix into seeding pits followed by single feeding with biohumus (4.5 T for 1 ha)
II sample	Fertilized with Organomix into seeding pits followed by double feeding with biohumus (5 T for 1 ha)
III sample	Fertilized by biohumus, derived from organic wastes, into seeding pits followed by single feeding with biohumus (4.5 T for 1 ha)
IV sample	Fertilized by biohumus, derived from organic wastes, into seeding pits followed by double feeding with biohumus (5 T for 1 ha)
V sample	Fertilized by Organomix 20 and 40 days after seeding (4 T for 1 ha)
VI sample	Fertilized by biohumus, derived from organic wastes, 20 and 40 days after seeding (4 T for 1 ha)

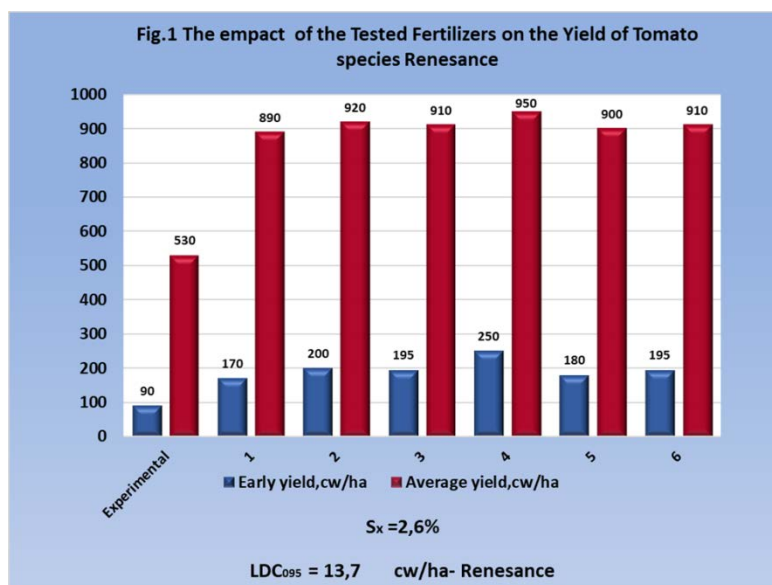
Results and discussion

We studied and estimated the impact of different varieties of “New organic fertilizer, derived from biohumus” and “Biohumus, derived from organic wastes” on the biological and economical valuable characteristics and features of various species of tomatos. The results of the study demonstrate significant differences referring to blossoming, fruiting and ripening. (see Table 1). The number of days to germination-overall blossoming in the tested samples of Renesance species was 60-68 days. Samples 4 and 2 of Renesance species blossomed 8 and 7 days earlier in comparison with the tester of the same species grown without fertilizers (68 days). The same pattern was tracked in germination-overall maturity phase of Renesance species with 85 and 87 days correspondingly regarding the same samples as in the previous phase. The number of days to germination-biological ripening in the studied varieties of Renesance species was 99-110 days. Samples 4 and 2 had the best indices of biological characteristics.

Table 1. The Impact of the Tested Fertilizers on the Biological Characteristics of Tomatos

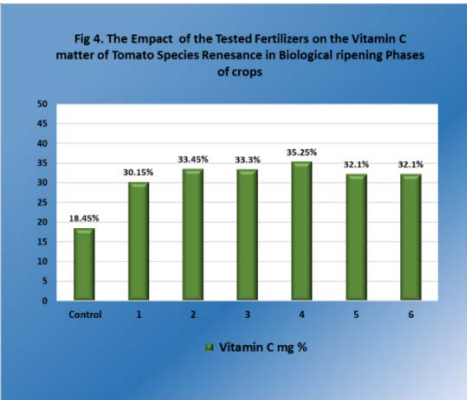
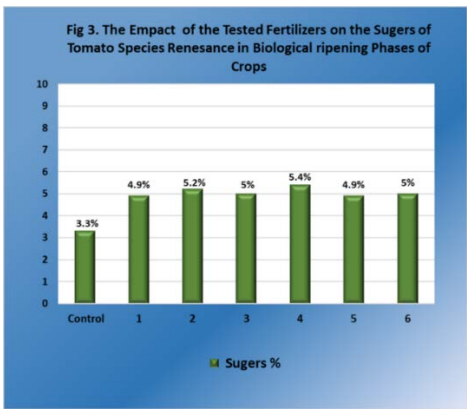
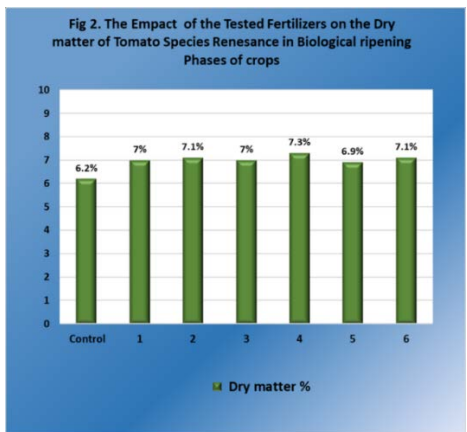
Samples	Overall germination dates	Days to germination-overall blossming	Days to germination-overall maturity	Days to germination-biological ripening
Control	1.04	68	92	110
1	1.04	63	88	104
2	1.04	61	87	101
3	1.04	62	83	100
4	1.04	60	85	99
5	1.04	64	88	105
6	1.04	65	89	106

During the studies we tracked the morphological indices of tomato crops within the period of seeding to the end of vegetation stage. The tested fertilizers did not have significant influence on the morphological properties. The plants did not catch diseases in different phases of growth and development. Samples 4 and 2 stood out in different phases by their vegetative growth and height. Samples 4 and 2 excelled by quantitative changes of vegetative and generative organs as a result of tomato respective studies. In the fruiting phase of these samples of Renaissance tomato species the following parameters were recorded: plant height – 52,7cm and 50,4cm, the total length of branches on one plant – 280,5cm and 271,4cm, the number of branches – 9,1 and 8,5, the number of leaves – 102,4 and 96,5.



The results of fertilizer studies (see Fig 1) demonstrated that the early and average yield of the samples of Renaissance species was 90,5-250,4 and 530,5-950,4cw/ha.

All the samples had higher yield as compared to the tester. Sample 4 of Renesance species demonstrated the highest crop yield of 250,5cw/ha (early) and 950,4cw/ha (average), which exceeded the crop yield of the tester (90,5cw/ha early, and 530, 5cw/ha average) by 160cw/ha and 419cw/ha. The average crop mass was 65,3- 85,4g in the tested samples. The crops of sample 4 had the highest average mass(85,4g).The average crop length of the tested samples was 5,2-8,8 cm. The crops of samples 4 and 2 stood out by their length which was 8,8cm and 8,4cm respectively.



The studied samples differ in their qualitative parameters as well (see Fig 2; Fig 3; Fig 4). In the phase of the biological ripening the crops of Renaissance species had 6,2-7,3% of dry matter, 3,3-5,4% of sugars, 18,45-35-25mg% of vitamin C. The qualitative parameters are the same as those determined for tomato. Samples 4 and 2 stood out by their high qualitative parameters.

Conclusion

The results of the study demonstrated high indices of growth, development, yield and crop quality of local species of tomato when fertilized by Organomix into seeding pits followed by double feeding with biohumus (5 T for 1 ha) and when fertilized by biohumus, derived from organic wastes, into seeding pits followed by double feeding with biohumus (5 T for 1 ha).

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**ՀԱՅԱՍՏԱՆԻ ՀԱՆՐԱՊԵՏՈՒԹՅԱՆ
ԳԻՏՈՒԹՅՈՒՆՆԵՐԻ ԱԶԳԱՅԻՆ ԱԿԱԴԵՄԻԱ
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NATIONAL ACADEMY OF SCIENCES OF THE REPUBLIC OF ARMENIA**

**ԳԻՏԱԿՐԹԱԿԱՆ ՄԻՋԱԶԳԱՅԻՆ ԿԵՆՏՐՈՆ
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ԳԻՏԱԿԱՆ ՊԱՐԲԵՐԱԿԱՆ**

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Համարի թողարկման պատասխանատու
և գլխավոր խմբագիր՝ ՆԱԻՐԱ ՀԱԿՈԲՅԱՆ
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